ALIGNMENT STUDY FINAL REPORT

RHODE ISLAND'S ALTERNATE ASSESSMENT (RIAA) FOR SCIENCE

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Karin Hess, Senior Associate
The National Center for the Improvement of Educational Assessment, Inc.
(www.nciea.org), Dover, NH

Introduction

In May and August of 2008, the Rhode Island Department of Education (RIDE) sponsored a two-part study to review the degree of alignment between the RI grade-level content standards in science (Grade Span Expectations/GSEs) and the RI Alternate Assessment (RIAA) taken by students with significant cognitive disabilities. Specifically, alternate assessment extended content standards for science (Alternate Assessment Grade Span Expectations/AAGSEs), administration protocols, and a small number of available datafolios and student work samples at grades 4, 8, and 11 were reviewed and analyzed.

The alignment study was designed by the National Center for the Improvement of Educational Assessment (Center for Assessment), applying and in some cases modifying the Links for Academic Learning conceptual framework and coding protocols developed by the National Alternate Assessment Center (NAAC) and the University of North Carolina at Charlotte. A committee of Rhode Island educators representing both general education and special education conducted the alignment study under the guidance and facilitation of the Center for Assessment. General education experts reviewed the degree of alignment between the content and intended depth of knowledge of the science grade-span content standards/GSEs and the required AAGSEs used to guide structured assessment tasks in the RIAA for science. Special education experts analyzed the administration protocols, the content of the RIAA (meaning the science content and instructional tasks that comprise the alternate assessment), and student work samples at all three grade levels. Surveys and analyses related to accessibility, accommodations, scoring protocols, differentiated expectations across the grade levels, and alternate assessment achievement standards were also completed as part of this alignment study.

The RI Alternate Assessment alignment study was designed to answer these questions:

1. Is the content of the RIAA academic; and does it include the major strands of content areas as reflected in RI grade-level standards assessed by the New England Common Assessment Program/NECAP science test?
2. Is the content of the RIAA referenced to the student's assigned grade level (based on chronological age)?
3. Does the focus of achievement maintain fidelity with the content (content centrality) of the original grade level expectations and when possible, the specified performance (performance centrality)?
4. Given that the breadth and range of science content and Depth of Knowledge (DOK) of the RIAA is expected to differ from general education at corresponding grade levels, are there still high expectations set for students with significant cognitive disabilities?
5. Is there some differentiation in science content of the RIAA across grades?
6. Is the expected achievement for the students to show learning of grade-referenced academic content?
7. Are there potential barriers to demonstrating what students know and can do in the RIAA?
8. Does the instructional program for students with significant cognitive disabilities promote learning in the general curriculum?

The Rhode Island Alternate Assessment alignment study for science is documented at several levels:

Part I:
A General Summary includes background information about the RIAA, and describes selection of reviewers, alignment methodology, and overall results of the alignment study. Part I begins with a brief executive summary of findings and an explanation of each alignment criterion based on NAAC's Links for Academic Learning framework, which may be unfamiliar to some readers of this report. This section of the report should provide sufficient information for most persons interested in the general processes and the overall results of the alignment study.

Part II:
Discussion of Findings and Conclusions contains more detailed information about each criterion and materials reviewed in the alignment study. A narrative provides information about the coding processes, notes any specific related issues, and captures some selected observations and/or comments from the reviewers. This information would be useful to persons interested in understanding specific aspects of the alignment study in greater detail and the underlying rationales for conclusions drawn.

Appendices: The Appendices following Part II include samples of coding forms, surveys, and templates, and training materials used by reviewers. It also includes a summary of demographic information about reviewers involved with the study. A detailed Table of Contents is provided at the beginning of these Appendices.

Original Documentation: All raw data, documentation, and initial analyses have been submitted to RIDE. These documents, not included with the final Alignment Study Report, contain detailed information generated by the alignment study, including reviewer identification codes, raw data/coding sheets produced by the content and special education reviewers, and individual demographic information about the reviewers. This documentation, as well as the actual coding sheets with raw data and individual demographic background information, is important as an historical record of this alignment study. Because they contain confidential and individual/personal information, these materials should be restricted to the use of RIDE and those it authorizes.

Additional notes describing any miscoding or incomplete information discovered in examination of the raw data during the data analysis phase that needed to be corrected or reconciled are included with original documentation. This information is important for documenting the analyses and summarization of results from the specific coding sheets to the overall summaries of findings.

Alignment Study Final Report: RI AA for Science

Part I: General Summary

Executive Summary/ Overall Findings of the RIAA Science Alignment Study

This summary briefly describes the conceptual underpinnings, general processes, and overall results of the alignment study. It should provide sufficient information for persons interested in the general methodology and findings for each of the alignment questions investigated. Explanations of each criterion draw heavily from the work of the National Alternate Assessment Center's (NAAC) Links for Academic Learning model (2007), as well as from traditional general education alignment models (Achieve, Inc. and Webb). Analyses of findings and more detailed data summaries related to the overall findings in the executive summary can be found in Part II of this report.

A total of thirty-four RI educators representing 28 public and private schools participated in the RIAA science alignment study. The study was conducted in two phases so that student work samples from datafolios could be reviewed after scoring sessions were completed in July 2008. The first phase was held in May 2008 with 25 teachers analyzing the required content and administration and scoring protocols of the RIAA. The final phase was held in August 2008, with twelve special education teachers analyzing student work samples at all three grade levels. Three teachers participated in both phases of the study.

Rhode Island educators represented all grade levels from Kindergarten to grade 12. The participants included general education teachers, special education teachers, science resource teachers, math coaches, and a Title I administrator. Teaching experience ranged from first-year teachers to veteran teachers with thirty-one years of experience. In addition to the rich classroom experience represented by these groups of educators, they had a plethora of expertise with science education, working with general and special populations, including ESOL/bilingual students. Several participants also had experience providing professional development to teachers, such as presenters for statewide autism support trainings and lead teachers at RIAA drop-in sessions.

Many educators had deep curriculum expertise (e.g., writing local science curriculum and developing the RI GSEs and/or AAGSEs in several content areas) and assessment experience, including participating in other RI alignment studies, item review committees for the state assessment program (NECAP), and participating in RIAA scoring and standard setting activities.

Criterion 1: Is the content of the RIAA academic; and does it include the major strands of science as reflected in grade-level standards assessed by the New England Common Assessment Program/NECAP science test?

The core construct of academic content for alternate assessments is not assumed, but instead evaluated as a first step in the alignment process. This is to ensure that the "extension" of content standards do not produce assessment targets that sometimes "miss the mark" of being academic, even though a deliberate process was used in their

development. Because academic content has been underrepresented in past instruction and research with students with significant cognitive disabilities, the study begins by confirming whether the content is indeed academic.

To define "what is academic," and to determine to what degree the RIAA includes academic content, several steps were used by general education content specialists to explore links between science AAGSEs and RI GSEs/ grade-level standards. For this criterion, the AAGSEs for three grade levels were analyzed. These are the same grade levels (grades 4, 8, and 11) that science is assessed with the NECAP general assessment. Within each grade span, there are multiple subparts of content defined by the required science AAGSEs and Structured Performance Tasks for the RIAA. All AAGSEs and their subparts were analyzed for academic content.

Additionally, any potential Pivotal Skills (skills that are not content-specific, such as listening attentively or activating a switch to respond) and Foundational Skills (skills that are *the assumed competence at all grade levels* specific to an academic context, such as orienting a book or turning a page as precursors to learning to read; or learning to follow a direction as a precursor to conducting a science investigation) were identified when addressing Criterion #1.

Findings for Criterion #1:

Identification of Pivotal Skills, Foundational Skills, and academic content provides a unique lens through which to examine the balance of emphasis of targeted skills for assessment across all content areas and grade spans. According to NAAC (2007), "to be inclusive of students with the most significant disabilities, states sometimes target Foundational Skills for assessment. These skills are commonly embedded in academic instruction and *are important and appropriate* to capture early academic achievement; but these skills are *not* aligned to academic content, because they are outside the construct. Most extended standards should be academic, but not necessarily 100%, given the need to include some Foundational Skills to capture early learning. It also would be questionable to assess proficiency based on achievement of Foundational Skills alone."

The data reveal a high degree of emphasis on assessing academic content in science at all three grade levels with the RIAA (92%-98%). This would indicate that teachers are to a large degree selecting academic content for Structured Performance Tasks (SPTs), using their knowledge of student strengths and needs to develop a targeted skill for the student to focus in on each science domain required.

Identification of Pivotal Skills: While Pivotal Skills may be appropriate and important for instruction, they should not be targeted for the RIAA, as they are not considered content-specific. There were no AAGSEs identified as Pivotal Skills at any grade level.

- **Grade 4 Science:** No AAGSEs were identified as Pivotal Skills by the content experts at the grade 4 level.
- **Grade 8 Science:** No AAGSEs were identified as Pivotal Skills by the content experts at the grade 8 level.

- **Grade 11 Science:** No AAGSEs were identified as Pivotal Skills by the content experts at the grade 11 level.

Identification of Foundational Skills: Because grade 4 is the first grade level when science is assessed in this state, it is reasonable to expect that there would be few or no "early science skills" included in the RIAA for science. Given that RIAA content descriptors (AAGSEs) are carried forward from one grade span to the next, skills introduced at the K-4 grade span tend to appear at all or most later grade spans (grades 5-8 and 9-12). This means that the same Foundational Skills will likely be identified at successive grade spans; however, since new content is also being added at each grade span, the overall percent of foundational skills tends to drop across grades.

- **Grade 4 Science:** Three Foundational Skills were identified by the content experts at the grade 4 level in the domain of Life Science. In one AAGSE, all parts were identified; in others, it was only some parts of the AAGSE that were identified.

  LS1.1.1 (a) *Recognize self as living.*
  LS1.1.4 (a) *Recognize legs (e.g., dog, cat, person);* ***(b)*** *Recognize head. (e.g., dog, cat, person);* ***(c)*** *Recognize tails (e.g., dog, cat); and* ***(d)*** *Recognize arms (e.g., person)*
  LS4.1.2 (a) *Recognize signs or feelings of being sick, hurt/injured, or discomfort (e.g., cut on finger, headache, dizziness, etc.)*

- **Grade 8 Science:** The same three Foundational Skills were identified by the content experts at the grade 8 level in Life Science.
- **Grade 11 Science:** Two of the same three Foundational Skills were identified by the content experts at the grade 11 level in Life Science. The third Foundational skill identified at lower grades had not been carried forward at the high school level as written at the lower grade spans.
- **Structured Performance Tasks**: One Foundational Skill at grade 4 (all parts of LS1.1.4) and the same AAGSE at grades 8 and 11 (LS4.1.2a) were included with required content for Structured Performance Tasks. The state may want to review all Foundational Skills included for Structured Performance Tasks and possibly revise them for assessment purposes.
- **Secondary coding for accessibility**: The three identified Foundational Skills were further reviewed by special education experts as to their accessibility. All Foundational Skills were identified as potentially providing access for those students functioning at awareness, pre-symbolic, or early symbolic levels to show partial achievement or early learning. Additionally, wording revisions were also suggested for these AAGSEs by the content and special education experts.

Table 1.1 shows the percent of RIAA Science AAGSEs identified as academic content or as Foundational Skills at grades 4, 8, and 11 (in the shaded column). In addition to the percent of academic content of AAGSEs, the science domains assessed in the RIAA are also identified for each grade level. These represent the focus of required content assessed in the RIAA for Science. (Note that percents for Foundational Skills will decrease at each grade span because new content is added at grades 5-8 and 9-12.)

Table 1.1: Summary of Academic Content or Foundational Skills Assessed with the RIAA for Science			
Science	**RI AAGSEs**		
Grade Level	**Academic Content**	**Academic Content Strands Identified for Assessment**	**Foundational Skills**
4	**92%**	Life Science Physical Science Earth & Space Science Inquiry: Observing & Questioning; Conducting Investigations	**8%** (1 of 3 AAGSEs included for SPT assessment)
8	**95%**	Life Science Physical Science Earth & Space Science Inquiry: Planning Investigations; Conducting Investigations	**5%** (1 of 3 AAGSEs included for SPT assessment)
11	**98%**	Life Science Physical Science Earth & Space Science Inquiry: Conducting Investigations; Analyzing Investigations	**2%** (1 of 2 AAGSEs included for SPT assessment)

Criterion 2: Is the content of the RIAA referenced to the student's assigned grade level (based on chronological age)?

The alignment study provides feedback on the extent to which the state has been successful in referencing the content assessed by the RIAA Structured Performance Tasks to specific grade-level academic content. Review of inclusion of the same NECAP content strands and of changing grade-referenced content across grade levels are considered here. This step is also used as a means to prepare for completing Criterion #3, determining content centrality for AAGSEs coded as academic. Skills identified under Criterion #1 as Foundational Skills are not matched to grade-level content, since they are not considered "academic" for the purpose of the alignment study.

Content experts analyzed content descriptions for all AAGSEs, comparing them to the descriptions of RI grade-level standards for science. Pre-coding of the "essence" of each grade-level standard was used to help content experts align AAGSEs to grade-level content standards. After content alignment was completed, comparisons were made between intended cognitive demand of the grade-level GSEs and AAGSEs.

Figure 1 illustrates how the coding template provided both the intended depth of knowledge level (DOK) and content essence of the grade-level standard. In this example, one can see that the grade 4 AAGSE links to "part" of the content of the grade-level standard (needs of plants). It also demonstrates that there is "some" but not full alignment to the expected DOK level of the grade-level standard/GSE, since "recognizing one or more conditions a plant needs to grow and survive" would indicate DOK level 1 (recall) but not require making observations (DOK 2).

Figure 1: Aligning AAGSE using "essence" of the grade-level standard		
RI Grade-Level Standard/GSE – Grade 4 Life Science	**Essence of grade-level standard and intended DOK level**	**RI AAGSE aligned to grade-level standard (K-4)**
LS1 (3-4)-2 Students demonstrate understanding of structure and function-survival requirements by… **2a** observing that plants need water, air, food, light and space to grow and reproduce; observing that animals need water, air, food, and shelter/space to grow and reproduce.	Basic needs of organisms DOK 1 – recall DOK 2- make observations	**LS1.2.1a** Recognize one or more conditions a plant needs in order to grow and survive. (e.g., light, soil, water, and/or air)**.**

Findings for Criterion #2:

There is compelling evidence to support the conclusion that the RIAA is not promoting a "one size fits all ages" assessment system (meaning that the same AAGSEs and SPTs would apply to all students at all grade levels, which is unacceptable). The following summarizes findings for Criterion #2:

- The state has employed a development process to create the extended standards/AAGSEs and Structured Performance Tasks that has resulted in the overall system being organized by grade span and science content strands that are consistent with NECAP science content and content strands. Scientific Inquiry, as well the three science domains are assessed with the RIAA.
- A format consistent with that used by the RI GSEs, including the use of underlining of descriptions in the AAGSEs to show new content being introduced for the first time at the next grade span, helps to guide teachers in selecting appropriate (and new) content for instruction.
- The approach of organizing the targeted content of AAGSEs with multiple subparts and carrying forward AAGSEs to higher grade levels allows for students functioning at a variety of levels to access learning that is referenced to their grade level; however, by grade 11 the links to academic grade-level content become much weaker or are lost completely. The state should consider revisiting inclusion of the weakest academic content, especially at grade 11.
- While there is repetition of much of the science AAGSEs content across grade spans, there is also evidence to show that RIAA required content assessed in SPTs is differentiated across grade levels 4, 8, and 11 for science. (Specific details about differentiation of content are provided under Criterion #5.)
- Reviewers noted the need to revise a number of AAGSEs that were unclear, of too small a grain size, or not accurately worded in terms of science content, making some analyses more difficult. Revisions to AAGSEs needing more clarity are recommended before the 2008-2009 assessment cycle begins.

Criterion 3: Does the focus of achievement maintain fidelity with the content (content centrality) of the original grade level expectations and when possible, the specified performance (performance centrality)?

This criterion draws upon alignment processes developed by Achieve (Achieve. Inc.), and is based on a group of experts reaching consensus as to whether the test item and the intended objective(s) correspond fully, partially, or not at all. For this criterion, AAGSEs in science for grades 4, 8, and 11 were compared to the corresponding grade level standards for content and performance centrality. When the closest grade-level standard (near link) was not well aligned with the AAGSE, lower grade level content was also compared (far link). Content and performance centrality were only considered for AAGSEs coded as academic under Criterion #1.

Content Centrality (based on NAAC definitions) is rated using a three-point scale (near, far, none) in which the content experts rate the quality of the content link between the AAGSEs and the grade level standard. The goal of content centrality is to have a 100% link (meaning near + far = 100%) of grade-referenced content. Percents lower than 100% for content centrality reflect content that has not been identified as Foundational or Pivotal, but is considered a prerequisite skill or a mismatch to the standard, so content links are lost between the AAGSEs and standard. The information obtained from coding grade-referenced content for Criterion #2 is used to make decisions about the degree of the content link – near/far/none. A strong alternate assessment system is one that expects content fidelity to remain high.

Performance Centrality (based on NAAC definitions) analyzes the expected performance described in the AAGSEs. Alternate assessments are expected to allow for an alternate level of performance (meaning not the same as grade level performance in NECAP general education assessments), due to the difficulty of creating ways for students who do not yet have fluent use of printed symbols (e.g., words, pictures) to show achievement. Therefore, an AAGSE of "identify" would have *some* of the same performance expectations as a grade-level standard with "identify and analyze" for the same content, and would be acceptable. Performance centrality is rated on a three-point rating scale (exact match, partial/some match, no match), using identified intended Depth of Knowledge levels for grade-level standards (as shown in Figure 1 on page 9) and modified Webb Depth of Knowledge levels for AAGSEs.

Findings for Criterion #3:

Content Centrality percents reflect the total of near + far content links with grade-referenced content. The content centrality of AAGSEs was found to range from 85% to 96% across grades for the RIAA. Generally speaking, because of the carrying forward of content AAGSEs to the next grade span, the potential for "far content links" or "no content links" (content that becomes too watered down to have content centrality) is greater at grades 8 and 11 than at grade 4.

Student work samples were also analyzed for content centrality, this time comparing the AAGSE descriptions to the actual assessment tasks used by teachers to measure learning of the AAGSEs content and inquiry skills in the SPT. At grade 4, seventeen datafolios were reviewed; thirteen datafolios were reviewed at grade 8; and eleven datafolios at grade 11. Most datafolios contained two student work samples; a few datafolios at grades 8 and 11 had one or three examples.

- **Grade 4 Science:** Ninety-one percent of the academic AAGSEs at grade 4 were found to have content centrality with grade 4 content standards. Three AAGSEs in the Earth and Space Science domain, while rated as academic content, were identified as (a) an "overstretch - *overextended* or "too watered down" so that the content link to the grade level is lost or (b) having inaccurate science content. For example, "understanding of processes and change over time within earth systems" was represented by slow changes like an object warming up from the sun. This AAGSE content is inconsistent with the meaning of the grade-level content. The following three AAGSEs were identified as having no link to grade-level science content:

  ESS1.2.3 Identify the earth's surface. (a) *Recognize the positional relationship between the student, the student's actual surroundings and the earth's surface.(e.g., Where are you in the room?)*

  ESS1.2.3 Identify the earth's surface (b) *Identify the ground as the earth's surface.*
  ESS1.2.4a *Identify relatively slow changes. (e.g., Feel an object slowly warm up in the sun)*
- **Grade 8 Science:** Ninety-six percent of the academic AAGSEs at grade 8 were found to have content centrality with grade 8 content standards. Two AAGSEs identified at grade 4 in the Earth and Space Science domain were also identified as having no content link to the grade level.
- **Grade 11 Science:** Eighty-five percent of the academic AAGSEs at grade 11 were found to have content centrality with grade 11 content standards, with most content (60%) being rated as a far content link. AAGSEs identified as having no content link to the grade level (15%) included many that were carried forward from the K-4 grade span. The state should drop AAGSEs with no content link at high school if currently included for assessment in SPTs. Examples of academic AAGSEs having no content link to high school science content are:

  LS4.1.1a *Identify one to five of the senses*

  ESS1.1.1a *Distinguish soil from other objects or materials (e.g., grass, wood, leaves, paper, rubber, etc.)*
- **Student work samples:** Datafolios with at least one piece of actual student work were reviewed by special educators for content centrality. A total of 95 science assessment tasks were analyzed. While this sample size is too small to make generalizations about all RIAA datafolios in science, they do provide insights into the need for professional development in science instruction and high quality assessment models. Assessment tasks that did not have full or partial content centrality were primarily due to inaccurate content being assessed (e.g., assessing identification of hot and cold water when the task should be assessing states of matter of water – solid, liquid, gas).

- At grade 4, content centrality of inquiry skills assessment tasks was 88% (all full content matches); and content centrality for assessing content knowledge was 81% (all full content matches).
- At grade 8, content centrality of inquiry skills assessment tasks was 71% (mostly partial content matches); and content centrality for assessing content knowledge was 93% (all full content matches).
- At grade 11, content centrality of inquiry skills assessment tasks was 74% (mostly full content matches); and content centrality for assessing content knowledge was 73% (mostly full content matches).

Table 3.1 Summary of Content Centrality of RIAA Science AAGSEs and Student Work Samples

Grade Level	Overall Content Centrality of AAGSEs to Grade Level Standards		Content Centrality of 41 Student Datafolios
4	**91%**	**Near Link – 51%** **Far Link – 40%** **No Link – 9%**	Inquiry skills match – 88% Content knowledge match – 81%
8	**96%**	**Near – 63%** **Far – 33 %** **No Link – 4%**	Inquiry skills match – 71% Content knowledge match – 93%
11	**85%**	**Near – 25%** **Far – 60%** **No Link – 15%**	Inquiry skills match – 74% Content knowledge match – 73%

Performance Centrality percents indicate the total of exact DOK matches + partial DOK matches between grade-level standards and AAGSEs. Since each AAGSE, by its nature, is of a much smaller grain size than the grade-level standards, AAGSEs are considered both individually and collectively, meaning all parts of AAGSEs are collectively compared to the grade-level objective. Considering the "potential for performance centrality" with corresponding grade-level GSEs is important because teachers may use all of the AAGSEs to guide instruction, even if only one AAGSE is formally assessed in the RIAA.

Performance centrality ratings for RIAA science AAGSEs show a range of DOK levels across AAGSEs, with the greatest performance centrality when grade-level content standards had intended DOK levels of 1 or 2.

- **Grade 4 Science:** Ninety-four percent of AAGSEs had some (70%) or full (24%) performance centrality with grade-level GSEs, when considered collectively.
- **Grade 8 Science:** Eighty-two percent of AAGSEs had some (46%) or full (36%) performance centrality with grade-level GSEs, when considered collectively. The greatest number of "no performance" matches (18%) were for AAGSEs in Earth and Space Science when intended DOK levels of GSEs were DOK 2 or DOK 3 and AAGSEs were at a DOK level of 1.
- **Grade 11 Science:** Eighty-five percent of AAGSEs had some (40%) or full (45%) performance centrality with grade-level GSEs, when considered collectively. The large number of AAGSEs that had no content link to GSEs could not be compared in performance centrality ratings.

Table 3.2 summarizes *performance centrality* for RIAA Science AAGSEs reviewed at each grade level. AAGSEs were compared to the intended performance (DOK level) of

the grade level standards to determine the degree of performance centrality. If all intended DOK levels were represented by each aligned group of AAGSEs, it was collectively considered "full" performance centrality. If only some intended DOK levels were represented by each aligned group of AAGSEs, it was considered "some" (partial) performance centrality with the grade-level standard.

Table 3.2 Summary of Performance Centrality of RIAA Science AAGSEs and Student Work Samples

Grade Level	Overall Performance Centrality of AAGSEs to Grade Level Standards		Comments about Performance Centrality of AAGSEs
4	**94%**	**Full – 24%** **Partial – 70%** **None – 6%**	There were two "no performance matches" in each domain of science.
8	**82%**	**Full – 36%** **Partial – 46%** **None – 18%**	The greatest number of "no performance" matches were for AAGSEs in Earth and Space Science when intended DOK levels of GSEs were DOK 2 or DOK 3 and AAGSEs were at a DOK level of 1.
11	**85%**	**Full – 45%** **Partial – 40%** **None – 15%**	The "no performance" matches were for academic AAGSEs that were not aligned to any GSEs and therefore could not be compared for DOK.

Criterion 4: Given that the breadth and range of content and Depth of Knowledge (DOK) of the RIAA is expected to differ from general education at corresponding grade levels, are there still high expectations set for students with significant cognitive disabilities*?*

Criterion #4 applies the work of Norman Webb's Alignment Protocols for categorical concurrence, balance of representation, and range and depth of knowledge (DOK). Content specialists identified DOK levels for all AAGSEs, using "modified" Webb's definitions for Depth of Knowledge (below). Special education teachers rated assessment tasks in datafolios for DOK levels. NECAP Test blueprints (NECAP science strands targeted for assessment) served to define categorical concurrence and comparisons of balance of representation with the RIAA.

Modified Webb levels used for coding alternate assessment alignment are described as follows:

DOK Level 1 Recall of Information

Stage 1 (**DOK 1a**) Respond - touch, look, vocalize, attend, recognize
Stage 2 (**DOK 1b**) Reproduce – copy, repeat, follow direction, replicate diagram
Stage 3 (**DOK 1c**) Recall - list, describe, identify, state, define, label, locate facts or details, perform routine operation

DOK Level 2 Basic Reasoning (Stage 4) – focus on skills and concepts, categorize, classify, compare, organize information, perform multi-step task, explain, restate, summarize, choose strategy, comprehend, make basic interpretations or predictions

DOK Level 3 Complex Reasoning (Stage 5) – requires planning and/or complex reasoning, analyze data to see trend or draw conclusions, conduct experiment, test

hypothesis, create a model or diagram, compose, adapt or modify, make connections, defend, verify

Findings for Criterion #4:

The RIAA for science shows a limited range of DOK levels across AAGSEs and Structured Performance Tasks at all grade levels, with the greatest concentration of AAGSEs on DOK level 1c (Recall) and DOK 2 level (Basic Reasoning). There are only a very small number of AAGSEs identified at DOK level 3 (Complex Reasoning), with most (8% of the total for the grade) being identified at the high school level. A very small number of AAGSEs were identified as "too vague" to determine DOK levels. Vague AAGSEs (e.g., using the verbs "understand" or demonstrate') should be revised for clarity.

Depth of Knowledge
Most of the science AAGSEs reviewed at grades 4 and 8 (Table 4.1) were identified as DOK 1c (recall). Most of the grade 11 AAGSEs were DOK 1c (recall) and DOK 2 (basic reasoning). Student work samples (Table 4.3) revealed a range of DOK levels targeted for assessment, meaning datafolio tasks reviewed were targeted for DOK 1a (respond) through DOK 2 (basic reasoning).

- **Grade 4 Science:** While there is range of DOK levels intended to be sampled with AAGSEs, including DOK 1a (respond) through DOK level 3 (complex reasoning), the majority of AAGSEs assess DOK 1c (recall). There are few opportunities for students to be assessed at DOK 2 or 3 levels at this grade.
- **Grade 8 Science:** There is range of DOK levels intended to be sampled with AAGSEs, including DOK 1a (respond) through DOK level 3 (complex reasoning). The majority of AAGSEs assess DOK 1c (recall) and DOK 2 (basic reasoning). There are few opportunities for students to be assessed at the DOK 3 level.
- **Grade 11 Science:** There is range of DOK levels intended to be sampled with AAGSEs, including DOK 1a (respond) through DOK level 3 (complex reasoning). Most of the AAGSEs at this grade level assess DOK 2 (basic reasoning). There are some opportunities for students to be assessed at the DOK 3 level.
- **Structured Performance Tasks (SPTs):** While there are very few AAGSEs intended to assess DOK level 3, each grade level's SPTs do provide opportunities for teachers to select more complex reasoning tasks for assessment. (See Table 4.2 for details on intended DOK range of SPTs.) This might be explained by the application of AAGSE content when designing actual assessment tasks.
- **Student work samples:** A small number (41) of available RIAA datafolios from 2007-08 were reviewed for intended DOK level. This review of assessment tasks indicated a range of DOK levels actually being assessed with the RIAA for Science. Given the nature of the inquiry assessments (e.g., follow directions and sort materials), most of the student work samples were identified at multiple DOK levels. DOK 1c (recall) and DOK 2 (basic reasoning) were seen most often in

student assessment tasks reviewed. (See Table 4.3 for details on DOK range of student work samples.)

Table 4.1 Range of DOK for *Science AAGSEs:* Percent of Science AAGSEs Intended to Sample each DOK Level						
Grade Level	**DOK 1a Respond**	**DOK 1b Reproduce**	**DOK 1c Recall**	**DOK 2 Basic Reasoning**	**DOK 3 Complex Reasoning**	**DOK Unclear** (need for revision to some AAGSEs)
4	20%	1%	56%	18%	3%	1%
8	7%	0%	57%	32%	2%	2%
11	7%	3%	32%	48%	8%	2%

Table 4.2 Range of DOK for *Science Structured Performance Tasks:* "YES" indicates POTENTIAL of Assessment Tasks Addressing Each DOK Level						
Grade Level	**DOK 1a Respond**	**DOK 1b Reproduce**	**DOK 1c Recall**	**DOK 2 Basic Reasoning**	**DOK 3 Complex Reasoning**	**Comments:** Requirements for six SPTs were analyzed at each grade level. Greatest assessment focus across grades is DOK 1c (recall). At grades 8 and 11, more opportunities for assessing DOK 2 and 3.
4	YES (5 SPTs)	YES (1 SPT)	YES (all 6 SPTs)	YES (5 SPTs)	YES (2 SPTs)	
8	YES (2 SPTs)	No	YES (all 6 SPTs)	YES (all 6 SPTs)	YES (3 SPTs)	
11	YES (1 SPT)	YES (3 SPTs)	YES (all 6 SPTs)	YES (all 6 SPTs)	YES (all 6 SPTs)	

Table 4.3 Range of DOK for Science *Using Student Work Samples:* Number of Work Samples/Assessment Tasks Addressing Each DOK Level						
Grade Level	**DOK 1a Respond**	**DOK 1b Reproduce**	**DOK 1c Recall**	**DOK 2 Basic Reasoning**	**DOK 3 Complex Reasoning**	**Typical examples seen in assessment tasks:** DOK 1a – touch or manipulate materials DOK 1b - follow directions DOK 1c - measure, record/list, identify DOK 2 - organize information, sort/ categorize, compare, make observations DOK 3 – test, design, analyze results
4	**5**	**7**	**15**	**12**	**0**	
8	**10**	**15**	**21**	**18**	**0**	
11	**2**	**7**	**12**	**16**	**3**	
TOTALS	**17**	**29**	**48**	**46**	**3**	

Categorical Concurrence

The categorical concurrence criterion provides a very general indication of alignment if both the standards and assessment incorporate the same content. The criterion of Categorical Concurrence is met if the same or consistent categories/major strands of content appear in both. For the purpose of this alignment study, the range and balance of emphasis in the RIAA is compared to the state's priorities for the science NECAP, with

consideration given to ***coverage related to the distribution of emphasis on major strands of science content***. Content strands identified in the RIAA blueprint and required content were compared to the state's priorities (distribution of emphasis) for the science NECAP and required content in the NECAP test blueprint.

Balance of Representation and Range of Knowledge
In addition to comparable depth and breadth of knowledge, aligned standards and assessments require that assessment of knowledge (content and skills) be distributed with intent. The Balance of Representation criterion is used to indicate the degree to which one standard/objective is given more emphasis on the alternate assessment than another. The RIAA test blueprint was designed to reflect the content and skills emphasis in the NECAP, giving equal emphasis to each of those three content strands. Additionally, two of four broad areas of science inquiry assessed in NECAP are taught and assessed at each grade level in the RIAA. Across the three grade spans, all four areas of inquiry (Observing & Questioning, Planning Investigations, Conducting Investigations, and Analyzing Investigations) are assessed with the RIAA, with the greatest emphasis on conducting investigations at all grades.

- Four major strands are assessed in the NECAP science at all grade levels, with Earth Science, Life Science, and Physical Science having equal assessment emphasis and the strand of Scientific Inquiry having slightly more emphasis. These 4 strands are also assessed with the RIAA, with greatest emphasis on science inquiry.

Table 4.3 Categorical Concurrence: "YES" indicates strand is assessed

NECAP Reporting Category	NECAP Distribution of Emphasis	RIAA Grade 4 Distribution of Emphasis by Strand	RIAA Grade 8 Distribution of Emphasis by Strand	RIAA Grade 11 Distribution of Emphasis by Strand
Earth Science	**24%**	YES	YES	YES
Physical Science	**24%**	YES	YES	YES
Life Science	**24%**	YES	YES	YES
Scientific Inquiry	**28%**	• Observing & Questioning • Conducting Investigations	• Planning Investigations • Conducting Investigations	• Conducting Investigations • Analyzing Investigations

Criterion 5: Is there some differentiation in content of the RIAA across grade spans?

Criterion #5 captures whether the achievement level standards and required content for assessment tasks show changing expectations over time and are age appropriate. For example, students may learn to recognize and use coins in elementary school, but there should be some change in expectation by middle and secondary levels (e.g., using dollars, recognizing prices, etc.). Extending standards for access with students with significant

cognitive disabilities *should not lead to achievement (meaning instruction and assessment) of the same academic skills year after year.*

For this criterion, three separate reviews were conducted:

1. Reviewers identified how the content of SPTs are differentiated from grade 4 to grade 8, and from grade 8 to grade 11. Reviewers examined and compared required content for the RIAA across those grades, including application of inquiry skills. Breadth, depth, and "new" content descriptions were considered in this review and examples were documented. Content differentiation decisions were adapted from descriptions recommended by NAAC (2007).

   - ✓ **Increasing breadth of content** (e.g., broader application of target skill such as expanding the types of graphic displays of data, or using more physical features and/or different chemical proprieties to describe matter)
   - ✓ **Increasing depth of content** (e.g., deeper mastery of target skill, such as going beyond basic recall to interpretation or analysis or to more complex/abstract content)
   - ✓ **New content introduced** (e.g., content not covered in prior grade, such as new strands of content or content more appropriate for older learners)

2. When analyzing student work samples, differentiation across content and complexity levels and the age appropriateness of assessment tasks was coded. Age-appropriateness decisions were based on general descriptions recommended by NAAC (2007).

Age-Appropriateness Coding Descriptions with Science Examples (based on NAAC, 2007)
1- Adapted from grade level content (e.g., grade 8 – structure of the atom; grade 10 – plant cells)
2- Not grade specific; neutral; concepts appropriate for all ages (e.g., organizing data, making observations)
3- Inappropriate for teens (e.g., sink and float activities)
4- Inappropriate even for elementary age (e.g., sorting blocks by color)

3. The Center for Assessment staff analyzed RIAA draft science Alternate Achievement Level Standards for each grade level. Differences between performance levels at each grade level, as well as differences across grade spans, were examined using NAAC guidelines.

Interpreting Definitions of "Proficient" (NAAC, 2007)

These descriptors are used (with Alternate Achievement Standards/performance level descriptors and scoring of AA Portfolio Tasks) to consider the overall alternate assessment content and definitions of "proficient"

These criteria for proficiency strengthen the inference:

- Complexity; proximity to grade level achievement given additional credit
- Generalization of response across people and/or settings
- Conceptual generalization (stronger than simple people/setting generalization) in which student shows response across more than one task format (e.g., understands concept of the number 10 as used in time

telling, bus numbers, math problems, etc. vs. simply pointing to 10 on their schedule; applies understanding of physical properties in different learning activities)
- Overall accuracy (number correct) needed to be proficient is not substantially low (compare to % correct needed for proficiency in general assessment)

These criteria weaken the inference:
- Program quality indicators are added to the student score (like "extra credit") for things like choice-making, inclusion with peer, etc.

Findings for Criterion #5:

- **Differentiation of Content:** Content Experts identified strong evidence to support that SPTs/required content is differentiated across grade levels for science. New content is represented by differing science inquiry strands assessed at each grade level in addition to conducting investigations. Deeper understanding of content was identified as AAGSEs having a greater cognitive demand or requiring application of concepts and skills, rather than identification/recall only at the prior grade span. Broader content was identified by such things as needing broader understanding of properties of materials; and expanding ways to classify materials. (See Table 5.1 for differentiation across grade levels.)

Table 5.1 RIAA Science Structured Performance Tasks: Content Differentiation across Grades

Is there evidence of SOME …	Grade 4 to 8	Grade 8 to 11
Increasing breadth of content	YES (e.g., expanding understanding of physical properties)	YES (e.g., expanding understanding of classification systems)
Increasing depth of content	YES Moves from DOK 1 focus to more DOK 2 for same content	YES Moves to more DOK 2 and some DOK 3 for same content
New content introduced	YES	YES
Increasing application of Inquiry Skills	• Moves from basic description of data to summarizing data • Planning investigations replaces Observing & Questioning	• Analyzing Investigations replaces Planning investigations • Use of data and predictions to plan or analyze investigations

- **Age-appropriateness was reviewed for all student work samples**. At all grade levels, almost all of the assessment contexts were identified as appropriate for the age of students. Reasons given for tasks that were "age-inappropriate" included:
  - Tasks: Student following a cooking recipe instead of science procedures (grade 8); student completing a daily weather chart more like that in primary grades (grade 11); student painting pictures of science content, but not answering questions about content (grade 11).
  - Materials/content: Students working with primary grade content, such as discriminate living-nonliving things; and identifying sun, earth, moon (grade

11). This represents academic content with no content link to grade 11 science standards.

- Tools: no inappropriate examples identified.

Table 5.2 Age-Appropriateness of Assessment Tasks: Percent of assessment tasks identified as age-appropriate and not age-appropriate		
Grade Level	**Age-Appropriate Tasks**	**Not Age-Appropriate Tasks**
Grade 4	100%	0%
Grade 8	99%	1%
Grade 11	80%	20%

Achievement Level Standards (Achievement Level Descriptors)
RIAA Science Achievement Level Standards address 4 performance levels: Proficient with Distinction, Proficient, Partially Proficient, and Substantially Below Proficient. Applying NAAC criteria for making inferences about proficiency (2007), strong Achievement Level Standards should reference grade-level content, articulate generalization of content learned, and not mix student performance with program quality, even though program quality is essential for facilitating student learning.

Strengths of the draft RI AA Achievement Level Standards:
Using NAAC guidelines, the following descriptors were identified as strengthening inferences made about student learning of academic content:

(1) Differences in achievement level descriptors at each grade level are articulated in terms of differentiated areas of science inquiry.

(2) Overall accuracy is considered separately from the independence level of the student. For example, below is the wording describing the "Proficient" student.

- consistent progress in the Inquiry Construct during the year
- adequate level of accuracy on skills within instructional activities and/or
- adequate level of independence demonstrating skills within instructional activities

Ways to Improve on the Quality of RIAA Achievement Level Standards for Science:
The state should consider ways to strengthen the draft Achievement Level Descriptors so that they better differentiate such things as student learning of grade-referenced content, generalization of inquiry learning, or the complexity of the task. The SPTs that guide the assessment tasks seem to indicate that some of these distinctions may be possible.

Using program quality ("opportunity to learn") criteria is probably not as useful in making inferences about learning as describing what students know and can do. One option might be to revise the more general program quality descriptors to better differentiate typical activities that describe students who perform at each of the levels. As with all achievement level standards descriptors, there should be student evidence to support the statements, such as this descriptor for Proficient students: "submitted datafolios that demonstrate consistent connections to the Science AAGSEs in Earth Space Science, Life Science, and Physical Science through participation in instructional activities throughout the year that are regularly aligned…"

Criterion 6: Is the expected achievement for the students to show learning of grade-referenced academic content?

States' alternate achievement standards must link to grade level content. This means that what is actually counted toward a score that will be classified as "proficient" should evidence learning of the academic content and include scoring for accuracy. Scoring rubrics, the RIAA administration and technical manuals, and Achievement Level Standards were analyzed for information related to how inferences are made about student learning.

Findings for Criterion #6:

This discussion focuses on Achievement Level Standards and scoring protocols used in the RIAA. Using NAAC guidelines, the special education experts' review of scoring protocols looked for indicators with the potential to make high inferences that the student had learned the grade-level content. Program quality indicators should **not** be included with student's score or with Achievement Level Standards (NAAC, 2007).

The strongest indicators identified in RIAA scoring protocols and Alternate Assessment Achievement Level Standards for having the potential to make high inferences about student learning were:

- Inclusion of *separate* measures for accuracy and independence, so that each may be considered when making inferences about progress and learning;
- Depending on how science inquiry assessment tasks are designed by teachers, they *have the potential* for demonstrating generalization across 3 science domains depending on how contexts are varied for each of the 3 data collections during the year; and
- Multiple data collections provide a baseline against which progress can be measured.

Criterion 7: Are there potential barriers to demonstrating what students know and can do in the RIAA?

Source of Challenge is often included as a criterion for alignment studies (e.g., Achieve, Inc.). For the purpose of this study, Source of Challenge is being defined as "potential barriers" to demonstrating learning. Because of the complex disabilities that students in this population sometimes have, it can be difficult to demonstrate achievement. This is especially true if the only means to show learning is through symbolic representation, such as using words and pictures. Consideration also needs to be given to know how students with a variety of sensory and physical challenges can both access the test materials and demonstrate their learning. Accommodations allow greater access, but do not change the construct being assessed (e.g., a scribe might write words the student dictates); modifications are changes that are likely to alter the construct being assessed.

Special education experts completed a survey, *Minimizing Barriers for Students*, after a review of the RIAA administration manual guidelines related to accommodations, modifications, and scoring protocols for science and other content areas.

Findings for Criterion #7:

Source of Challenge
The RIAA represents a multi-disciplinary approach to assessing student learning, access to the district and grade-level learning standards, and varied opportunities to learn. A strength of the RIAA is its flexibility in teacher-designed assessment tasks to meet the individual needs of students with significant cognitive disabilities. There was agreement among the special education reviewers for Criterion # 7 that the administration manual provides clear guidance for accommodations and modifications when designing assessment tasks, so that students can demonstrate what they have learned through a variety of response modes. Administration guidelines were found to be consistent across content areas and provided flexibility for all examples of disabilities included on the survey (e.g., visually impaired/legally blind; hearing impaired; nonverbal – responds using printed words, pictures, manual signs, etc.).

Criterion 8: Does the instructional program for students with significant cognitive disabilities promote learning in the general curriculum?

Instructional alignment is especially important given the conceptual shift many educators must make to teach this population content that links to grade-level standards. For this criterion, consideration is also given to whether professional development materials link to general education expectations and promote overall program quality. The professional development review identifies how well the training materials provided to teachers of students with significant cognitive disabilities include information regarding academic content and best instructional practices for this population. To gather data for this criterion, special education experts analyzed RIAA administration and training manuals in order to complete a NAAC survey –*Program Quality Indicators*. Center for Assessment staff reviewed a sampling of current professional development materials and interviewed RIDE staff about on-going professional development opportunities that support implementation of the RIAA.

Findings for Criterion #8:

Information about instructional programs and professional development support is not required by NCLB and was collected by RIDE for internal analysis, discussion, and future planning. This report does, however, identify some specific issues to be addressed through ongoing professional development provided by RIDE.

Current Professional Development and Instructional Support

- RIDE is to be commended for their ongoing efforts in supporting teaching and learning of students with severe disabilities. It is recommended that this support to teachers continue in order to reach each educator working with the RIAA, as well as to expand the science content knowledge and instructional skills of special education teachers.
- Technical assistance to teachers has taken many forms – from large-group training sessions to individual targeted assistance in reviewing student work and documenting data collection.
- Scoring and standard setting trainings have been credited for expanding the expertise of special educators across the state in implementing effective curriculum and instruction for this population of students.
- The *RIAA Administration Manual* provides examples and links to general education expectations as a guide to teaching and assessing grade-referenced content. However, more science-specific examples are needed.
- Results of the *Program Quality Indicators* survey show that there are numerous examples and descriptions in RIDE's AA support documents including: glossary of instructional terms for alternate assessments; sample data collection forms; examples of how to link instruction for students with significant disabilities to that of their grade-level peers; and how to provide for students using assistive technology.

Brief Summary of Recommendations

The state is to be commended for already addressing many of the content discrepancies identified in the Science AAGSEs during phase I of the alignment study. During the months of June through August 2008, content revisions were made to AAGSEs that were identified as unclear, of too small grain size, or inaccurately stated in terms of science content. These revisions included some rewording of the Foundational Skills included for Structured Performance Tasks. All of the content revisions made to AAGSEs (as of August 2008) have been again reviewed by Center for Assessment staff to ensure that reviewer concerns have been addressed.

Additional recommendations include:

1. Reconsider including the AAGSEs (academic content) at grade spans 5-8 and 9-12 identified as "too watered down" from grade-level content if they are currently included in SPTs at those grade levels.
2. Explore ways to strengthen the September 2008 draft Science Alternate Achievement Level Standards to better reflect inferences made about what students know and can do at each performance level. Do the descriptors differentiate science content or complexity across grades? Is there a way to eliminate program quality indicators by better describing typical science learning activities associated with each performance level? The state should present a strong case for including program descriptors as a means for making inferences about what students know and can do if the decision is made not to revise or eliminate them.
3. Continue to provide ongoing professional development to special education teachers to deepen their science content knowledge, to provide strong age-appropriate assessment models and materials, and to assist them with more accurate identification of science content that clearly matches specific AAGSEs. Specific recommendations are:
    a. The use of appropriate tools during science investigations appeared to be minimal, especially in student work samples. Both the *RIAA Administration Manual* and professional development could include more emphasis on use of age-appropriate tools at each grade span.
    b. Because of generally weak science content knowledge on the part of teachers, it appears that they may struggle with making meaningful grade-referenced links to science content of the student's grade level. One instructional model worth exploring in professional development settings is the "4-Step Process" for designing instructional activities and assessment (a model developed at the University of Kentucky by ILSSA).
    c. The datafolio review identified some exemplars of teacher-designed science SPTs. The state should continue to identify and use teacher-developed models with student work in professional development settings (e.g., age-appropriate contexts, generalization of skills in different contexts) and for illustrating meaningful interpretations of student growth.
4. While there are many opportunities for teachers to select new content for instruction and assessment at each grade level assessed, it is unclear whether the *RIAA Administration Manual* specifies to teachers that assessing the same content in successive grades (4, 8, and 11) is not appropriate, even if the same AAGSEs are

included in the SPT description for each content strand. This guidance should be clearly stated for teachers to ensure that "use of extended standards for access with students with significant cognitive disabilities *do not lead to achievement of the same academic skills year after year"* (NAAC).

Background[1]

The Rhode Island Department of Education (RIDE) is responsible for implementing an extensive state assessment program to support learning, accountability, and compliance with state and federal laws. To that end, the Department proposed an alignment study for their alternate assessment in science be conducted in May 2008. Specifically, the RIDE proposal called for an external expert to assemble a team of diverse stakeholders to: 1) review links between RI's AA GSEs and NECAP science assessment targets; and 2) to analyze links between AA GSEs and the AA Structured Performance Tasks, as well as examine the relationship between the tasks and the overall datafolio design for science.

Underlying the Rhode Island Department of Education's assessment system is an emphasis on validity as an essential requirement for the state to adopt and/or develop any assessment instrument for use in its statewide program. Validity has been broadly conceived of as the extent to which the interpretations and uses of the assessment results are defensible and meaningful. An essential aspect of validity is the degree to which the assessment is designed to assess the intended knowledge and skills. Rhode Island has identified the intended knowledge and skills, as well as cognitive complexity (Depth of Knowledge), as described in the New England Common Assessment Program Grade Level and Grade Span Expectations (NECAP GLEs/GSEs) for the general education assessment at grades 3-8 and high school for reading, mathematics, and writing and for science at grades 4, 8, and 11. NECAP GLEs/GSEs and assessments have received national recognition for their thoughtful development and clear alignment to national standards.

RIDE has systematically evaluated the alignment between the state's content standards, test specifications, test items, and the assessment instruments used in NECAP. In anticipation of this review, RIDE contracted with the Center for Assessment for support in conducting an alignment study of its alternate assessment. The Center for Assessment is a 501(c)(3) non-profit organization located in Dover, NH that has worked with over half the states, as well as six Pacific Island entities, to help them develop technically sound and educationally powerful assessment and accountability systems. The Center's work has included extensive work with content standards, test design, and alignment studies. Dr. Karin Hess, Senior Associate at the Center for Assessment, was the primary staff responsible for working with the RI Department of Education on this alternate assessment alignment study. Dr Hess was assisted during phase 2 (review of student work samples) by Lou-Ann Land, a technical assistance specialist with the Inclusive Large-Scale Standards & Assessment organization (ILSSA) based at the University of Kentucky.

[1] The background and results of the alignment study have been selected and condensed for this summary.

Recommendations from the alignment study will be carefully reviewed by RIDE and if warranted, modifications will be made to AAGSEs, RI alternate assessment procedures or assessment tasks (SPTs), achievement level standards, and/or relatedRIAA support materials.

Materials and Reviewers

Documents and Interviews
Data were collected using document analysis (outside reviewers, as well as Center for Assessment staff) and interviews with RIDE staff most familiar with the alternate assessment. The Center for Assessment interviewed key Department staff from the Office of Assessment and Accountability as part of the planning process, prior to designing the alignment study. Interview questions were intended to help clarify/explain the documents, RIAA guidelines and procedures (e.g., scoring of student work), and related policies.

Documents used to inform data collection included:

1. Documentation of development of Rhode Island's Alternate Assessment (procedures and rationales used to develop the RIAA for science)
2. Procedures used for developing grade-specific AAGSEs/extended standards that guide decisions about the instructional content assessed in the RIAA for science
3. Content-specific science AAGSEs for grade levels 4, 8, and 11
4. The *RIAA Administration Manual* (including participation guidelines for the RIAA, datafolio assessment evidence requirements for each grade, allowable accommodations/modifications, and the RIAA blueprint for each grade)
5. Samples of student work from the most current (2007-2008) RIAA for grades 4, 8, and 11 for science – forty-one student portfolios representing all 3 grade levels were analyzed during the study
6. Information about scoring the alternate assessment, including the scoring rubrics and administration guidelines for teacher assistance/support
7. *RIAA Technical Manual* (including technical information about alternate achievement standards, performance descriptors, validity and reliability studies, standard setting, etc.)
8. The current draft of the RIAA Achievement Level Standards for science
9. The New England Common Assessment Program/NECAP general education science test blueprint (showing reporting categories and Distribution of Emphasis)
10. General education grade-level content standards (RI GSEs) for science grades 4, 8, and 11
11. Sampling of professional development materials related to implementation of the RIAA for science

While the use of some documents is self evident, others are included in the process as a way to understand the assessment system and values of the state regarding content, instruction, and assessment of students with significant cognitive disabilities. The *RIAA*

Administration Manual and grade-level content standards for science provided the alignment teams (general education content and special education reviewers) essential information on the prioritized content areas of RIAA for science.

Data and Coding Forms

Data were compiled for analysis using reviewer responses and coding. Coding templates and surveys were used to capture the necessary information (e.g., academic content, intended DOK, content and performance centrality) from the reviewers. Unique identifiers for the information listed (e.g., distinct reviewer codes, grade levels, AAGSEs, etc.) were used on the forms for clarity whenever possible. For the most part, content experts and special education experts completed different tasks, using forms focusing on different aspects of the RIAA.

The Center for Assessment operationalized the level of specificity of the coding for all of the documents and materials used in the review and provided examples and guidelines for coding. Decisions about how to document each response and examples and non-examples were included a Codebook (Appendix B.3) provided to each reviewer.

Coding forms and surveys were developed and pilot tested by the Center for Assessment, prior to the study, to develop training examples and ensure a smooth data collection process. An overview of the forms and documents used by the reviewers for each criterion is summarized at the end of this section.

Reviewers

RIDE recruited educators to participate in the alignment study. All reviewers self-identified a grade level of expertise so that work groups could be formed for both general education and special education. Individual demographic information was collected (Appendix A.1) from each reviewer and rater identification numbers were assigned for coding and confidentiality purposes. A summary of reviewer demographics is included in Appendix A.2 (May 2008) and Appendix A.3 (August 2008).

RIDE staff provided all reviewers with an overview of the development of the RIAA for science, requirements for data collection, and use of AAGSEs and grade-level standards to design instructional tasks for the datafolio; the National Center for Assessment instructed reviewers on the purpose for the alignment study, as well as general policies (e.g., confidentiality, roles) and procedures for coding. A Codebook developed by the Center for Assessment using NAAC guidelines, provided training examples and non-examples for each criterion reviewed and detailed information for each step in the alignment study process.

Content experts and special education experts received in-depth training on task-specific coding as appropriate. For example, special education reviewers received training specifically on the *RIAA Administration Manual* and coding of assessment tasks for accessibility and age-appropriateness; content experts were trained in how to determine a "content match" between grade-level content standards and the AAGSEs and SPTs.

The reviewers generally worked in teams of 4-6 persons, organized by grade level to review materials. Content experts worked separately from special education experts for the content review of AAGSEs, as recommended in the NAAC model. All coding decisions reflect consensus on each team's ratings and comments.

Reviewers were supported by RIDE, providing: logistical support, such as preparing documents, coding templates, and training materials for the review; and making presentations related to the RIAA development and administration requirements. RIDE professional staff were available to provide clarification about RIAA and any administration procedures, but did not participate in the alignment study discussions or coding.

Alignment Study Design and Procedures

The alignment study, designed by the Center for Assessment, is intended to evaluate the correspondence between RI's grade-level content standards and test specifications (NECAP) with assessment tasks for the RIAA (e.g., content, balance of emphasis, performance centrality, etc.). The study's design and methods apply (and in some cases adapt) the Links for Academic Learning conceptual framework and coding protocols developed by the National Alternate Assessment Center (NAAC). Eight criteria recommended by NAAC, as well as applications drawn from traditional general education alignment models (Achieve, Inc. and Webb,) were employed in the design. All coding done by content and special education experts was closely reviewed by Center for Assessment staff, and in some cases needed to be corrected (e.g., incorrect DOK level identified, incorrect summary totals) and/or completed (e.g., coded information not transferred completely from one form to the next) before final the analyses. Any corrections/changes to raw data were documented and will be kept on file at the RIDE offices with original data collected.

The study consists of multi-layered analyses that focus on these alignment criteria:

Criterion 1: The Content is Academic
Criterion 2: Content is Referenced by Grade Level
Criterion 3: Fidelity with Grade Content and Performance Level
Criterion 4: The Content Differs in Range, Balance, and Depth of Knowledge (DOK)
Criterion 5: Differentiation across Grade Spans
Criterion 6: Expected Achievement of Students is Grade-Referenced Academic Content
Criterion 7: Barriers to Performance
Criterion 8: Instructional Quality

Reviewers, divided into two groups – content experts and special education experts – met on overlapping days in May 2008 for phase 1, and were assigned different roles and responsibilities, based on their areas of expertise and grade-level experience. The second phase of the study was completed in August 2008, when actual student work samples could be reviewed by special education experts. Forty-one student datafolios were available for review during phase 2. This represents about 15% of the RI student population taking the RIAA for science.

Content experts investigated most of the information related to the first five alignment criteria for all grades, using content analyses and coding. This included an in-depth analysis of AAGSEs at three grade levels and their alignment with RI GSEs/ grade-level content standards for science.

S**pecial educators** have insight into the characteristics of the student population, as well as best instructional practice; therefore, their role in the alignment study process was unique. Their coding responsibilities included such things as: rating the age/grade appropriateness of assessment tasks; coding the specific symbolic level of those items identified by the content experts as Foundational Skills; and reviewing a sample of student work to determine the degree of alignment to AAGSEs. Most of the information collected by this group related to the alignment criteria # 3 - #8

RIAA Science Alternate Assessment Alignment Study Summary of Alignment Criteria, Coding Materials, & Reviewer Responsibilities		
Criterion	**Materials needed** (in addition to Codebook)	**Who measures it?**
1) The content is academic and includes the major domains/strands of the content area as reflected in state standards	-Content-specific coding templates for science grades 4, 8, and 11 - RI content standards/GSEs – science at grades 4, 8, and 11 - AAGSEs for science at grades 4, 8, and 11 with any related support materials	Content Experts – split by grade level
2) The content is referenced to the student's assigned grade level (based on chronological age).	(same as above) -Content-specific coding templates: identify grade references between RI GSEs/ content standards and extended standards/ AAGSEs	Content Experts – split by grade level
3) The focus of achievement maintains fidelity with the content of the original grade level standards (content centrality) and when possible, the specified performance (category of knowledge).	(same as above) -Content-specific coding templates: ratings of content centrality -Templates – Foundational and Pivotal ("F" or "P") -Summary - explain ratings for F/P (either an back-mapping, a mismatch to the standard, or an overstretched skill -Student work samples grades 4, 8, and 11	Content Experts – split by grade level Spec Ed Experts – split by grade level – review nonacademic content – secondary coding
4) The content differs from grade level in range, balance, and DOK, but matches high expectations set for students with significant cognitive disabilities.	-Content-specific coding templates for science grades 4, 8, and 11 -DOK coding templates for AAGSEs -Templates for Structured Performance Tasks (admin manual) -Student work samples grades 4, 8, and 11	Content Experts working with special Ed experts (DOK coding, performance centrality, student work)
5) There is some differentiation in CONTENT across grade levels or grade bands.	- AAGSEs & Structured Performance Tasks - grades 4, 8, and 11 -Alternate Assessment Achievement Level Standards by grade level -Age-Appropriateness of Tasks checklist - Admin manual – Requirements for datafolio entries across grades and content areas -Student work samples grades 4, 8, and 11	Content Experts (review Entry Points) Spec Ed Experts (review student work) Center for Assessment (Achievement Level Standards, RIAA test blueprint)
6) The expected achievement for students is for students to show learning of grade referenced academic content.	-Alternate Assessment Achievement Level Standards by Content and Grade -Scoring rubrics and protocols -*NAAC Degree of Inference about Student Learning* checklist - *Program Quality Indicators* survey	Spec Ed Experts Center for Assessment (Achievement Level Standards)
7) The potential barriers to demonstrating what students know and can do are minimized in the assessment.	-*Minimizing Barriers for Students* survey -Symbolic/Non-symbolic checklist -Admin Manual – accommodations/modifications	Special Ed Experts
8) The instructional program for students with significant cognitive disabilities promotes learning in the general curriculum?	-Admin Manual – accommodations/modifications - PD materials - *Program Quality Indicators* survey	Spec Ed Experts Center for Assessment

Overview of Each Criterion with Related Coding Procedures

Criterion 1: The Content is Academic

The conceptual foundation for the Rhode Island Alternate Assessment alignment study builds upon several national alignment models for general and alternate assessment (NAAC, Achieve, Inc. and Webb). The core construct of academic content is not assumed, but instead evaluated as a first step in the process. Because academic content has been underrepresented in past instruction and research with students with significant cognitive disabilities, the "extension" of content standards (meaning the content-specific entry points) may produce assessment targets that can sometimes "miss the mark of being academic, even though a deliberate process was used in their development, using the RI grade-level content standards as a starting point.

Rhode Island's grade-level assessment targets for science (NECAP) were developed in conjunction with content specialists from Vermont and New Hampshire using national standards and research literature related to science learning. Therefore, this study begins with the assumption that the NECAP content standards are in alignment with national standards for the content area of science. To define "what is academic," and to determine to what degree the RIAA includes academic content, several steps were used to compare state expectations with science content required for instruction as described in RI AAGSEs and Structured Performance Tasks.

- Content experts, working in 3 grade-specific work groups, reviewed each AAGSE to find the best content match with grade-level content standards at the grade level assessed by NECAP (at grades 4, 8, or 11). Content matches might not be "exact" matches with RI grade-level content due to their smaller grain size; however, reviewers use the "content essence" intended to be assessed as a guide in making these decisions. For example, the essence of a reading standard might be "decoding multi-syllabic words" but the examples and range of words included the grade-referenced general education standard could generally be broader in scope and complexity than what is described in the AAGSE.
- During this first step of the review process, content experts also identify any AAGSE that would be considered either a Pivotal or Foundational Skill, as defined by NAAC. These skills would be difficult to match with NECAP content because they are either not content specific, although important for learning (e.g. pivotal skill – listening attentively) or considered foundational - those skills that are *the assumed competence at all grade levels* specific to an academic context (e.g., orienting a book or turning a page as precursors to learning to reading).
- The identified Pivotal and Foundational Skills then receive a secondary coding from special education experts (as to accessibility). From this point forward, Foundational and Pivotal Skills are not considered "academic" for the purpose of the alignment study. Foundational Skills are, however, valued as providing access for those students functioning at awareness, pre-symbolic, or early symbolic levels to show partial achievement or early learning, thus the usefulness of the secondary coding.

Criterion 2: Referenced by Grade Level

Students with significant cognitive disabilities have often been served in ungraded classes, so thinking about content - by grade level or grade span - can be new for many educators. The extent to which RIDE has been successful in referencing general education content standards to the content assessed by the RIAA is the focus of this criterion. Inclusion of the same major content strands or content emphasis, as well as grade-referenced content, is considered. This step in the alignment process is also used as a means to prepare for completing Criterion #3, when content centrality is determined for each extended standard/AAGSE coded as academic. Skills identified for Criterion #1 as Foundational or Pivotal are not matched to grade level standards, since they are not considered "academic" for the purpose of the alignment study.

Using the same content-specific templates for each grade span as for Criterion #1, content experts review RI grade-level science content from the grade level referenced in the template (grades 4, 8, or 11). For example, raters review descriptions for grade 4 expectations to determine the closeness (near, far, or no match) of the content with each corresponding AAGSE and AAGSE subpart. Summaries are totaled to reflect how many content matches (near + far links to grade level) were made. Findings are then used to determine overall content centrality (Criterion #3). "Far" content links generally mean that the AA content is closer to a much lower grade level's content than the grade level of focus.

Criterion 3: Fidelity with Grade Content and Performance Level

Extending content and defining performance for the heterogeneous population of students who participate in the RIAA is challenging and can produce targets for learning that sometimes "miss the mark." This criterion draws upon alignment processes developed by Achieve (Achieve. Inc.), and is based on a group of experts reaching consensus on the degree to which the assessment-by-standard mapping conducted by a state or district is valid. For Content Centrality and Performance Centrality, reviewers reach a consensus as to whether the item/task and the intended objective(s) correspond fully, partially, or not at all. For this criterion, AAGSEs are compared to the RI grade-level standards for content and performance centrality.

Content centrality (based on NAAC definitions) - rated using a three-point scale (near, far, none) in which the content experts rate the quality of the content link between the AAGSEs and the grade level content; special education experts working with content specialists rate student work samples for fidelity to the AAGSE selected. For example, an AAGSE of *Identify weather conditions* may have no content link to a grade level standard, *Analyze and identify types of clouds*. An AAGSE of *Identify clouds* may be considered a "far" link, because even though it is dealing with clouds, it still does not address the total content domain of the original standard that is types of clouds. A "near" link for an extended standard would be something like, *Identify cumulous and not cumulous clouds*. Information obtained from coding grade-referenced content for Criterion #2 is used to make decisions about the degree of the content link –

near/far/none. A strong alternate assessment system is one that expects the content fidelity to remain high.

Performance centrality (based on NAAC definitions) concerns the expected performance of the extended standards. Alternate assessments are expected to allow for an alternate level of performance (meaning not the same as grade level performance in general education assessments), due to the difficulty of creating ways for students who do not yet have fluent use of printed symbols (e.g., words, pictures) to show achievement. Therefore, an extended standard of "identify" would have some of the same performance expectations as a content standard with "analyze and identify" for the same content, and would be acceptable. Performance centrality is rated on a three-point rating scale (exact match, partial match, or no match), using definitions established for special education by a modified Webb's Depth of Knowledge). (See discussion of Criterion #4 for more information on coding cognitive complexity/DOK.)

Content and performance centrality are only considered for items/tasks coded as academic. An item can be coded as academic, but not have content centrality for several reasons. It may be *mismatched* to the wrong grade level standard (e.g., clerical error or miscoded to a different content strand); or sometimes the targeted content has been *overextended* or "watered down" so that the content link is lost. States need to consider either revising or removing extended standards with no content link to the grade level.

Criterion 4: The Content Differs in Range, Balance, and Depth of Knowledge (DOK)

This criterion closely resembles the work of Norman Webb's Alignment Protocols (1997, 2002). Measures of categorical concurrence, balance of representation, and depth of knowledge (DOK) are addressed under Criterion #4.

Modified Depth of Knowledge (DOK) Levels

The assumption is that the DOK of the RIAA and NECAP should match, but will be generally skewed to lower DOK levels than the RI grade-level standards. This is a key difference between grade level achievement and alternate achievement.

To establish DOK levels of content AAGSEs for comparison with related grade-level standards, content experts use a modified version of Norman Webb's Depth of Knowledge levels. The lowest DOK level (Level 1, Recall and Reproduction) is further broken down into 3 sublevels to create 6 possible levels for analysis of alternate assessments. (See modified DOK descriptions on the following page.) AAGSEs that are too vague for coding are also identified at this point in the study.

Webb's Modified Depth of Knowledge for Special Education	
Codes	**Depth of Knowledge (DOK) Levels**
1a	**Respond** - touch, look, vocalize, attend, recognize
1b	**Reproduce** – copy, repeat, follow directions
1c	**Recall** - list, describe, identify, state, define, label, locate facts or details, perform routine operation (measure, compute) (e.g., identify proper names that begin with capital letters)
2	**Basic Reasoning** – focus on skills and concepts, categorize, classify, compare, organize information, perform multi-step task, explain, restate, summarize, translate, choose strategy, comprehend, make basic interpretations (central idea) or predictions
3	**Complex Reasoning** – requires planning and/or complex reasoning, make inferences across a passage (e.g., interpret theme or purpose), analyze, conduct experiment, test hypothesis, create a model or diagram, compose, adapt or modify, make connections, defend, verify, draw conclusions, rate, judge
4	**Extended Reasoning** – requires investigation/research, apply/analyze/synthesize across multiple contexts/sources, extend to new applications
X	**Can't code/too vague**

Categorical concurrence
Norman Webb generally defines acceptable categorical concurrence as an assessment sampling each standard with at least 6 test items. For the purpose of this study, and due to the flexible and variable nature of portfolio-type alternate assessments, NAAC recommends that the range and balance of the alternate assessment be compared to the state's priorities for large-scale assessment, with consideration given to ***some coverage in all major strands of content***.

Criterion 5: Differentiation across Grade Spans

This criterion captures whether the achievement level standards and actual assessment tasks show changing expectations over time and are age appropriate. For example, students may learn to recognize and use coins in elementary school, but there should be some change in expectation by middle and secondary levels (e.g., using dollars, recognizing prices, etc.). Use of extended standards for access with students with significant cognitive disabilities *should not lead to achievement of the same academic skills year after year.*

To address this criterion, content experts review AAGSEs and SPTs for each grade level in order to identify differentiation across grade levels; special education experts examine datafolio tasks and student work samples for differentiation across complexity levels and for age appropriateness of assessments. Surveys ask reviewers to describe each grade's content and performance in terms of increasing breadth, depth or new content taught and assessed at higher grade levels.

Age-appropriateness decisions are based on descriptions recommended by NAAC, as seen in the table below. AAGSEs, sample assessment tasks included in the Administration Manual, and student work samples are all reviewed for age-appropriateness.

Age-Appropriateness Coding Descriptions with Science Examples (based on NAAC, 2007)
1- Adapted from grade level content (e.g., grade 8 – structure of the atom; grade 10 – plant cells)
2- Not grade specific; neutral; concepts appropriate for all ages (e.g., organizing data, making observations)
3- Inappropriate for teens (e.g., sink and float activities)
4- Inappropriate even for elementary age (e.g., sorting blocks by color)

Using NAAC guidelines (below), Center for Assessment staff analyze the achievement level standards and definitions of proficiency for the alternate assessment, examining differences between performance levels at each grade span, as well as differences across grade spans and content areas.

Interpreting Definitions of "Proficient" (NAAC, 2007)

Descriptors to consider when analyzing the overall alternate assessment content and definitions of "proficient" (Used to review Alternate Achievement Standards/performance level descriptors and scoring of AA Datafolio Tasks)

These criteria for proficiency strengthen the inference:

- Complexity; proximity to grade level achievement given additional credit
- Generalization of response across people and/or settings
- Conceptual generalization (stronger than simple people/setting generalization) in which student shows response across more than one task format (e.g., understands concept of the number 10 as used in time telling, bus numbers, math problems, etc. vs. simply pointing to 10 on their schedule; applies understanding of physical properties in different learning activities)
- Overall accuracy (number correct) needed to be proficient is not substantially low (compare to % correct needed for proficiency in general assessment)

These criteria weaken the inference:

- Program quality indicators are added to the student score (like "extra credit") for things like choice-making, inclusion with peer, etc.

Criterion 6: Expected Achievement of Students is Grade Referenced Academic Content

What is actually counted toward a score that will be classified as "proficient" should evidence learning of the academic content. Inferences about student learning are more difficult to make when these scores incorporate aspects of teachers' instructional skills or program performance.

Center for Assessment staff analyze scoring rubrics, Achievement Level Standards, and the Technical Manual for information related to how inferences are made about student learning. Using NAAC guidelines (*Degree of Inference about Student Learning* checklist included in Codebook), this review looks for indicators of strongest inference that the student learned the content, including:

a) there is evidence the student did not already have the skill (e.g., through use of pretest, baseline or previous year's learning);
b) the skill is performed without teacher prompting;
c) the skill is performed across materials/lessons to show mastery of the concept versus rote memory of one specific response; and
d) there is consideration of the difficulty/complexity level of the skills performed.

Criterion 7: Barriers to Performance

Because of the complex disabilities that students in this population sometimes have, it can be difficult to demonstrate achievement. This is especially true if the only means to show learning is through symbolic representation, such as using words and pictures. Consideration also needs to be given to know how students with a variety of sensory and physical challenges can both access the test materials and demonstrate their learning. Accommodations allow greater access, but do not change the construct being assessed (e.g., a scribe might write words the student dictates); modifications are changes that are likely to alter the construct being assessed.

Special education experts complete a NAAC survey, *Minimizing Barriers for Students* (Appendix C.5), after a review of the *RIAA Administration Manual* guidelines related to accommodations, modifications, and scoring protocols for all content areas.

Criterion 8: Instructional Program Promotes Learning in the General Curriculum

The NAAC model of alignment gives consideration to instructional alignment. This is especially important given the conceptual shift many educators must make to teach this population content that links to grade level standards. For Criterion 8, consideration is also given to whether professional development materials link to NECAP expectations and promote overall program quality. The professional development review identifies how well the training materials provided to teachers of students with significant cognitive disabilities include information regarding grade-level academic content, assessment models and materials, and best instructional practices for the population.

To gather data for this criterion, special education experts complete a NAAC survey, *Program Quality Indicators* (Appendix C.6). Raters are asked to document explicit links to general education expectations. Center for Assessment staff also review a sampling of current/ongoing professional development materials and activities related to implementation of the RIAA. The information gleaned from this review provides RIDE with information for internal discussions and future planning of professional development.

Part II: Discussion of Findings and Conclusions
Results of Alignment Study

Discussion of Findings for Criterion #1:

Analyses for criterion #1 included a detailed review by content experts of all AAGSEs at grades 4, 8, and 11 coded as academic content, Foundational, or Pivotal Skills, using NAAC definitions for Foundational and Pivotal Skills. Numerical counts and percents were calculated for each grade level. Each AAGSE has multiple subparts and all were included in the overall totals.

AAGSEs rated as *not academic* (meaning identified Pivotal and Foundational Skills) are given a secondary coding, completed by special education experts to show which of these AAGSEs could be accessed by students functioning at the pre-symbolic (e.g., communicates with gestures), early symbolic (e.g., beginning to use pictures, symbols), or symbolic (e.g., speaks or has vocabulary of pictures) levels.

Summary

The data reveal a high degree of emphasis on assessing academic content in science at all three grade levels with the RIAA (92% - 98% academic content); however, these results do not tell the full story. Some AAGSEs at the high school level coded as academic content were not linked to grade-level content due to being "too watered down" (meaning science content was more appropriate for the K-4 grade span). Because high school reviewers struggled with making determinations of content that was academic and then later (criterion #3) making near/far content links, all coding data was reviewed carefully by Center for Assessment staff during the data analysis phase, resulting in some changes made to overall totals.

A high degree of emphasis on assessing academic content would indicate that teachers are selecting academic content for datafolio assessment tasks, using their knowledge of student strengths and needs to develop a targeted skill for the student to focus in on each science domain required. Recommendations for revising or eliminating some AAGSEs is important for ensuring that academic content is what is being required for assessment.

Identification of Pivotal Skills: While Pivotal Skills may be appropriate and important for instruction, they should not be targeted for the RIAA, as they are not considered content-specific. No Pivotal Skill in science was identified at any grade level, probably due in part to lessons learned from the alignment findings for other content areas (2007) being applied to the development of science AAGSEs.

Identification of Foundational Skills: Because grade 4 is the first grade level when science is assessed in this state, it is reasonable to expect that there would be few or no "early science skills" included in the RIAA for science. However, because RIAA content descriptors (AAGSEs) are carried forward from one grade span to the next, skills introduced at the K-4 grade span tend to appear at all or most later grade spans (grades 5-8 and 9-12). This means that the same Foundational Skills will likely be identified at successive grade spans; however, since

new content is also being added at each grade span, the percent of foundational skills tends to drop across grades.

- **Grade 4 Science:** Three Foundational Skills were identified by the content experts at the grade 4 level in the domain of Life Science. In one AAGSE, all parts were identified and in others it was only some parts of the AAGSE.

  LS1.1.1 (a) *Recognize self as living.*
  LS1.1.4 (a) *Recognize legs (e.g., dog, cat, person);* ***(b)*** *Recognize head. (e.g., dog, cat, person);* ***(c)*** *Recognize tails (e.g., dog, cat); and* ***(d)*** *Recognize arms (e.g., person)*
  LS4.1.2 (a) *Recognize signs or feelings of being sick, hurt/injured, or discomfort (e.g., cut on finger, headache, dizziness, etc.)*

- **Grade 8 Science:** The same three Foundational Skills were identified by the content experts at the grade 8 level in Life Science.
- **Grade 11 Science:** Two of the same three Foundational Skills were identified by the content experts at the grade 11 level in Life Science. The third Foundational skill identified at lower grades had been revised at the high school level, and was coded as academic.
- **Structured Performance Tasks**: One Foundational Skill at grade 4 (all parts of LS1.1.4) and the same AAGSE at grades 8 and 11 (LS4.1.2a) were included with required content for Structured Performance Tasks. Foundational Skills included for Structured Performance Tasks should be reviewed and possibly revised for assessment purposes. Many other academic AAGSEs were also found to be accessible to students with pre-or early-symbolic communication skills (e.g., ***LS12.2a*** *Recognize one or more conditions an animal needs to grow, survive, and reproduce*) and probably a better choice to include than Foundational Skills.
- **Secondary coding for accessibility**: The three identified Foundational Skills were further reviewed by special education experts as to their accessibility. All Foundational Skills were identified as potentially providing access for those students functioning at awareness, pre-symbolic, or early symbolic levels to show partial achievement or early learning. Additionally, wording revisions were also suggested for these AAGSEs by the content and special education experts.

Table 1.1 on the following page shows the percent of RIAA Science AAGSEs identified as academic content or as Foundational Skills at grades 4, 8, and 11 (in the shaded column). In addition to the percent of academic content of AAGSEs, the science domains assessed in the RIAA are also identified for each grade level. These represent the focus of required content assessed in the RIAA for Science. (Note that percents for Foundational Skills will decrease at each grade span because new content is added at grades 5-8 and 9-12.)

Table 1.1: Summary of Academic Content or Foundational Skills Assessed with the RIAA for Science			
Science	**RI AAGSEs**		
Grade Level	**Academic Content**	**Academic Content Strands Identified for Assessment**	**Foundational Skills**
4	**92%**	Life Science Physical Science Earth & Space Science Inquiry: Observing & Questioning; Conducting Investigations	**8%** (1 of 3 AAGSEs included for SPT assessment)
8	**95%**	Life Science Physical Science Earth & Space Science Inquiry: Planning Investigations; Conducting Investigations	**5%** (1 of 3 AAGSEs included for SPT assessment)
11	**98%**	Life Science Physical Science Earth & Space Science Inquiry: Conducting Investigations; Analyzing Investigations	**2%** (1 of 2 AAGSEs included for SPT assessment)

Specific Recommendations Related to Criterion #1:

1. Before the 2008-2009 assessment cycle begins, revise AAGSEs that were identified as unclear, of too small grain size, or inaccurately stated in terms of science content. There are a small number of these at each grade level.
2. All Foundational Skills included for Structured Performance Tasks should be reviewed and possibly revised to be academic, but accessible to students using pre- and early symbolic communication.

Discussion of Findings for Criterion #2:

The alignment study provides feedback on the extent to which the state has been successful in referencing the content assessed by the RIAA Structured Performance Tasks to specific grade-level academic content. Review of inclusion of the same NECAP content strands and of changing grade-referenced content across grade levels are considered here. This step is also used as a means to prepare for completing Criterion #3, determining content centrality for AAGSEs coded as academic. Skills identified under Criterion #1 as Foundational Skills are not matched to grade-level content, since they are not considered "academic" for the purpose of the alignment study.

All AAGSEs for three grade levels (4, 8, and 11) were analyzed by content experts, comparing them to the RI GSEs/ grade-level standards. The format used for presenting the AAGSEs greatly facilitated these analyses, in that it is organized by science domain and grade span with underlining that shows when new concepts and skills are introduced at each level. Content experts analyzed content descriptions for all AAGSEs, comparing them to the descriptions of RI grade-level standards for science. Pre-coding of the "essence" of each grade-level standard by the Center for Assessment was used to help content experts align AAGSEs to grade-level content standards. After content alignment was completed, comparisons were made between intended cognitive demand of the grade-level GSEs and AAGSEs.

Figure 1 illustrates how the coding template provided both the intended depth of knowledge level (DOK) and content essence of the grade-level standard. In this example, one can see that the grade 4 AAGSE links to "part" of the content of the grade-level standard (needs of plants). It also demonstrates that there is "some" but not full alignment to the expected DOK level of the grade-level standard/GSE, since "recognizing one or more conditions a plant needs to grow and survive" would indicate DOK level 1 (recall) but not require making observations (DOK 2).

Figure 1: Aligning AAGSE using "essence" of the grade-level standard		
RI Grade-Level Standard/GSE – Grade 4 Life Science	**Essence of grade-level standard and intended DOK level**	**RI AAGSE aligned to grade-level standard (K-4)**
LS1 (3-4)-2 Students demonstrate understanding of structure and function-survival requirements by… **2a** observing that plants need water, air, food, light and space to grow and reproduce; observing that animals need water, air, food, and shelter/space to grow and reproduce.	Basic needs of organisms DOK 1 – recall DOK 2- make observations	**LS1.2.1a** Recognize one or more conditions a plant needs in order to grow and survive. (e.g., light, soil, water, and/or air)**.**

Summary

There is compelling evidence to support the conclusion that the RIAA is not promoting a "one size fits all ages" assessment system (meaning that the same AAGSEs and SPTs would apply to all students at all grade levels, which is unacceptable). The following summarizes findings for Criterion #2:

- The state has employed a development process to create the extended standards/AAGSEs and Structured Performance Tasks that has resulted in the overall system being organized by grade span and science content strands that are consistent with NECAP science content and content strands. Scientific Inquiry, as well the three science domains are assessed with the RIAA.
- A format consistent with that used by the RI GSEs, including the use of underlining of descriptions in the AAGSEs to show new content being introduced for the first time at the next grade span, helps to guide teachers in selecting appropriate (and new) content for instruction.
- The approach of organizing the targeted content of AAGSEs with multiple subparts and carrying forward AAGSEs to higher grade levels allows for students functioning at a variety of levels to access learning that is referenced to their grade level; however, by grade 11 the links to academic grade-level content become much weaker or are lost completely. The state should consider revisiting inclusion of the weakest academic content, especially at grade 11.
- While there is repetition of much of the science AAGSEs content across grade spans, there is also evidence to show that RIAA required content assessed in SPTs is differentiated across grade levels 4, 8, and 11 for science. In a few cases, SPTs include the same AAGSEs. It should be made clear to teachers (e.g., professional development sessions, *RIAA Administration Manual*) that students should not continue to be assessed on the identical content knowledge at successive grades.

- Reviewers noted the need to revise a number of AAGSEs that were unclear, of too small a grain size, or not accurately worded in terms of science content, making some analyses more difficult. Revisions to AAGSEs needing more clarity are recommended before the 2008-2009 assessment cycle begins.

Specific Recommendations Related to Criterion #2:

1. It is unclear whether the *RIAA Administration Manual* specifies to teachers that assessing the same content in successive grades (4, 8, and 11) is not appropriate, even if the same AAGSEs are included in the SPT description for each content strand. This guidance should be clearly stated for teachers to ensure that "use of extended standards for access with students with significant cognitive disabilities *do not lead to achievement of the same academic skills year after year"* (NAAC).
2. Consider eliminating inclusion of the weakest academic content, especially at grade 11. See list of AAGSEs for review in the table below.

Recommended Review and Possible Revision of AAGSEs			
Science Domains	**Grade 4 AAGSEs**	**Grade 8 AAGSEs**	**Grade 11 AAGSEs**
Earth & Space Science	ESS1.2.3a, b ESS1.2.4	ESS1.2.4 a-d ESS1.2.1.4a ESS1.2.3b	ESS1.2.3a, b ESS1.2.13 ESS1.1a, b ESS2.1.1 ESS2.1.2 ESS2.1.3 ESS2.1.5 ESS3.1.1
Life Science	LS1.1.1 a-f	LS1.2.5a,b LS4.1.2c LS4.1.3	LS1.3.1 LS1.3.2 LS2.1.1 LS2.1.2 LS4.1.1
Physical Science	None	PS1.1.1b	PS2.1.1a-e PS2.1.2 PS3.1.1

Discussion of Findings for Criterion #3:

For this criterion, AAGSEs in science for grades 4, 8, and 11 were compared to the corresponding grade level standards for content and performance centrality. When the closest grade-level standard (near link) was not well aligned with the AAGSE, lower grade level content was also compared (far link). As stated earlier in this report, high school reviewers had the most difficulty linking content of some AAGSEs to grade-level science content for two reasons:

(a) some AAGSEs carried forward from the K-4 grade span did not have content that was considered appropriate for the high school level (e.g., identify the five senses, complete a daily weather chart); or

(b) academic content was clearly evident, but there were no high school GSEs with which to link them.

For example, RI GSEs for learning about the solar system or the rock cycle appear in middle school grades. At high school, there are no GSEs to be referenced with this content. The latter

group of AAGSEs (academic middle school content) are more appropriate content to include than the former group (academic K-4 content) for assessment purposes at high school.

Content Centrality (based on NAAC definitions) is rated using a three-point scale (near, far, none) in which the content experts rate the quality of the content link between the AAGSEs and the grade level standard. The goal of content centrality is to have a 100% link (meaning near + far = 100%) of grade-referenced content. Percents lower than 100% for content centrality reflect content that has not been identified as Foundational or Pivotal, but is considered a prerequisite skill or a mismatch to the standard, so content links are lost between the AAGSEs and standard. The information obtained from coding grade-referenced content for Criterion #2 is used to make decisions about the degree of the content link – near/far/none. A strong alternate assessment system is one that expects content fidelity to remain high.

Performance Centrality (based on NAAC definitions) analyzes the expected performance described in the AAGSEs. Alternate assessments are expected to allow for an alternate level of performance (meaning not the same as grade level performance in NECAP general education assessments), due to the difficulty of creating ways for students who do not yet have fluent use of printed symbols (e.g., words, pictures) to show achievement. Therefore, an AAGSE of "identify" would have *some* of the same performance expectations as a grade-level standard with "identify and analyze" for the same content, and would be acceptable. Performance centrality is rated on a three-point rating scale (exact match, partial/some match, no match), using identified intended Depth of Knowledge levels for grade-level standards (as shown in Figure 1 on page 9) and modified Webb Depth of Knowledge levels for AAGSEs.

Summary

Content Centrality percents reflect the total of near + far content links with grade-referenced content. The content centrality of AAGSEs was found to range from 85% to 96% across grades for the RIAA. Generally speaking, because of the carrying forward of content AAGSEs to the next grade span, the potential for "far content links" or "no content links" (content that becomes too watered down to have content centrality) is greater at grades 8 and 11 than at grade 4.

Student work samples were also analyzed for content centrality, this time comparing the AAGSE descriptions to the actual assessment tasks used by teachers to measure learning of the AAGSEs content and inquiry skills in the SPT. At grade 4, seventeen datafolios were reviewed; thirteen datafolios were reviewed at grade 8; and eleven datafolios at grade 11. All datafolios reviewed at grade 4 contained at least two student work samples; all but one grade 8 datafolio had at least 2 pieces of student work. All but two grade 11 datafolios had at least 2 pieces of student work, with several containing three student work samples.

- **Grade 4 Science:** Ninety-one percent of the academic AAGSEs at grade 4 were found to have content centrality with grade 4 content standards. Three AAGSEs in the Earth and Space Science domain, while rated as academic content, were identified as (a) an "overstretch - *overextended* or "too watered down" so that the content link to the grade level is lost or (b) having inaccurate science content. For example, "understanding of processes and change over time within earth systems" was represented by slow changes

like an object warming up from the sun. This AAGSE content is inconsistent with the meaning of the grade-level content. The following three AAGSEs were identified as having no link to grade-level science content:

ESS1.2.3 Identify the earth's surface. (a) *Recognize the positional relationship between the student, the student's actual surroundings and the earth's surface.(e.g., Where are you in the room?)*

ESS1.2.3 Identify the earth's surface (b) *Identify the ground as the earth's surface.*

ESS1.2.4a *Identify relatively slow changes. (e.g., Feel an object slowly warm up in the sun)*

- **Grade 8 Science:** Ninety-six percent of the academic AAGSEs at grade 8 were found to have content centrality with grade 8 content standards. Two AAGSEs identified at grade 4 in the Earth and Space Science domain were also identified as having no content link to the grade level.
- **Grade 11 Science:** Eighty-five percent of the academic AAGSEs at grade 11 were found to have content centrality with grade 11 content standards, with most content (60%) being rated as a far content link. AAGSEs identified as having no content link to the grade level (15%) included many that were carried forward from the K-4 grade span. The state should drop AAGSEs with no content link at high school if currently included for assessment in SPTs. Examples of academic AAGSEs having no content link to high school content are:

  LS4.1.1a *Identify one to five of the senses*

  ESS1.1.1a *Distinguish soil from other objects or materials (e.g., grass, wood, leaves, paper, rubber, etc.)*

- **Student work samples:** Datafolios with student work samples were reviewed by special educators for content centrality. A total of 95 science assessment tasks were analyzed. While this sample size is too small to make generalizations about all RIAA datafolios in science, they do provide insights into the need for professional development in science instruction and high quality assessment models. Assessment tasks that did not have full or partial content centrality were primarily due to inaccurate content being assessed (e.g., assessing identification of hot and cold water when the task should be assessing states of matter of water – solid, liquid, gas).

  - At grade 4, content centrality of inquiry skills assessment tasks was 88% (all full content matches); and content centrality for assessing content knowledge was 81% (all full content matches).
  - At grade 8, content centrality of inquiry skills assessment tasks was 71% (mostly partial content matches); and content centrality for assessing content knowledge was 93% (all full content matches).
  - At grade 11, content centrality of inquiry skills assessment tasks was 74% (mostly full content matches); and content centrality for assessing content knowledge was 73% (mostly full content matches).

Table 3.1a Summary of Content Centrality (Near + Far Content Links) of RIAA Science AAGSEs and Student Work Samples for Grade 4			
Grade Level	**Overall Content Centrality of AAGSEs to Grade Level Standards**		**Content Centrality of 17 Student Datafolios**
4	**100% Life Science**	**Near Link – 50% Far Link – 50% No Link – 0%**	Inquiry skills match – 88% Content knowledge match – 81%
	77% Earth & Space	**Near – 62% Far – 15% No Link – 23%**	
	100% Physical Science	**Near – 63% Far – 37% No Link – 0%**	

Table 3.1b Summary of Content Centrality (Near + Far Content Links) of RIAA Science AAGSEs and Student Work Samples for Grade 8			
Grade Level	**Overall Content Centrality of AAGSEs to Grade Level Standards**		**Content Centrality of 13 Student Datafolios**
8	**100% Life Science**	**Near – 62% Far – 38% No Link – 0%**	Inquiry skills match – 71% Content knowledge match – 93%
	91% Earth & Space	**Near – 59% Far – 32% No Link – 9%**	
	100% Physical Science	**Near – 73% Far – 27% No Link – 0%**	

Table 3.1c Summary of Content Centrality (Near + Far Content Links) of RIAA Science AAGSEs and Student Work Samples for Grade 11			
Grade Level	**Overall Content Centrality of AAGSEs to Grade Level Standards**		**Content Centrality of 11 Student Datafolios**
11	**88% Life Science**	**Near – 16% Far – 72% No Link – 12%**	Inquiry skills match – 74% Content knowledge match – 73%
	80% Earth & Space	**Near – 34% Far – 46% No Link – 20%**	
	88% Physical Science	**Near – 22% Far – 64% No Link – 14%**	

Performance Centrality percents indicate the total of exact DOK matches + partial DOK matches between grade-level standards and AAGSEs. Since each AAGSE, by its nature, is of a much smaller grain size than the grade-level standards, AAGSEs are considered both individually and collectively, meaning all parts of AAGSEs are collectively compared to the grade-level objective. Considering the "potential for performance centrality" with corresponding

grade-level GSEs is important because teachers may use all of the AAGSEs to guide instruction, even if only one AAGSE is formally assessed in the RIAA.

Performance centrality ratings for RIAA science AAGSEs show a range of DOK levels across AAGSEs, with the greatest performance centrality when grade-level content standards had intended DOK levels of 1 or 2.

- **Grade 4 Science:** Ninety-four percent of AAGSEs had some (70%) or full (24%) performance centrality with grade-level GSEs, when considered collectively.
- **Grade 8 Science:** Eighty-two percent of AAGSEs had some (46%) or full (36%) performance centrality with grade-level GSEs, when considered collectively. The greatest number of "no performance" matches (18%) were for AAGSEs in Earth and Space Science when intended DOK levels of GSEs were DOK 2 or DOK 3 and AAGSEs were at a DOK level of 1.
- **Grade 11 Science:** Eighty-five percent of AAGSEs had some (40%) or full (45%) performance centrality with grade-level GSEs, when considered collectively. The large number of AAGSEs that had no content link to GSEs could not be compared in performance centrality ratings.

Table 3.2 summarizes *performance centrality* for RIAA Science AAGSEs reviewed at each grade level. AAGSEs were compared to the intended performance (DOK level) of the grade level standards to determine the degree of performance centrality. If all intended DOK levels were represented by each aligned group of AAGSEs, it was collectively considered "full" performance centrality. If only some intended DOK levels were represented by each aligned group of AAGSEs, it was considered "some" (partial) performance centrality with the grade-level standard.

Table 3.2 Summary of Performance Centrality of RIAA Science AAGSEs and Student Work Samples

Grade Level	Overall Performance Centrality of AAGSEs to Grade Level Standards		Comments about Performance Centrality of AAGSEs
4	**94%**	**Full – 24%** **Partial – 70%** **None – 6%**	There were two "no performance matches" in each domain of science.
8	**82%**	**Full – 36%** **Partial – 46%** **None – 18%**	The greatest number of "no performance" matches were for AAGSEs in Earth and Space Science when intended DOK levels of GSEs were DOK 2 or DOK 3 and AAGSEs were at a DOK level of 1.
11	**85%**	**Full – 45%** **Partial – 40%** **None – 15%**	The "no performance" matches were for academic AAGSEs that were not aligned to any GSEs and therefore could not be compared for DOK.

Specific Recommendations Related to Criterion #3:

1. While only a small sample of datafolios were available for review, there are some indications of the need to address teacher understanding of inquiry and of partial and/or no content matches when developing assessment tasks. A "partial content match" means that only some

of the AAGSE was being assessed. Given the small grain size of AAGSEs, this is surprising. The issue could be addressed by providing more examples and non-examples of full content centrality with AAGSEs. Content that did not match AAGSE content at all is likely due to the lack of science content knowledge on the part of teachers. This will require more intensive professional development over time.

2. Consider eliminating inclusion of the weakest academic content (no content or performance alignment to AAGSEs), especially at grade 11. (See list of AAGSEs in the table on page 41.)

Discussion of Findings for Criterion #4

Criterion #4 applies the work of Norman Webb's Alignment Protocols for categorical concurrence, balance of representation, and range and depth of knowledge (DOK). Content specialists identified DOK levels for all AAGSEs, using "modified" Webb's definitions for Depth of Knowledge (below). Special education teachers rated assessment tasks in datafolios for DOK levels. NECAP Test blueprints served to define categorical concurrence and comparisons of balance of representation with the RIAA.

Summary

The RIAA for science shows a limited range of DOK levels across AAGSEs and Structured Performance Tasks at all grade levels, with the greatest concentration of AAGSEs on DOK level 1c (Recall) and DOK 2 level (Basic Reasoning). There are only a very small number of AAGSEs identified at DOK level 3 (Complex Reasoning), with most (8% of the total for the grade) being identified at the high school level. A very small number of AAGSEs were identified as "too vague" to determine DOK levels. Vague AAGSEs (e.g., using the verbs "understand" or demonstrate') should be revised for clarity.

Depth of Knowledge

Most of the science AAGSEs reviewed at grades 4 and 8 (highlighted in Table 4.1) were identified as DOK 1c (Recall). Most of the grade 11 AAGSEs were and DOK 2 (Basic Reasoning). Student work samples (Table 4.3) revealed a range of DOK levels targeted for assessment, meaning datafolio tasks reviewed were targeted for DOK 1a (respond) through DOK 2 (basic reasoning).

- **Grade 4 Science:** While there is range of DOK levels intended to be sampled with AAGSEs, including DOK 1a (respond) through DOK level 3 (complex reasoning), the majority of AAGSEs assess DOK 1c (recall). There are few opportunities for students to be assessed at DOK 2 or 3 levels at this grade.
- **Grade 8 Science:** There is range of DOK levels intended to be sampled with AAGSEs, including DOK 1a (respond) through DOK level 3 (complex reasoning). The majority of AAGSEs assess DOK 1c (recall) and DOK 2 (basic reasoning). There are few opportunities for students to be assessed at the DOK 3 level.
- **Grade 11 Science:** There is range of DOK levels intended to be sampled with AAGSEs, including DOK 1a (respond) through DOK level 3 (complex reasoning). Most of the AAGSEs at this grade level assess DOK 2 (basic reasoning). There are some opportunities for students to be assessed at the DOK 3 level.

Table 4.1 Range of DOK for *Science AAGSEs:* Percent of Science AAGSEs Intended to Sample each DOK Level						
Grade Level	**DOK 1a Respond**	**DOK 1b Reproduce**	**DOK 1c Recall**	**DOK 2 Basic Reasoning**	**DOK 3 Complex Reasoning**	**DOK Unclear** (need for revision to some AAGSEs)
4	20%	1%	56%	18%	3%	1%
8	7%	0%	57%	32%	2%	2%
11	7%	3%	32%	48%	8%	2%

- **Structured Performance Tasks (SPTs):** While there are very few AAGSEs intended to assess DOK level 3, each grade level's SPTs do provide opportunities for teachers to select more complex reasoning tasks for assessment. (See Table 4.2 for details on intended DOK range of SPTs. The highlighting shows where the greatest potential, meaning all 6 SPTs, is for assessing some DOK levels.)

Table 4.2 Range of DOK for *Science Structured Performance Tasks:* "YES" indicates POTENTIAL of Assessment Tasks Addressing Each DOK Level						
Grade Level	**DOK 1a Respond**	**DOK 1b Reproduce**	**DOK 1c Recall**	**DOK 2 Basic Reasoning**	**DOK 3 Complex Reasoning**	**Comments:** Requirements for six SPTs were analyzed at each grade level. Greatest assessment focus across grades is DOK 1c (recall). At grades 8 and 11, there are more opportunities for assessing DOK 2 and 3.
4	YES (5 SPTs)	YES (1 SPT)	YES (all 6 SPTs)	YES (5 SPTs)	YES (2 SPTs)	
8	YES (2 SPTs)	No	YES (all 6 SPTs)	YES (all 6 SPTs)	YES (3 SPTs)	
11	YES (1 SPT)	YES (3 SPTs)	YES (all 6 SPTs)	YES (all 6 SPTs)	YES (all 6 SPTs)	

- **Student work samples:** A small number (41) of available RIAA datafolios from 2007-08 were reviewed for intended DOK level. This review of assessment tasks indicated a range of DOK levels actually being assessed with the RIAA for Science. Given the nature of the inquiry assessments (e.g., follow directions and sort materials), most of the student work samples were identified at multiple DOK levels. DOK 1c (recall) and DOK 2 (basic reasoning) were seen most often in student assessment tasks reviewed. (See Table 4.3 for details on DOK range of student work samples.)

Table 4.3 Range of DOK for Science *Using Student Work Samples:* Number of Work Samples/Assessment Tasks Addressing Each DOK Level						
Grade Level	**DOK 1a Respond**	**DOK 1b Reproduce**	**DOK 1c Recall**	**DOK 2 Basic Reasoning**	**DOK 3 Complex Reasoning**	**Typical examples seen in assessment tasks:**
4	**5**	**7**	**15**	**12**	**0**	DOK 1a – touch or manipulate materials
8	**10**	**15**	**21**	**18**	**0**	DOK 1b - follow directions
11	**2**	**7**	**12**	**16**	**3**	DOK 1c - measure, record/list, identify
TOTALS	**17**	**29**	**48**	**46**	**3**	DOK 2 - organize information, sort/ categorize, compare, make observations DOK 3 – test, design, analyze results

Categorical Concurrence

The categorical concurrence criterion provides a very general indication of alignment if both the standards and assessment incorporate the same content. The criterion of Categorical Concurrence is met if the same or consistent categories/major strands of content appear in both. For the purpose of this alignment study, the range and balance of emphasis in the RIAA is compared to the state's priorities for the science NECAP, with consideration given to ***coverage related to the distribution of emphasis on major strands of science content***. Content strands identified in the RIAA blueprint and required content were compared to the state's priorities (distribution of emphasis) for the science NECAP and required content in the NECAP test blueprint.

Balance of Representation and Range of Knowledge

In addition to comparable depth and breadth of knowledge, aligned standards and assessments require that assessment of knowledge (content and skills) be distributed with intent. The Balance of Representation criterion is used to indicate the degree to which one standard/objective is given more emphasis on the alternate assessment than another. The RIAA test blueprint was designed to reflect the content and skills emphasis in the NECAP, giving equal emphasis to each of those three content strands. Additionally, two of four broad areas of science inquiry assessed in NECAP are taught and assessed at each grade level in the RIAA. Across the three grade spans, all four areas of inquiry (Observing & Questioning, Planning Investigations, Conducting Investigations, and Analyzing Investigations) are assessed with the RIAA, with the greatest emphasis on conducting investigations at all grades.

Four major strands are assessed in the NECAP science at all grade levels, with Earth Science, Life Science, and Physical Science having equal assessment emphasis and the strand of Scientific Inquiry having slightly more emphasis. These 4 strands are also assessed with the RIAA, with greatest emphasis on science inquiry.

Table 4.3 Categorical Concurrence: "YES" indicates strand is assessed				
NECAP Reporting Category	**NECAP Distribution of Emphasis**	**RIAA Grade 4 Distribution of Emphasis by Strand**	**RIAA Grade 8 Distribution of Emphasis by Strand**	**RIAA Grade 11 Distribution of Emphasis by Strand**
Earth Science	**24%**	YES	YES	YES
Physical Science	**24%**	YES	YES	YES
Life Science	**24%**	YES	YES	YES
Scientific Inquiry	**28%**	• Observing & Questioning • Conducting Investigations	• Planning Investigations • Conducting Investigations	• Conducting Investigations • Analyzing Investigations

Specific Recommendations Related to Criterion #4:

1. During the next AAGSE and or SPT revision process, the state may want to consider including more DOK 3 AAGSEs as an assessment option to teachers at all grade spans.

Discussion of Findings for Criterion #5:

Criterion #5 captures whether the achievement level standards and required content for assessment tasks show changing expectations over time and are age appropriate. Extending standards for access with students with significant cognitive disabilities *should not lead to achievement (meaning instruction and assessment) of the same academic skills year after year.*

For this criterion, three separate reviews were conducted:

1. Reviewers identified how the content of SPTs are differentiated from grade 4 to grade 8, and from grade 8 to grade 11. Reviewers examined and compared required content for the RIAA across those grades, including application of inquiry skills. Breadth, depth, and "new" content descriptions were considered in this review and examples were documented. Content differentiation decisions were adapted from descriptions recommended by NAAC (2007).

Content Differentiation across grades should show evidence of some…
Increasing breadth of content (e.g., broader application of target skill such as expanding the types of graphic displays of data, or using more physical features and/or different chemical proprieties to describe matter)
Increasing depth of content (e.g., deeper mastery of target skill, such as going beyond basic recall to interpretation or analysis or to more complex/abstract content)
New content introduced (e.g., content not covered in prior grade, such as new strands of content or content more appropriate for older learners)

2. When analyzing student work samples, differentiation across content and complexity levels and the age appropriateness of assessment tasks was coded. Age-appropriateness decisions were based on general descriptions recommended by NAAC (2007).

Age-Appropriateness Coding Descriptions with Science Examples (based on NAAC, 2007)
1- Adapted from grade level content (e.g., grade 8 – structure of the atom; grade 10 – plant cells)
2- Not grade specific; neutral; concepts appropriate for all ages (e.g., organizing data, making observations)
3- Inappropriate for teens (e.g., sink and float activities)
4- Inappropriate even for elementary age (e.g., sorting blocks by color)

3. The Center for Assessment staff analyzed draft (9/2008) RIAA science alternate achievement level standards for each grade level. Differences between performance levels at each grade level, as well as differences across grade spans, were examined using NAAC guidelines (2007) and "Writing performance level descriptors: Applying lessons learned from the general assessment to the 1% and 2% assessments," Perie, Hess, & Gong (2008).

Summary

Differentiation of Content: Content Experts identified strong evidence to support that SPTs/required content is differentiated across grade levels for science; however some science strands are stronger than others. Physical Science AAGSEs appear to have the least amount of differentiation across grades; Life Science AAGSEs appear to have the most.

New content is represented by focusing on different science inquiry strands at each grade level in addition to conducting investigations all three grades. Deeper understanding of content was identified as AAGSEs having a greater cognitive demand or requiring application of concepts and skills, rather than identification/recall only at the prior grade span. Broader content was identified by such things as needing broader understanding of properties of materials (e.g., identifying or sorting by more characteristics); and expanding ways to classify materials.

Of the three possible ways that content can be differentiated across grades – breadth, depth, or new content introduced – new content was the strongest for all science strands. (See Table 5.1 for examples of AAGSEs that are differentiated across grade levels.)

Table 5.1 RIAA Science Structured Performance Tasks: Content Differentiation across Grades		
Is there evidence of SOME …	**Grade 4 to 8**	**Grade 8 to 11**
Increasing breadth of content	ESS1.2.13 LS1.1.1, LS1.1.2, LS1.1.3 PS1.1.1, PS, 1.3.1	LS1.2.1, LS1.1.1, LS1.1.3, plus other LS
Increasing depth of content	ESS1.1.2, ESS1.2.1, ESS1.2.5 LS2.1.1, LS2.1.2, LS1.1.6 PS2.1.1, PS1.1.2, PS1.2.1, PS1.2.2	LS3.1.1, LS2.1.1, LS1.2.2, plus other LS ESS1.1.2
New content introduced	ESS1.2.6, ESS1.2.10, ESS1.2.11, ESS1.2.14, plus other ESS LS1.1.3, LS1.2.4, LS,1.2.5, LSA1.1.6 PS1.4.1	LS1.1.3c & d, LS1.2.1e, LS2.1.1b & c, plus other LS ESS1.2.8, ESS1.2.15, ESS1.1.5 e & f, plus other ESS PS1.1.1f, PS1.3.1f, PS1.3.2a & b, plus other PS
Increasing application of Inquiry Skills	• Moves from basic description of data to summarizing data • Planning investigations replaces Observing & Questioning	• Analyzing Investigations replaces Planning investigations • Use of data and predictions to plan or analyze investigations

Age-appropriateness was reviewed for all student work samples. At all grade levels, almost all of the assessment contexts were identified as appropriate for the age of students. Reasons given for tasks that were "age-inappropriate" included:

- Tasks: Student following a cooking recipe instead of science procedures (grade 8); student completing a daily weather chart like in primary grades (grade 11); student painting pictures of science content, but not answering questions about content (grade 11).
- Materials/content: Students working with primary grade content, such as discriminate living-nonliving things; and identifying sun, earth, moon (grade 11). This represents academic content with no content link to grade 11 science standards.
- Tools: no inappropriate examples identified.

Table 5.2 Age-Appropriateness of Assessment Tasks: Percent of assessment tasks identified as age-appropriate and not age-appropriate		
Grade Level	**Age-Appropriate Tasks**	**Not Age-Appropriate Tasks**
Grade 4	100%	0%
Grade 8	99%	1%
Grade 11	80%	20%

Achievement Level Standards (Achievement Level Descriptors)

RIAA Science Achievement Level Standards address 4 performance levels: Proficient with Distinction, Proficient, Partially Proficient, and Substantially Below Proficient. Applying NAAC criteria for making inferences about proficiency (2007), strong Achievement Level Standards should reference grade-level content, articulate generalization of content learned, and not mix student performance with program quality, even though program quality is essential for facilitating student learning.

Strengths of the draft RI AA Achievement Level Standards:

(1) Differences in achievement level descriptors at each grade level are articulated in terms of differentiated areas of science inquiry.

(2) Overall accuracy is considered separately from the independence level of student. For example, see Table 5.3 for wording describing the "Proficient" student at grades 4 and 8.

Ways to Improve on the Quality of RIAA Achievement Level Standards for Science:
The state should consider ways to strengthen the draft Achievement Level Descriptors so that they better differentiate such things as student learning of grade-referenced content, generalization of inquiry learning, or the complexity of the task. The SPTs that guide the assessment tasks seem to indicate that some of these distinctions may be possible.

Using program quality ("opportunity to learn") criteria is probably not as useful in making inferences about learning as describing what students know and can do. One option might be to revise the more general program quality descriptors to better differentiate typical activities that describe students who perform at each of the levels. As with all achievement level standards descriptors, there should be student evidence to support the statements, such as this descriptor for Proficient students: "submitted datafolios that demonstrate consistent connections to the Science AAGSEs in Earth Space Science, Life Science, and Physical Science through participation in instructional activities throughout the year that are regularly aligned with…"

Table 5.3 Comparison of Achievement Level Standards for grades 4 and 8 in Science
(content differences between these grade levels are highlighted)

Grade 4 Proficient	Grade 8 Proficient
Proficient: Students performing at this level submitted datafolios that demonstrate ➢consistent connections to the Science AAGSEs in Earth Space Science, Life Science, and Physical Science through participation in instructional activities throughout the year that are regularly aligned with the Science Inquiry Constructs of Observing/Questioning an Experiment *or* Conducting an Experiment that follows procedures, uses equipment or measurement devices accurately to collect or record data	**Proficient**: Students performing at this level submitted datafolios that demonstrate ➢consistent connections to the Science AAGSEs in Earth Space Science, Life Science, and Physical Science through participation in instructional activities throughout the year that are regularly aligned with the Science Inquiry Constructs of Planning an Experiment *or* Conducting an Experiment that uses data to summarize results
➢participation in distinct standards based instructional activities that demonstrates consistent application of the Science AAGSEs across most collection periods within the context of the Structured Performance Tasks	➢participation in distinct standards based instructional activities that demonstrate consistent application of the Science AAGSEs across most collection periods within the context of the Structured Performance Tasks
➢consistent progress in the Inquiry Construct during the year	➢consistent progress in the Inquiry Construct during the year
➢adequate level of accuracy on skills within instructional activities and/or	➢adequate level of accuracy on skills within instructional activities and/or
➢adequate level of independence demonstrating skills within instructional activities	➢adequate level of independence demonstrating skills within instructional activities

Specific Recommendations Related to Criterion #5:

1. Explore ways to strengthen the September 2008 draft Science Alternate Achievement Level Standards to better reflect inferences made about what students know and can do at each performance level. Do the descriptors adequately differentiate science content or complexity across grades? For example, the high school SPTs provide more opportunities for learning depth of content than do grades 4 and 8. Is there a way to eliminate program quality indicators by better describing typical science learning activities associated with each performance level? The state should present a strong case for including program descriptors

as a means for making inferences about what students know and can do if the decision is made not to revise or eliminate them.

2. Provide ongoing professional development to special education teachers to provide strong age-appropriate assessment models and materials, when designing instruction and assessment tasks specific to AAGSEs and SPTs.

Discussion of Findings for Criterion #6:

This criterion used the NAAC *Degree of Inference about Student Learning* checklist (included in Codebook, Appendix B.3) for analysis of Achievement Level Standards and information related to how inferences are made about student learning to ascertain the degree to which the alternate achievement standards align to the academic content standards. Special education experts' review of scoring protocols looked for indicators with the potential to make high inferences that the student had learned the grade-level content. Center for Assessment staff analyzed Alternate Assessment Achievement Level Descriptors.

Typically, inferences about proficiency are more difficult to make when scores incorporate aspects of teachers' or program performance or when there is only a one-time performance. Scoring documentation includes the criterion of "level of assistance" in addition to scoring for "accuracy." The separation of these two scores allows for making more accurate interpretations of what students have learned.

States' alternate achievement standards must link to grade level content. This means that what is actually counted toward a score that will be classified as "proficient" should evidence learning of the academic content and include scoring for accuracy. Scoring rubrics, the RIAA administration and technical manuals, and Achievement Level Standards were analyzed for information related to how inferences are made about student learning.

Summary

The strongest indicators identified in RIAA scoring protocols and Alternate Assessment Achievement Level Standards for having the potential to make high inferences about student learning were:

- Inclusion of *separate* measures for accuracy and independence, so that each may be considered when making inferences about progress and learning;
- Depending on how science inquiry assessment tasks are designed by teachers, they *have the potential* for demonstrating generalization across 3 science domains depending on how contexts are varied for each of the 3 data collections during the year; and
- Multiple data collections provide a baseline against which progress can be measured.

Specific Recommendations Related to Criterion #6:

1. See Recommendations for Criterion #5 (page 52) regarding program quality descriptors.

Discussion of Findings for Criterion #7:

For the purpose of this study, Source of Challenge is being defined as "potential barriers" to demonstrating learning. Because of the complex disabilities that students in this population sometimes have, it can be difficult to demonstrate achievement. This is especially true if the only means to show learning is through symbolic representation, such as using words and pictures. Consideration also needs to be given to know how students with a variety of sensory and physical challenges can both access the test materials and demonstrate their learning. Special education experts completed a NAAC survey, *Minimizing Barriers for Students* (Appendix C.5), after a review of the RIAA administration manual guidelines related to accommodations, modifications, and scoring protocols for both content areas.

Summary

The RIAA represents a multi-disciplinary approach to assessing student learning, access to the district and grade-level learning standards, and varied opportunities to learn. Reviewers agreed that students with any of the disabilities listed on the survey would have the ability to demonstrate learning. Administration guidelines were found to be consistent across content areas and provided flexibility for all examples of disabilities included:

- visually impaired/legally blind;
- hearing impaired;
- deaf/blind;
- nonverbal – responds using printed words;
- nonverbal – responds using pictures;
- nonverbal – responds using manual signs;
- nonverbal – responds using eye gaze;
- verbal but no use of hands; and
- communicates with objects or by indicating yes/no.

These results can be interpreted as:
1) Flexibility is built into the Structured Performance Tasks, due to teacher choice/design of tasks in meeting the individual needs of students and a variety of response modes;
2) Accommodations are not built into common tasks, but are described in the test administration materials and may be applied to any type of student disability; and
3) Modifications are not built into common tasks, but are described in the test administration materials and may be applied to any type of student disability.

Specific Recommendations Related to Criterion #7:

- None

Discussion of Findings for Criterion #8:

For this criterion, consideration is also given to whether professional development materials link to general education expectations and promote overall program quality. The professional development review identifies how well the training materials provided to teachers of students

with significant cognitive disabilities include information regarding academic content and best instructional practices for this population. To gather data for this criterion, special education experts analyzed RIAA administration and training manuals in order to complete a NAAC survey –*Program Quality Indicators*. Center for Assessment staff reviewed a sampling of current professional development materials and interviewed RIDE staff about on-going professional development opportunities that support implementation of the RIAA.

While not required by NCLB, this report does identify some specific issues to be addressed through ongoing professional development provided by RIDE.

Summary: Current Professional Development and Instructional Support

- RIDE is to be commended for their ongoing efforts in supporting teaching and learning of students with severe disabilities. It is recommended that this support to teachers continue in order to reach each educator working with the RIAA, as well as to expand the science content knowledge and instructional skills of special education teachers.
- Technical assistance to teachers has taken many forms – from large-group training sessions to individual targeted assistance in reviewing student work and documenting data collection.
- Scoring and standard setting trainings have been credited for expanding the expertise of special educators across the state in implementing effective curriculum and instruction for this population of students.
- The *RIAA Administration Manual* provides examples and links to general education expectations as a guide to teaching and assessing grade-referenced content. However, more science-specific examples are needed.
- Results of the *Program Quality Indicators* survey show that there are numerous examples and descriptions in RIDE's AA support documents including: glossary of instructional terms for alternate assessments; sample data collection forms; examples of how to link instruction for students with significant disabilities to that of their grade-level peers; and how to provide for students using assistive technology.

Specific Recommendations Related to Criterion #8:

1. Continue to provide ongoing professional development to special education teachers to deepen their science content knowledge, to provide strong age-appropriate assessment models and materials, and to assist them with more accurate identification of science content that clearly matches specific Entry Points.

Conclusions

The Rhode Island Department of Education has again placed their Alternate Assessment system under a microscope in order to learn what is already working well and to find ways to improve the overall system. Many lessons learned from the RIAA mathematics, writing, and reading alignment study (2007) have been applied to the development of the science assessment, making it a strong component of the RIAA system. A limited number (41) of student datafolios were available for review during phase 2 of the study. From that small sample, approximately 95 pieces of student work from the 2007-2008 school year were reviewed in addition to document and content reviews, revealing an emerging picture of what implementation of the RIAA for Science actually looks like across teachers, schools, and grade levels.

The RIDE development process, intent, and test blueprint are strongly reflected in the overall format of the content targeted for assessment at each grade level. The major strengths identified in the RIAA for Science are summarized below.

Overall Strengths of the RIAA System

There is compelling evidence to support the conclusion that the RIAA for science is not promoting a "one size fits all ages" assessment system.

- The development process and format used to create the extended standards/AAGSEs has resulted in the overall system being organized by grade span and content strands that are consistent with NECAP content and content strands.
- The approach of organizing content of AAGSEs with multiple parts of differing complexity demands allows for students functioning at a variety of levels to access learning that is referenced to their grade level.
- There is a high degree of emphasis on assessing academic content in science at all grade levels in the RIAA. This would indicate that teachers are predominantly selecting academic content for assessment tasks, using their knowledge of student strengths and needs to develop a targeted skill for the student to focus on in each strand.
- Overall, the RIAA science assessment shows strong evidence of categorical concurrence alignment with the NECAP content strands that are emphasized for assessment. All four NECAP science strands are assessed with the RIAA at each grade level. The decision to assess 2 of the 4 NECAP Inquiry areas at each grade is appropriate given this population and the time needed to learn the science concepts and skills. The underlying rationale that supports the existing balance of content strands assessed in the science RIAA is reflected in both test blueprints.
- Flexibility is built into the Structured Performance Tasks to meet the individual needs of students and provide for a variety of possible response modes.

Strengths of the Extended Standards: AAGSEs and Required Content for Structured Performance Tasks

The state is to be commended for already addressing many of the content discrepancies identified in the Science AAGSEs during phase I of the alignment study. During the months of June through August 2008, content revisions were made to AAGSEs that were identified as unclear, of too small grain size, or inaccurately stated in terms of science content. These revisions included some rewording of the Foundational Skills included for Structured Performance Tasks.

All of the content revisions made to AAGSEs (as of August 2008) have been again reviewed by Center for Assessment staff to ensure that reviewer concerns have been addressed. Additionally:

- Overall content centrality between grade-level standards and AAGSEs was found to be high at all three grades (85% - 96%) with more content being a "far" content link than "near" content grade-level link.
- Performance centrality data show that AAGSEs and SPTs provide some opportunities, mostly at grade 11, for assessing higher DOK levels and are not only focused on simple recall or the lowest levels of cognitive demand.
- There is strong evidence to show that required content for SPTs is differentiated across grade levels 4, 8, and 11 for science.

Strengths of RIAA scoring protocols and Alternate Assessment Achievement Level Standards for having the potential to make high inferences about student learning:

- Inclusion of *separate* measures for accuracy and independence, so that each may be considered when making inferences about progress and learning.
- Depending on how assessment tasks are designed by teachers, they *have the potential* for demonstrating generalization across people, settings, or concepts when/if contexts are varied for each of the data collections. (It is unclear, at this time, if generalization of learning is actually occurring.)
- Multiple data collections provide a baseline against which progress can be measured.

Strengths of RIAA Administration Guidelines

- There is a high degree of flexibility in designing assessment tasks to meet the individual needs of students with significant cognitive disabilities. Reviewers agreed that the design of the RIAA allows for flexibility in accommodations and modifications so that students can demonstrate what they have learned through a variety of response modes.
- Data collection protocols and forms for the RIAA are clear and detailed and require documentation of both accuracy and level of independence in order to have meaningful interpretations about student learning and growth.
- Administration guidelines also include a variety of instructional supports and examples for teachers.

Areas of Recommendation for the RIAA for Science

All recommendations in this section of the report are intended to strengthen Rhode Island's already solid alternate assessment system. Comments from reviewers and in-depth analyses have been synthesized and are used here to provide guidance to RIDE staff for future planning and ways to improve the RIAA.

Review and Revise *Some* Content Assessed (AAGSEs and SPTs)

- While much of the academic content review findings have already been addressed by the state, one content issue remains. Consider eliminating (from SPTs) or revising the AAGSEs at grade spans 5-8 and 9-12 that were identified as "too watered down" from grade-level content, if they are currently included in SPTs at those grade levels. They may be fine for instruction, but do not link to grade-level content.

Revisit or Provide a Rationale for Alternate Assessment Achievement Level Standards

There is a mix of program quality descriptors and student learning descriptors included in the September 2008 draft Alternate Assessment Achievement Standards. Performance descriptors should provide guidance to educators and parents as to how to make inferences about what students are actually learning in science.

The state should explore ways to strengthen the draft Science Alternate Achievement Level Standards to better reflect inferences made about what students know and can do at each performance level. Do the descriptors differentiate science content or complexity across grades? Is there a way to eliminate program quality indicators by better describing typical science learning activities associated with each performance level? The state should present a strong case for including program descriptors as a means for making inferences about what students know and can do if the decision is made not to revise or eliminate them.

Update Administration Guidelines

While there are many opportunities for teachers to select new content for instruction and assessment at each grade level assessed, it is unclear whether the *RIAA Administration Manual* specifies to teachers that assessing the same content in successive grades (4, 8, and 11) is not appropriate, even if the same AAGSEs are included in the SPT description for each content strand. This guidance should be clearly stated for teachers to ensure that "use of extended standards for access with students with significant cognitive disabilities *do not lead to achievement of the same academic skills year after year"* (NAAC). The alternative to this recommendation is to ensure that no AAGSEs are targeted in SPTs for more than one grade level.

Continued Professional Development and Instructional Support (*not required by NCLB*)

There is a clear need for continued professional development to help special education teachers develop a deeper understanding of science content. Continue to include models and develop materials that make strong links between AAGSEs and expectations for science learning. In addition to offering professional development opportunities that all teachers may not be accessing at the present time, develop and post exemplary models and tools – such as in an alternate assessment resource guide – that expands what's currently available in the RIAA

administration manual. Many states, such as Georgia, and organizations like NAAC and ILSSA have already created many excellent and useful resources for teachers. A staring point may be to provide annotated information with links to the existing alternate assessment resources.

- The use of appropriate tools during science investigations appeared to be minimal, especially in student work samples. Both the *RIAA Administration Manual* and professional development could include more emphasis on use of age-appropriate tools at each grade span.
- Because of generally weak science content knowledge on the part of teachers, it appears that they may struggle with making meaningful grade-referenced links to science content of the student's grade level. One instructional model worth exploring in professional development settings is the "4-Step Process" for designing instructional activities and assessment (a model developed at the University of Kentucky by ILSSA). Teacher training events could be used to develop exemplars to share with other RI educators.
- The datafolio review identified some exemplars of teacher-designed science SPTs. The state should continue to identify and use teacher-developed models with student work in professional development settings (e.g., age-appropriate contexts, generalization of skills in different contexts) and for illustrating meaningful interpretations of student growth.
- Use on-going informal monitoring activities and review of student work samples (e.g., during scoring and standard setting) to identify exemplars of teacher-designed SPT tasks for use in professional development settings.

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Final Alignment Study Report: RIAA for Science
Conducted in May and August 2008

APPENDICES TABLE OF CONTENTS

APPENDIX A.1

RI Alternate Assessment
Alignment Study
May 6 and 7, 2008
Panelist Background Data Collection Form

The purpose of this form is to collect information on the background of the panelists who served on the Alignment Study Review panel for the RI Alternate Assessment (RIAA). This information will be tabulated and provided in a summary form in the technical report on the RIAA.

1) Name _____

2) Gender Male - 2 Female - 8

3) OPTIONAL: What is your race/ethnicity? (Please choose one.)

American Indian or Alaska Native
Black or African American
Native Hawaiian or Other Pacific Islander
Asian
White - 10
Hispanic
Other _____

4) Where do you teach/work?

District:	School:
Central Falls - 1	Calcutt
Cranston - 1	Western Hills
Cumberland - 1	Cumberland High School
Foster-Glocester - 1	Ponaganset Middle
Lincoln - 1	Saylesville
Newport - 1	Carey
Providence - 2	Sgt. Cornel Young (1), E.W. Flynn (1)
Tiverton - 1	Tiverton High
RIDE	

5) On which grade level panel are you serving? (Please choose one.):
Elementary - 4
Middle - 3
High - 3

6) Currently, are you a:
- □ Teacher (check all that apply) - 8
  - □ Regular education - 7
  - □ ESOL/bilingual education - 1
  - □ Special education
- □ Administrator: Title - 1 - Science Dept. Chair (3 yrs)
- □ Other - 2 - Math Coach/Intervention Specialist, RIDE Fellow

RI Alternate Assessment
Alignment Study
Panelist Background Data Collection Form (cont.)

7) *Throughout your career*, for how many years have you been:
   A teacher - 10(1), 11(3), 15(1), 20(1), 25(1), 28(1), 31(1), 32(1)
      Regular education - 10(1), 11(1), 3(1), 15(1), 20(1), 25(2), 6(1)
      ESOL/bilingual education - 8(1), 22(1)
      Special education - 6(1)
   An administrator -
   Other - 5(1) Dept. Chair, (1) Taught self-contained science & science inclusion.

8) At what grade level(s) do you currently teach or work with?

Preschool - 0	3rd grade - 2	7th grade - 2	11th grade - 2
Kindergarten - 2	4th grade - 3	8th grade - 1	12th grade - 1
1st grade - 2	5th grade - 2	9th grade - 2	
2nd grade - 3	6th grade - 3	10th grade - 1	RIDE - 1

9) How long have you been teaching the grade level(s) your currently teach?
   6(1), 7(1), 8(1), 11(3), 20(1), 25(1)

10) Additional comments – List any committees or specialized roles (e.g., related to curriculum, assessment, or special education) you have been involved with in the past 5 years:

   Science Curriculum, NECAP Science RIAA
   Dept. Chair (Science) for 5 years – facilitating GSE alignments
   NECAP Testing Coord., NECAP Bias & Sensitivity Comm. 2008, District GLE Alignment to Curriculum, NECAP/GLE District Facilitator, NECAP Admin. Wkshp – Math, Reading, Writing, Science each year.
   Creation of GSE's AAGSE's
   Lead teacher – Newport, Science assmt. – alignment w/Salve, Science Notebook Training, RIAA – reading development at RIC, Statewide Curriculum lesson gr. 4 algebra.
   Cranston Science Comm. to develop curriculum for middle school
   Science math ELA curriculum writer for primary grades, RIAA scores 2004 & 2006
   NECAP Science Test – Item Analysis Comm.
   Secondary Lead Literacy Coach/Coord. prior to RIDE
   Alignment Study – mathematics, NECAP Testing Coord., NECAP item analysis (I think that's the name), NECAP – administration wkshp. – math/science, work with RIDE – understanding NECAP report.

APPENDIX A.2

RI Alternate Assessment
Alignment Study
May 8, 2008
Panelist Background Data Collection Form

The purpose of this form is to collect information on the background of the panelists who served on the Alignment Study Review panel for the RI Alternate Assessment (RIAA). This information will be tabulated and provided in a summary form in the technical report on the RIAA.

2) Name _____

2) Gender Male - 2 Female - 13

4) OPTIONAL: What is your race/ethnicity? (Please choose one.)

American Indian or Alaska Native	Black or African American
Native Hawaiian or Other Pacific Islander	Asian
White - 15	Hispanic
	Other _____

4) Where do you teach/work?

District:	School:
Barrington - 1	Barrington High
Cranston - 3	Western Hills (2), Orchard Farms
Lincoln - 1	Northern Early Learning Center
Providence - 1	Hope Arts HS
Warwick - 1	Oakland Beach
Woonsocket - 2	Woonsocket HS
N/A - 5	NRIC, The Groden Center (3), Cornerstone
-	-

11) On which grade level panel are you serving? (Please choose one.):
- Elementary - 5
- Middle - 5
- High - 5

12) Currently, are you a:
- □ Teacher (check all that apply) - 12
  - □ Regular education
  - □ ESOL/bilingual education
  - □ Special education - 15
- □ Administrator: Title _____
- □ Other - Education Consultant/Assessment Coordinator

RI Alternate Assessment
Alignment Study
Panelist Background Data Collection Form (cont.)

13) *Throughout your career*, for how many years have you been:
A teacher - 13(1), 15(2), 10(1), 13(1), 4(3), 1(1), 8(1)
Regular education - 1(2)
ESOL/bilingual education -
Special education - 32(1), 15(3), 13(1), 12(1), 3(1), 4(2), 10(1), 8(2), 14(1), 6(1), 1(1)
An administrator -
Other - 12(1)

14) At what grade level(s) do you currently teach or work with?

Preschool - 0	3rd grade - 3	7th grade - 3	11th grade - 8
Kindergarten - 3	4th grade - 4	8th grade - 8	12th grade - 6
1st grade - 1	5th grade - 4	9th grade - 7	
2nd grade - 2	6th grade - 3	10th grade - 8	

15) How long have you been teaching the grade level(s) your currently teach?
1(1), 2(1), 3(3), 4(1), 6(1), 8(3), 12(1), 13(1), 14(1), 15(1), 31(1)

16) Additional comments – List any committees or specialized roles (e.g., related to curriculum, assessment, or special education) you have been involved with in the past 5 years:

Alternate Assessment, ELA/Math/Science – Scoring, Alignment, etc.
I am on the Advisory Board for Woonsocket HS
Alternate Assessment trainings, development studies (Bete testing, AGSE's, pilots, etc.)
Lead teacher – RIAA drop-in sessions, co-presented at RIAA training, RIAA Science AAGSE Comm., RIAA science pilot, RIAA structured performance, member of RI Autism Support Center, trainer cadre member – presenter at statewide autism training.
AA Advisory Comm., Alignment Cte RIAA – Reading
I have been very involved with the RI Alternate Assessment program – RIAA Adv. Comm., Scoring, AGSE development.

APPENDIX A.3

RI Alternate Assessment
Alignment Study
August 20, 2008
Panelist Background Data Collection Form

The purpose of this form is to collect information on the background of the panelists who served on the Alignment Study Review panel for the RI Alternate Assessment (RIAA). This information will be tabulated and provided in a summary form in the technical report on the RIAA.

Did you also participate in Part 1 of the Alignment Study held in May 2008?

Yes – 3 No - 8

3) Names: Eileen Brown, Ronald A. Celio, Cynthia Gillooly, Patti Hien, Laurie Jansen, Tammie McNaught, Susan Meriano, Richard Palazzo, Michelle Tavares, Elaine Varone, April Vocke, Dale White

2) Gender Male - 2 Female - 10

5) OPTIONAL: What is your race/ethnicity? (Please choose one.)

- □ American Indian or Alaska Native
- □ Native Hawaiian or Other Pacific Islander
- □ White - 12
- □ Black or African American
- □ Asian
- □ Hispanic
- □ Other _____

4) Where do you teach/work?

District	School
Private	Cornerstone
Providence	Cornell Young School
Warwick	Oakland Beach
Lincoln	Lincoln Central Elem.
Warwick	Norwood
Pawtucket	Jenks
Exeter-West Greenwich	EWG Jr. High
	Groden Center
Portsmouth	Middle School
Barrington	High School
Providence	All
Coventry	Coventry High

RI Alternate Assessment
Alignment Study
Panelist Background Data Collection Form (cont.)

17) On which grade level panel are you serving? (Please choose one.):
Elementary _4_
Middle _4_
High _4_

18) Currently, are you a:
Teacher (check all that apply) - 10
Regular education - 2
ESOL/bilingual education - 2
Special education - 9
Administrator: Title _____
Other _____

19) *Throughout your career*, for how many years have you been:
A teacher – 20 (2), 13, 8, 3, 5, 12, 17
Regular education – 13, 3
ESOL/bilingual education - 3, 10, 17
Special education – 20, 8 (2), 18 (2), 5, 9, 10, 12, 17
An administrator _____
Other _____

20) At what grade level(s) do you currently teach or work with?

Preschool - 0	3rd grade - 0	7th grade - 3	11th grade - 3
Kindergarten - 1	4th grade - 1	8th grade - 4	12th grade - 4
1st grade - 1	5th grade - 2	9th grade - 2	subbing all levels - 1
2nd grade - 2	6th grade - 3	10th grade - 3	

21) How long have you been teaching the grade level(s) your currently teach?
7, - (2), 5 (2), 4, 3, 8 (3), 16, 2

22) Additional comments – List any committees or specialized roles (e.g., related to curriculum, assessment, or special education) you have been involved with in the past 5 years:

1) RIAA scoring, standard setting, RIAA development teams – science, reading, writing.
2) Current RI Alt. Assessment table leader (2 yrs.)
RI Alt. Assmt. Scorer
3) Lead Teacher – Alt. Assmt. Drop-in sessions, co-presenter at Alt. Assmt. Trainings, Alignment Study Part 1, RI Alt. Assmt. Science AAGSE Comm., member of Autism Traner Cadre through Autism Support Center/RI TAP, presenter at statewide autism training.
4) RIAA scoring, 2005, 2006, 2007; RI AAGSE – development; RIAA Alignment Studies.
5) Scoring portfolios, autism project.

RI Alternate Assessment
Alignment Study
Panelist Background Data Collection Form (cont.)

6) 2008 – RIAA portfolio scoring.
7) Scoring portfolios, RIAA standard setting – reading, writing, math & science.
8) –
9) RIAA math reading GLE, AGSE
   RIAA implement portfolio work & collection as teacher
   RIAA Beta testing, RIAA trainings, RIAA committees
10) RIAA Advisory, RIAA Standard Setting, RIAA Science Part I Alignment, RIAA Science Part II Alignment.
11) RIAA scoring & table leader, RIAA standard setting.
12) RIAA scoring – both scoring & table leader, RIAA standard setting.

Thank you!

APPENDIX B.1

The Rhode Island Alternate Assessment

Phyllis Lynch
Office for Diverse Learners
Rhode Island Department of Education

Rhode Island Department of Elementary and Secondary Education

What is the RIAA?

The RIAA is

- Part of the state assessment system and required by state and federal law
- Administered at grades 2-8 and 10
- Designed only for students with significant cognitive disabilities who meet grade and participation criteria

Who are the students?

To be eligible for the RIAA, a student with a disability must meet the following criteria:

- Student has a disability that significantly impacts cognitive function and is in need of mediated instruction
- The student's IEP is aligned to the RI Alternate Assessment Grade Span Expectations, includes functional skills and short-term objectives/benchmarks.

Who are the students?

- The decision to administer the RIAA is *not* based solely on the fact that:
  - The student has an IEP.
  - The student's instructional reading level is below grade level expectations.
  - The student is not expected to perform well on the general state assessment.
  - The student is expected to experience distress under testing conditions.
  - The student has excessive or extended absences.
  - The student has a visual or auditory disability, emotional-behavioral disability, specific learning disability, or social, cultural, economic, or language differences.

Video Clips

- Danielle
- Kaitlyn
- Mike
- Bill
- Classroom teacher

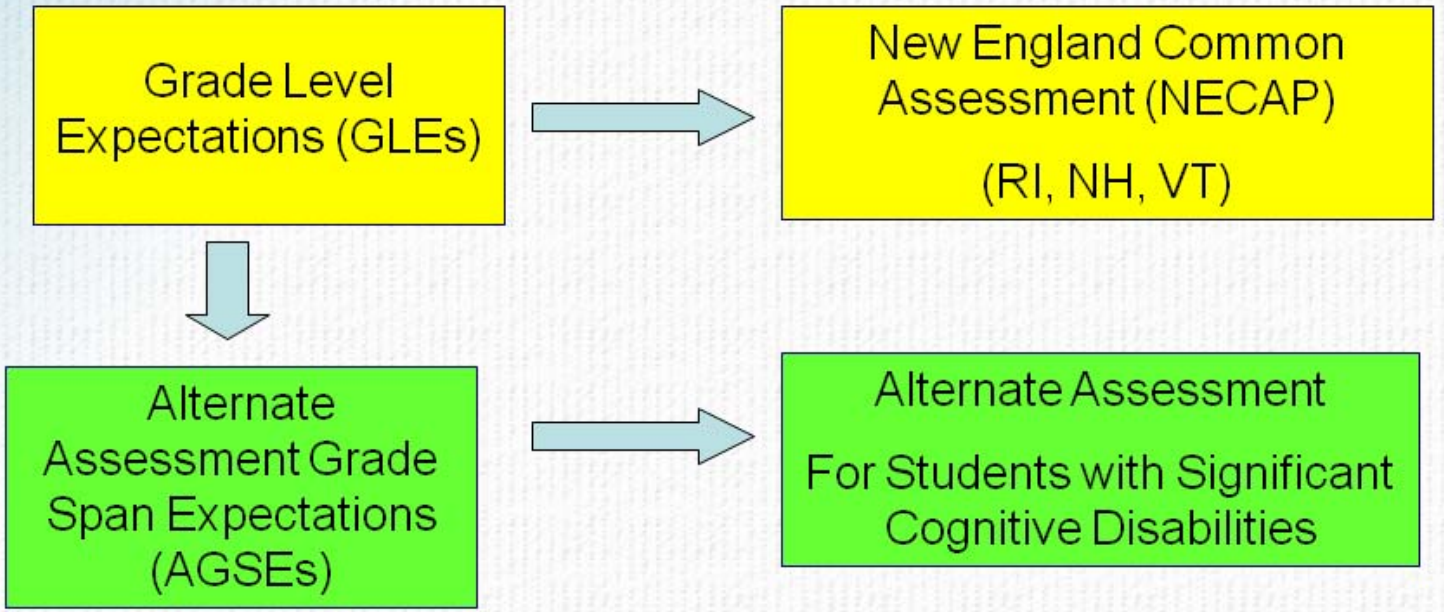
The History of Alternate Assessment

- History
  - IDEA 2004
  - Title 1, NCLB 2001
  - Rhode Island's Article 31
- The "why"
  - Required by federal and state law
  - Allows children with significant cognitive disabilities to participate in RI's state assessment

No Child Left Behind Requirements for Alternate Assessment

- The academic standards required shall be the ***same*** academic content standards that the State applies to all schools and children in the State.
- Alternate achievement standards must be established for students with significant cognitive disabilities.
- Results from alternate assessment must be aggregated with results from the general assessment.

The Rhode Island Response to NCLB



Rhode Island Department of Elementary and Secondary Education

RI Science Grade Span Expectations and Alternate Assessment Grade Span Expectations in Science

Cynthia Corbridge
Office of Assessment & Accountability
Rhode Island Department of Education

Rhode Island Department of Elementary and Secondary Education

Understanding the AAGSEs

- Created and reviewed by RI teachers as a downward extension of the GLEs and GSEs.
- AAGSEs were developed in content areas of Reading, Writing, Mathematics and Science.
- AAGSEs are in grade spans. In Science the Grade Spans are K-4, 5-8 and 9-12.
- Some AAGSEs are grade span specific.
- AAGSEs meet the needs of students with significant cognitive disabilities across a wide span of abilities.

Rhode Island Department of Elementary and Secondary Education

Understanding the AAGSEs

- Derived and expanded from the New England Common Assessment Program (NECAP) Grade Level Expectations in Mathematics, Reading, Writing and Science.
- Stem – communicates the main curriculum and instructional focus of the AAGSE across the grade span.
- Language and order of the stems are identical to the language and order of the stems in NECAP GLEs and GSEs.

NECAP GLEs and GSEs

- A GLE/GSE is a stated objective aligned with NH RI, and VT standards, by grade;
- A GLE/GSE differentiates performance on concepts, skills, or content knowledge between adjacent grade levels.
- As a set, GLEs/GSEs lead to focused, coherent, and developmentally appropriate instruction without narrowing the curriculum.

NECAP Science GSEs

- GSEs should explicitly indicate cognitive demand (interaction of content and process);
- There should be a mix of cognitive demands at all grade levels;
- GSEs should be specific and clear enough to know how they will be assessed.

AAGSEs and GLEs Content Strands

Science	Inquiry Construct Questioning and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS) **OR** Inquiry Construct Conducting and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS)	4
	Inquiry Construct Planning and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS) **OR** Inquiry Construct Conducting and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS)	8
	Inquiry Construct Analyzing and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS) **OR** Inquiry Construct Conducting and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS)	11

Comparing Science GSEs and AAGSEs-Sample GSE

LS1 - All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).

LS1 (K-4) - INQ+POC –1 *Sort/classify different living things using similar and different characteristics. Describe why organisms belong to each group or cite evidence about how they are alike or not alike.*		***LS1 (5-8) – INQ+ SAE- 1*** *Using data and observations about the biodiversity of an ecosystem make predictions or draw conclusions about how the diversity contributes to the stability of the ecosystem.*	
Grade Span Expectations (K-4)		**Grade Span Expectations (5-8)**	
LS1 (K-2) –1 **Students demonstrate an understanding of classification of organisms by …** **1a** distinguishing between living and non-living things. **1b** identifying and sorting based on a similar or different external features. **1c** observing and recording the external features that make up living things	**LS1 (3-4) –1** **Students demonstrate an understanding of classification of organisms by …** **1a** citing evidence to distinguish between living and non-living things. **1b** identifying, sorting and comparing based on similar and/or different external features. **1c** recording and analyzing observations/data about external features **1d** citing evidence (e.g., prior knowledge, data) to draw conclusions explaining why organisms are grouped/not grouped together	**LS1 (5-6) – 1** **Students demonstrate understanding of biodiversity by…** **1a** recognizing that organisms have different features and behaviors for meeting their needs to survive (e.g., fish have gills for respiration, mammals have lungs, bears hibernate).	**LS1 (7-8) – 1** **Students demonstrate understanding of biodiversity by…** **1a** giving examples of adaptations or behaviors that are specific to a niche (role) within an ecosystem. **1b** explaining how organisms with different structures and behaviors have roles that contribute to each other's survival and the stability of the ecosystem.

Science GSEs and AAGSEs - Sample AAGSE

LS1 – All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, species). 1. Students demonstrate an understanding of the diversity of organisms.	
K-4	5-8
LS1.1.1 Distinguish between living and non-living things. LS1.1.1a Recognize self as living. LS1.1.1b Recognize at least one characteristic of living things. (e.g., Living things need food and water.) LS1.1.1c Discriminate between a living thing and a non-living thing. **LS1.1.2 Match organisms with similar features.** LS1.1.2a Given an external feature of an organism, match organisms with the same feature. (e.g., head, legs, fur, wings, tail).	**LS1.1.1 Distinguish between living and non-living things.** LS1.1.1a Identify self as living, therefore needing food and water. LS1.1.1b Identify at least two characteristics of living things. (e.g., Living things need food, water and air.) LS1.1.1c Discriminate between a living thing and non-living things. LS1.1.1d Sort living things from a group of living and non-living things. **LS1.1.2 Compare similarities and differences between organisms.** LS1.1.2a Match similar organisms based on one or two external features. LS1.1.2b Sort organisms based on one or two similar or different external features. LS1.1.2c Compare one or more external features of a group of organisms.

NECAP Schema for Assessing Scientific Inquiry (with DOK levels for constructs)				
Broad Areas of Inquiry to be Assessed	**Formulating Questions & Hypothesizing**	**Planning and Critiquing of Investigations**	**Conducting Investigations**	**Developing and Evaluating Explanations**
Constructs for each Broad Area of Inquiry (including intended DOK Ceiling Levels, based on Webb Depth of Knowledge Levels for Science) *Inquiry Constructs answer the question: What is it about the broad area of inquiry that we want students to know and be able to do?*	**1. Analyze information from observations, research, or experimental data for the purpose of formulating a question, hypothesis, or prediction:** (DOK 3) **1a. Appropriate for answering with scientific investigation** **1b. For answering using scientific knowledge** 2. **Construct coherent argument in support of a question, hypothesis, prediction** (DOK 2 or 3 depending on complexity of argument) 3. **Make and describe observations in order to ask questions, hypothesize, make predictions related to topic** (DOK 2)	**4. Identify information/evidence that needs to be collected in order to answer the question, hypothesis, prediction** (DOK 2 – routine; DOK 3 non-routine/ more than one dependant variable) **5. Develop an organized and logical approach to investigating the question, including controlling variables** (DOK 2 – routine; DOK 3 non-routine) **6. Provide reasoning for appropriateness of materials, tools, procedures, and scale used in the investigation** (DOK 2)	**7. Follow procedures for collecting and recording qualitative or quantitative data, using equipment or measurement devices accurately** (DOK 1 – use tools; routine procedure; DOK 2 – follow multi-step procedures; make observations) **8. Use accepted methods for organizing, representing, and manipulating data** (DOK 2 – compare data; display data) **9. Collect sufficient data to study question, hypothesis, or relationships** (DOK 2 – part of following procedures) **10. Summarize results based on data** (DOK 2)	**11. Analyze data, including determining if data are relevant, artifact, irrelevant, or anomalous** (DOK 2 – specify relationships between facts; ordering, classifying data) **12. Use evidence to support and justify interpretations and conclusions or explain how the evidence refutes the hypothesis** (DOK 3) **13. Communicate how scientific knowledge applies to explain results, propose further investigations, or construct and analyze alternative explanations** (DOK 3)

RIAA Schema for Inquiry Constructs

Grade	Observing/ Questioning	Planning	Conducting	Analyzing
4	Make and describe observations in order to ask questions, and/or make predictions related to the science investigation.		Follow procedures, using equipment or measurement devices accurately as appropriate, for collecting and/or recording qualitative or quantitative data.	
8		Identify information/ evidence that needs to be collected and/or tool to be used in order to answer a question and/or check a prediction.	Use data to summarize results.	
11			Use accepted methods of organizing, representing and/or manipulating data.	Use evidence to support and/or justify interpretations and/or conclusions or explain how the evidence refutes the hypothesis.

RIAA Science Design

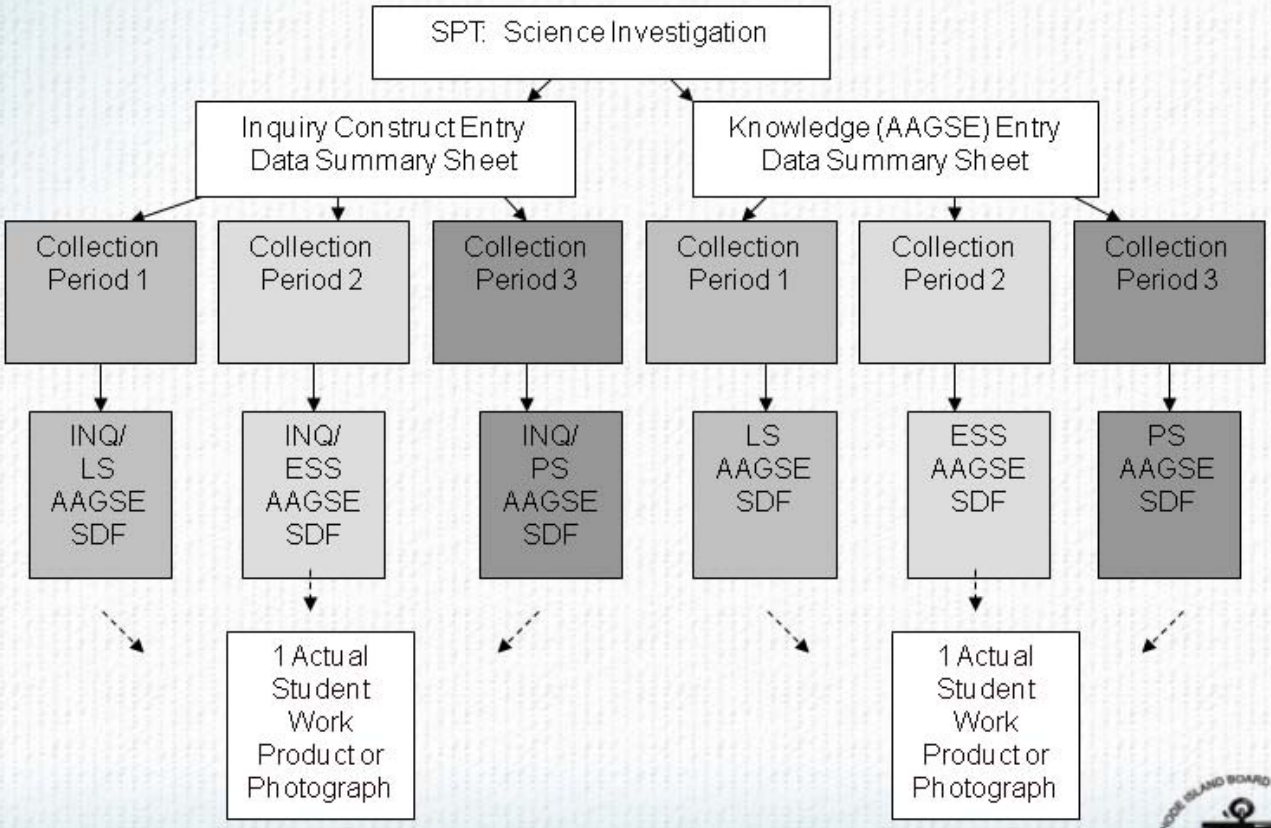
Phyllis Lynch
Office for Diverse Learners
Rhode Island Department of Education

Rhode Island Department of Elementary and Secondary Education

RIAA Science Blueprint

Science	Inquiry Construct *Questioning* and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS) AAGSE **OR** Inquiry Construct *Conducting* and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS) AAGSE	4
	Inquiry Construct *Planning* and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS) AAGSE **OR** Inquiry Construct *Conducting* and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS) AAGSE	8
	Inquiry Construct *Analyzing* and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS) AAGSE **OR** Inquiry Construct *Conducting* and Life Science (LS), Earth and Space Science (ESS) and Physical Science (PS) AAGSE	11

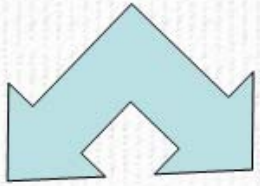
What is the Design?



**SDF= Student Documentation Form **LS/ESS/PS can be in any order
1 SDF for Inquiry AAGSE Entry and 1 SDF for Knowledge AAGSE Entry will have Student Work attached.

What are the Science Entries?

Science Investigation (SPT)



Inquiry Constructs

Knowledge AAGSEs

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Science SPT

- Student will demonstrate the concept within a science investigation, which includes observing/questioning, planning, conducting and analyzing.

Inquiry Constructs

Grade	Observing/ Questioning	Planning	Conducting	Analyzing
4	Make and describe observations in order to ask questions, and/or make predictions related to the science investigation.		Follow procedures, using equipment or measurement devices accurately as appropriate, for collecting and/or recording qualitative or quantitative data.	
8		Identify information/ evidence that needs to be collected and/or tool to be used in order to answer a question and/or check a prediction.	Use data to summarize results.	
11			Use accepted methods of organizing, representing and/or manipulating data.	Use evidence to support and/or justify interpretations and/or conclusions or explain how the evidence refutes the hypothesis.

What Does a Science Entry Look Like?

Structured Performance Task		
Two entries: Inquiry Construct and Knowledge AAGSE		
Data Summary Sheet for each entry 3 collection periods – 1 from each science domain		
Period 1 6 weeks Oct.-Nov.	Period 2 4 weeks Jan. – Feb.	Period 3 4 weeks March -April
Student Documentation Form	Student Documentation Form	Student Documentation Form
One student work product is included per entry (inquiry and knowledge).		

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Acceptable Student Work

Acceptable student work products that demonstrate a clear connection to the AAGSE are:

A. An actual student work product must be completed by the student and ***graded/evaluated*** by the teacher.
- drawings or writings
- journal entries
- projects

B. A photograph of the student ***participating*** and ***demonstrating the skill*** in the standards-based activity including an explanation of how the student participated.

→ **All student work *must* have the student's *name and date* on it.** ←

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Examples of Alternate Instructional Terms

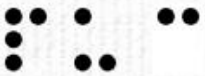
Communication: to eye gaze, point, touch, gesture, respond by voice, head nod, or stamp; to use augmentative communication devices, a topic board, pictures, Braille, printed text (written word), signs/symbols (pic/tactile), or objects.	**Participation:** to take an active role (physically or socially) in content-related activities, routines, and materials by exhibiting behaviors that are observable and measurable, such as touching, see (visually engaging), hearing, tasting, smelling, reaching, pointing, gesturing, and eye gazing.	**Application:** to transfer knowledge from content concepts to practical, concrete situations, activities, and/or routines through the student's mode of participation.
Associate: to connect ideas by using student's mode of communication.	**Create:** to develop an original representation of a concept or an idea or representation of a concept through the student's mode of participation.	**Awareness:** emergent knowledge.
Describe: to give characteristics, examples, and/or attributes through the student's mode of communication.	**Engage:** to have the student actively participate.	**Compare:** to identify similarities and differences between two or more items.
Determine: to give an appropriate response by showing, naming, giving, or selecting through the student's mode of communication.	**Explore:** to participate through manipulating or attending to content-related materials.	**Demonstrate:** to apply knowledge that shows comprehension (understanding) of concepts through the student's mode of communication and/or participation.
Discriminate: to have the student use known information to make appropriate responses within a group of two or more choices.	**Locating:** to have the student use known information to make an appropriate response.	**Distinguish:** See *discriminate*.
Discuss: to socially exchange of content-related information through the student's mode of communication.	**Make decision:** to make an appropriate choice related to the task based on given content information.	**Employ:** to apply knowledge to demonstrate comprehension (understanding) of concepts through the student's mode of communication and/or participation.
Identify/Indicate: See *determine*.	**Observation:** to gain information via the student's senses.	**Obtain:** See *locating*.
Justify: to support a content concept based on information/data by using the student's mode of communication.	**Reproduce:** to recreate a representation of a concept through the student's mode of participation.	**Reacting:** to respond physically response to stimuli.

Examples of Alternate Instructional Terms

Communication	Participation	Application
Pose: to request information through the student's mode of communication.		**Show:** See *employ*.
Predict: to identify what comes next or what outcome is possible based on given information through the student's mode of communication.		**Use:** to apply knowledge to demonstrate comprehension (understanding) of concepts through the student's mode of communication and/or participation.
Reading: to use the student's mode of receptive communication to derive meaning from text, symbols, and numbers.		
Recognize: to show understanding by giving an appropriate response through the student's mode of communication.		
Represent: to show an understanding of a concept through the student's mode of communication.		
Say: to give information through the student's mode of communication.		
Select: See *identify*.		
Text: pictures, symbols, objects, actions, words		
Writing: to use the student's mode of expressive communication to create or construct a tangible product that conveys meaning.		

AAGSE Instructional Terms

Example: In the Reading AAGSE, "text" is expanded to incorporate:

drink (**words**)	**An actual cup** (object) (representing drink)
 (**symbol** representing drink)	 (**photograph** of a cup representing drink)
 (**texture** that represents "drink")	 Braille represents c-u-p

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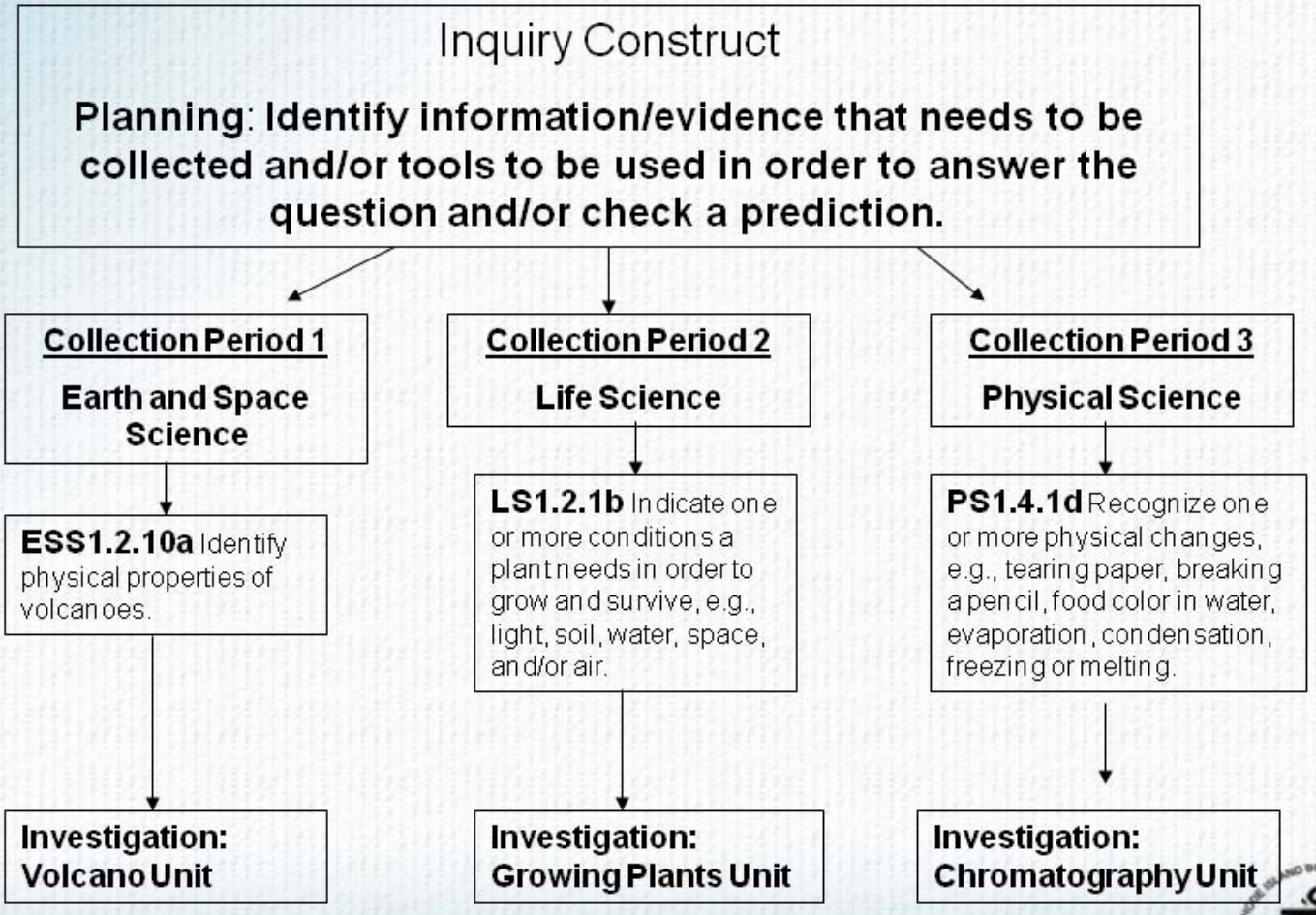
Levels of Assistance

- Are prompt hierarchies used to help student move toward independence
- Facilitate student's understanding of how to complete a task
- Are individualized for each child
- Can be referred to as instructional prompts
- Fade and/or modify over time

Inquiry Example: Grade 8 Science



Investigation: Growing Plants

Observing/Questioning

Using a KWL chart, students will discuss and document what they know about plants. They will develop a question "What do plants needs to grow?".

Planning

Students will plan to plant and grow seeds in different locations. They will create a list of tools that will need to investigate the question what do plants need to grow.

Conducting

Students will plant seeds, put them in various location and take data every other day to record the progress of the plant growth.

Analyzing

Students will review, discuss and analyze their data to determine what conditions plants need to grow. They will document their analysis in a lab report.

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RIAA Assessment Requirements Collection Period Two

- **Inquiry Construct**
  - **Planning: Identify information/evidence that needs to be collected and/or tools to be used in order to answer the question and/or check a prediction.**

Data for the inquiry construct will be taken during the planning part of the investigation.

- **Knowledge AAGSE**
  - **LS1.2.1b** Indicate one or more conditions a plant needs in order to grow and survive, e.g., light, soil, water, space, and/or air.

Data for the knowledge AAGSE will be taken during the investigation.

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Inquiry Data

Planning: Identify information/evidence that needs to be collected and/or tools to be used in order to answer the question and/or check a prediction.

- During the planning of the investigation, the student will identify tools needed to answer the question "What do plants need to grow".
- The student will be provided with 10 tools that will be used to plant and grow seeds. The student will have five opportunities to choose five appropriate tools.
- Accuracy Data = Out of 5 opportunities, how many times did the student choose the correct tools?
- Independence Data = Did the student independently choose the 5 tools?
- Assistance Data = In how many of the 5 opportunities did the student require assistance?

Knowledge Data

LS1.2.1b Indicate one or more conditions a plant needs in order to grow and survive, e.g., light, soil, water, space, and/or air.

- During the analyzing part of the investigation, the student will discuss the data that was taken during the conducting phase of the investigation. They will create a lab report , including an analysis that will describe the conditions that plants need to grow. Using Mayer Johnson pictures the student will list in the lab report 5 conditions that plants need to grow and survive.
- Accuracy Data = Did the student correctly identify 5 conditions that plants need to grow and survive?
- Independence Data = Did the student independently identify 5 conditions that plants need to grow and survive?
- Assistance Data = In how many of the 5 opportunities did the student require assistance?

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Data Summary Sheet for Science Inquiry Construct

Student: Anastasia **Grade:** 4

Science	**Structured Performance Task Description:** Student will demonstrate the Inquiry Construct within a science investigation, which includes observing/questioning, planning conducting and analyzing.				**Inquiry Construct Description:** Conducting: Follow procedures, using equipment or measurement devices accurately as appropriate, for collecting and/or recording qualitative or quantitative data.							
	Domain: Physical Science **AAGSE #** PS 3.2.1a **Description:** Recognize that some objects may or may not be attracted to magnets.				**Domain:** Life Science **AAGSE #** LS1.1.1c **Description:** Discriminate between a living thing and a non-living thing.				**Domain:** Earth Space Science **AAGSE #** ESS 1.1.3b **Description:** Sort soils using one physical property.			
	Collection Period 1 Oct. 9 – Nov. 16, 2007				**Collection Period 2 Jan. 14 – Feb. 8, 2008**				**Collection Period 3 March 17 – April 11, 2008**			
Date	10/18	10/25	11/3		1/5	1/18	2/4		3/14	3/21	4/10	
Data Type	SDF	DP	DP		DP	SDF	DP		DP	DP	SDF	
Accuracy %	90	60	60		60	60	70		70	85	90	
Independence %	77	60	80		80	70	80		75	80	80	
Levels of Assistance				Average				Average				Average
__Verb___ Prompt %	7	20	20	16	10	10	20	13	5	10	20	12
_Model__ Prompt %	16	20	0	12	10	20	0		20	10	0	10
___HOH__ Prompt %												
Average % for Collection Period	Accuracy: 66				Accuracy: 63				Accuracy: 82			
	Independence: 70				Independence: 77				Independence: 78			

Least to Most Assistance

Data Type Key: DP= Data Point SDF=Student Documentation Form

Student Documentation Form for Science Inquiry Construct

☐ Check box if Student Product or Photograph is attached.

Student Name: Anastasia	**Grade:** 4	**Date:** 10/18	**Data Collection Period:** 1_X__ 2___3___
Science Domain: LS ESS (PS) **Structured Performance Task:** Student will demonstrate the Inquiry Construct within a science investigation, which includes observing/questioning, planning conducting and analyzing.		**Inquiry Construct Description:** Conducting: Follow procedures, using equipment or measurement devices accurately as appropriate, for collecting and/or recording qualitative or quantitative data. **WITHIN AAGSE #** PS 3.2.1a **Description:** Recognize that some objects may or may not be attracted to magnets.	

Describe the overall Structured Performance Task (SPT) as it is embedded in your classroom/school/community:

The fourth grade is working on a unit on the exploration of magnets. They will explore different magnets and objects and then come up with questions to answer, such as "What kinds of objects stick to magnets?" They plan how they will find out, test objects and collect data and then draw a conclusion that answers the question.

Describe the student's application of the Inquiry Construct within the Knowledge AAGSE and SPT:

This assessment focuses on the conducting part of the unit. All students had at least 10 objects that they tested with the magnet to answer the question. Anastasia had assistance choosing her 10 items to make sure that part of them would be attracted to the magnet. Students were required to record if an object was attracted to (stuck to) the magnet or was not attracted to (did not stick to) the magnet.
A recording sheet was set up in advance with pictures of each object and a place for Anastasia to mark attracted/not attracted.

Evaluation of Student's Performance

Evaluate the student's accuracy performance on the Inquiry Construct. Explain how percentages were determined.	**Evaluate the student's independence performance on the Inquiry Construct. Explain how percentages were determined.**
A 3 step collecting/recording procedure was used for each item- 1- test the item (set it next to the magnet), 2- observe what happened (look at it), 3- record what happened (place mark on recording sheet) This gave Anastasia 30 opportunities to be assessed on collecting/recording. She was able to test 9/10 items, observe 8/10 items, and record 10/10 items for a total of 23/30.	Independence was evaluated while Anastasia performed each 3 step procedure for the 10 items. Anastasia needed content assistance (modeling) to set the item next to the magnet on 5 occasions, 5/10 independent. She was verbally reminded to look at the item on 2 occasions, 8/10 independent, she independently recorded for 10 items. Total of 23/30
Level of Accuracy____90_____%	**Level of Independence ____77_____%**

Teacher Initials ____ _____

Data Summary Sheet for Science Knowledge Entry

Student: Anastasia **Grade**: 4

Science	Structured Performance Task Description: Student will demonstrate the Knowledge AAGSE within a science investigation, which includes observing/questioning, planning conducting and analyzing.											
	Domain: Physical Science **AAGSE #** PS 3.2.1a **Description:** Recognize that some objects may or may not be attracted to magnets.				**Domain:** Life Science **AAGSE #** LS1.1.1c **Description:** Discriminate between a living thing and a non-living thing.				**Domain:** Earth Space Science **AAGSE #** ESS 1.1.3b **Description:** Sort soils using one physical property.			
	Collection Period 1 Oct. 9 – Nov. 16, 2007				**Collection Period 2 Jan. 14 – Feb. 8, 2008**				**Collection Period 3 March 17 – April 11, 2008**			
Date	10/18	1019	10/21		1/5	1/18	2/5		3/14	3/15	4/5	
Data Type	SDF	DP	DP		DP	SDF	DP		DP	SDF	DP	
Accuracy %	80	40	60		40	60	60		80	70	80	
Independence %	100	80	60		80	100	100		100	100	100	
Average % for Collection Period	Accuracy: 60				Accuracy: 53				Accuracy: 77			
	Independence: 80				Independence: 93				Independence: 100			

Data Type Key: DP= Data Point SDF=Student Documentation

Student Documentation Form for Science Knowledge Entry

☑ Check box if Student Product or Photograph is attached.

Student Name: Anastasia	**Grade:** 4	**Date:** 5/18	**Data Collection Period:** 1_X__ 2___ 3___
Science Domain: LS ESS PS **Structured Performance Task:** Student will demonstrate the AAGSE within a science investigation, which includes observing/questioning, planning conducting and analyzing.		**AAGSE #** PS 3.2.1a **Description:** Recognize that some objects may or may not be attracted to magnets.	

Describe the overall Structured Performance Task (SPT) as it is embedded in your classroom/school/community:

The fourth grade is working on a unit on the exploration of magnets. They will explore different magnets and objects and then come up with questions to answer, such as "What kinds of objects stick to magnets?" They plan how they will find out, test objects and collect data and then draw a conclusion that answers the question.

Describe the student's application of the AAGSE within the SPT:

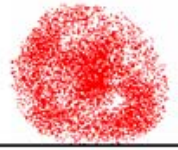
The AGSE being assessed is whether or not the student is able to recognize that some objects are attracted to magnets and some objects are not. This was assessed for Anastasia by looking at how well the she was able to determine whether or not the objects were attracted to the magnet when she filled in her recording sheet for the investigation.

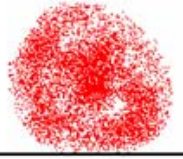
Evaluation of Student's Performance

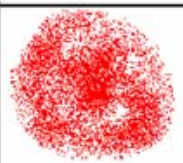
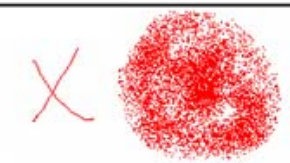
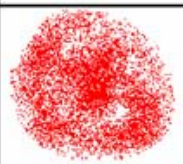
Evaluate the student's accuracy performance on the AAGSE. Explain how percentages were determined.	**Evaluate the student's independence performance on the A`AGSE. Explain how percentages were determined.**
There are 10 opportunities to evaluate Anastasia's knowledge that some objects are attracted to magnets and others are not. The recording sheet from the investigation was used to assess this. She correctly identified attracted/not attracted 8 out of 10 times.	On the 10 opportunities Anastasia responded independently.
Level of Accuracy_____80_____%	**Level of Independence ____100_____%**

Teacher Initials ___ _____

Student Name:___ Anastasia _____ Date: _____ 10/18 _____

Object Tested	Attracted	Not Attracted
 crayon		
 paper clip		
 ball		

Object Tested	Attracted	Not Attracted
 spoon		
 paper		
 penny	 	

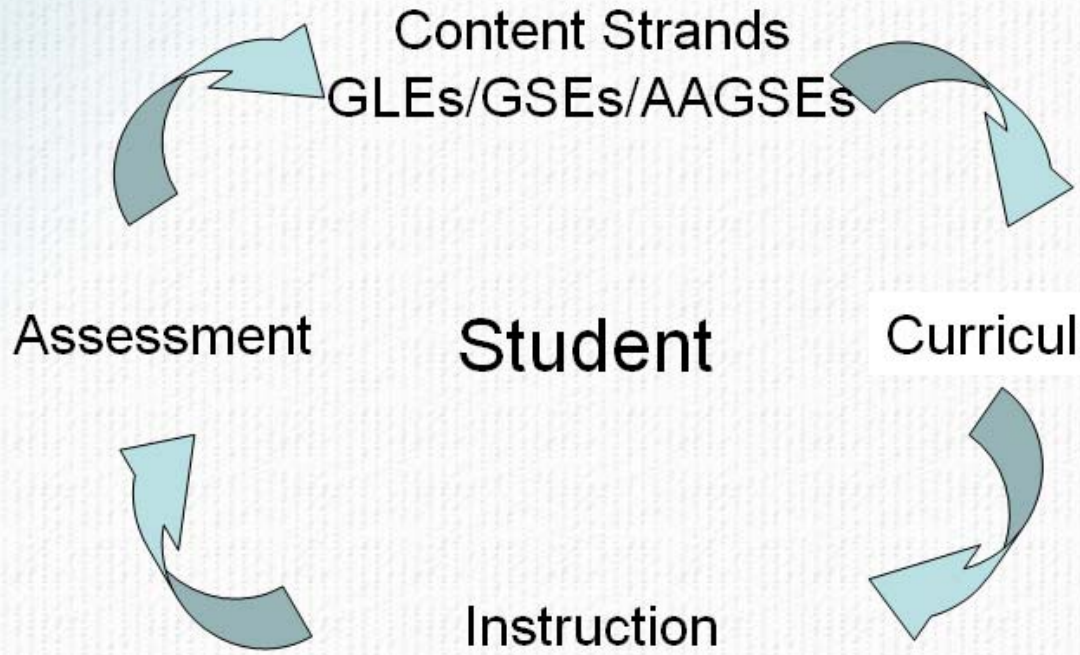
Object Tested	Attracted	Not Attracted
 plastic ruler		
 bracelet		
 stuffed toy		
 scissors		

RIAA Instructional Process

Cynthia Corbridge
Office of Assessment and Accountability
Rhode Island Department of Education

Rhode Island Department of Elementary and Secondary Education

Instructional Process



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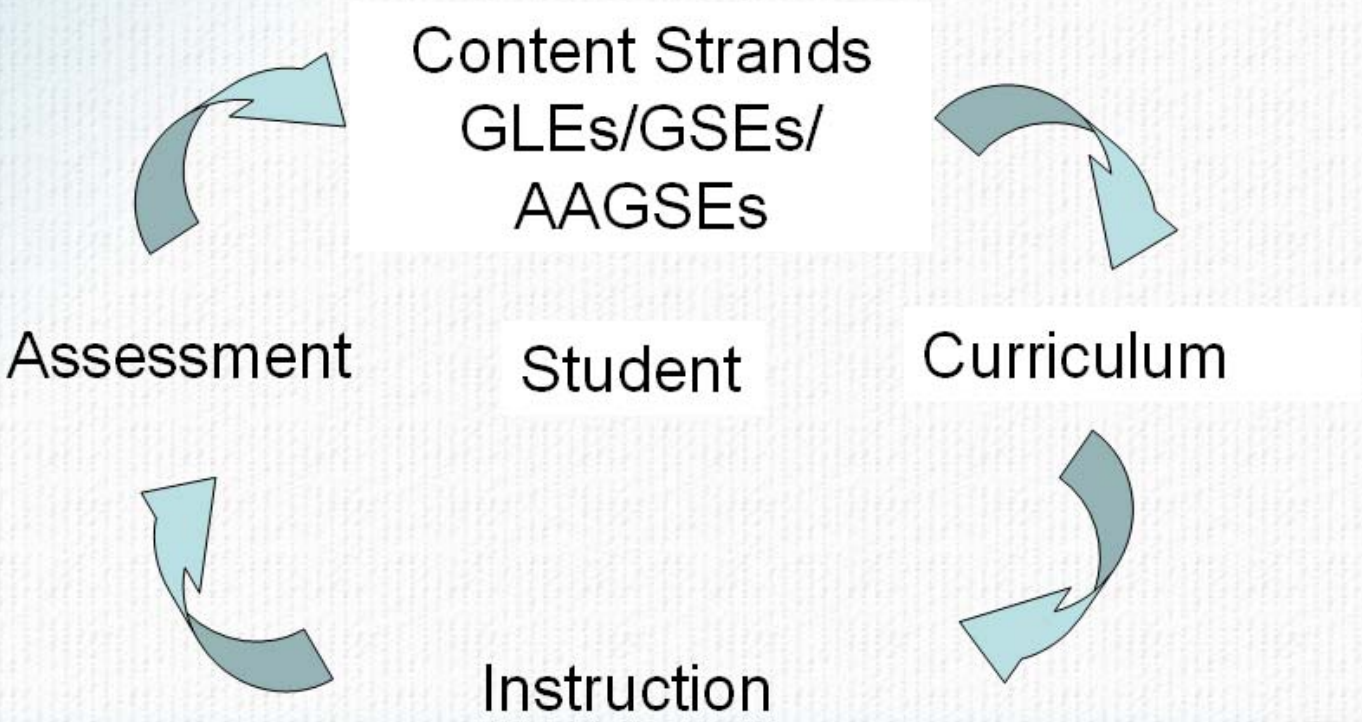
Curriculum

- Same for all students regardless of cognitive or academic ability
  - Students experience the curriculum based on their individual strengths and needs.
- Determined by districts and is most effective when aligned with GLEs/GSEs
- Students should experience age/grade appropriate curriculum.

Assessment

- Shows what the student knows and is able to do.
- Provides information that helps teachers make instructional decisions.
  - Plan instruction
  - Evaluate instruction
  - Refine instruction
- RIAA Datafolio measures achievement during the academic year.

Instructional Process



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Instruction

- Standards-Based
- Context Based
  - Structured Performance Tasks (SPT)
  - Acquisition vs. Application
- Distinct
- Levels of Assistance

Standards-Based Activities

- Are connected to the district curriculum.
- Provide opportunities for skill development for individual students based on the AAGSEs.
- Are age/grade appropriate.

Context Based

RIAA context based instruction utilizes:

- Structured Performance Tasks (SPT)
- Application activities

Distinct Activities

- Allows the student to demonstrate his/her AAGSE skills in a variety of contexts and/or differing content areas

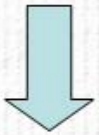
- Factors that contribute to creating distinct activities: different materials, context/content, setting, applications

Levels of Assistance

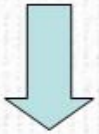
- Define how much help the student requires to participate in an activity.
- Demonstrate movement towards independence.
- Are listed as a hierarchy: most to least assistance.
- Are individualized to meet the student's needs.

Putting It All Together

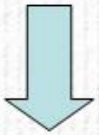
General Curriculum



Structured Performance Task (SPTs)



Choose AAGSEs



Using standards-based activities occurring in the general curriculum

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Structured Performance Task (SPT)

- Provide context in which standards-based activities occur
- Are grade span specific

Science SPT

Student will demonstrate the concept within a science investigation, which includes observing/questioning, planning, conducting and analyzing.

Standards-Based Instruction

Science SPT : Student will demonstrate the concept within a science investigation, which includes observing/questioning, planning, conducting and analyzing.

Inquiry Construct:
Conducting: Follow procedures, using equipment or measurement devices accurately as appropriate, for collecting and/or recording qualitative or quantitative data.

Knowledge AGSE:
PS 3.2.1a Recognize that some objects may or may not be attracted to magnets.

Description of the Standards-Based Activity:
Students made observations of how magnets affected objects. During the planning phase of a magnetism experiment, students suggested a list of classroom objects to test. They also made predictions about if the objects were or were not attracted to magnets. The list was made into a chart. The items on the list were tested during the conducting phase of the experiment. Upon completion of the experiment, students analyzed their data to determine if their predictions were correct. Harold followed the procedures of the experiment by: 1. placing a large magnet near each item on the list, 2. indicating if it "stuck" or if he "felt the pull", 3. using a bingo marker, he recorded his data as attracted or not attracted for each item. Harold's recording sheet was created using Mayer Johnson symbols to assist him in his data collection. Harold tested three items: aquarium, sewing needle, and a chair.

Resources for Teachers

- Multiple workshops
  - Large group PowerPoint presentations
  - Small group activities to reinforce learning
  - Ongoing feedback to verify teacher understanding
- Drop In Sessions
- RIAA Manual
- Additional support materials
  - Datafolio samples
  - Workshop materials

APPENDIX B.2

Overview of RI's Alternate Assessment Alignment Study

Prepared by Karin Hess, National Center for Assessment

Rhode Island's Alternate Assessment alignment study will be modeled after the Links for Academic Learning (LAL) Alignment Protocols developed at the National Alternate Assessment Center (NAAC), University of North Carolina at Charlotte (Flowers, Browder, Wakeman, & Karvonen, 2007). This is a brief overview of materials to be used and responsibilities of alignment team panel members.

1. Documents

During this review, data will be collected using document analysis. These documents include, but are not limited to:

a. Description of the development of RI's Alternate Assessment
b. RI's Alternate Assessment Grade Span Expectations/AA GSEs (including the development process)
c. Alternate Assessment Administration Manual
    i. Participation guidelines for the alternate assessment
    ii. Test/task specifications and blueprint for the alternate assessment
    iii. Guidelines for prioritizing the grade level content standards for use by teachers of students who participate in the alternate assessment
    iv. The most current alternate assessment for grades 4, 7, and 11 in science – Structured Performance Tasks
    v. Information about scoring the alternate assessment including the scoring rubric
d. State grade span content standards for science (RI GSEs)
e. Alternate Assessment Achievement Standards (performance level descriptors)
f. Examples of professional development for teachers about implementing the alternate assessment or designing standards-based instruction

While the use of some documents is self evident, others are included in the process as a way to understand the assessment system and values of the state regarding content, instruction, and assessment of students with significant cognitive disabilities. The test blueprint and extended standards (AA GSEs) provide the alignment team information on prioritized content areas of the state. The alternate assessment, performance descriptors, and scoring rubrics provide information about the alternate achievement standards.

2. Database and Forms

A database will be built using reviewer responses and coding. Columns (and related coding) will be used to capture the necessary information (e.g., academic content, DOK, content and performance centrality) from the experts. The facilitator will operationalize the level of specificity of the coding for all the included documents or materials. Decisions have been made as to the state's extended standards (AA GSEs) and *sublevels* that address different content. Coding to the extended standard and/or the sublevels will provide the state with different

alignment information. **It is important that the alignment study capture the level of specificity that is demonstrated within the assessment tasks and content standards.**

3. Coding for Content Experts and Special Education Experts

Content experts will investigate most of the questions under the first three alignment components (links between RI GSEs/ content standards and extended standards/AA GSEs) using content analysis and coding. A training codebook with examples and errors/nonexamples will be used during training to illustrate coding procedures. It is, however, a dynamic document and will be revised as need to accurately capture the information the assessment system offers. The codebook describes the coding procedures, including any rules that are developed during the process. For example, if the content standards include multiple levels of DOK, a decision has been made to code all potential levels. It is critical that these rules are understood by all reviewers, so that the coding is consistent across content areas.

Because **special educators** have insight into the characteristics of the population, as well as best instructional practice, their role in this process is unique. Their coding responsibilities will include: rating the age/grade appropriateness of each structured performance task; coding the specific symbolic level of those items identified by the content experts as non academic (Foundational or Pivotal); using the *Minimizing Barriers for Students* checklist to code an overall rating for the assessment regarding any source of challenge present in the AA; coding examples (provided to special education teachers) of teaching grade level content across content areas; indicating if there is evidence in the professional development materials that quality indicators for programs have been considered (Program Quality Indicators Checklist); and using the *Degree of Inference about Student Learning* checklist, to ascertain the degree to which the alternate achievement standards align to the academic content standards.

The content experts and special education experts will have copies of all codes and coding examples to be used during the alignment process. Training and practice will occur before each criterion is addressed.

Summary of Alignment Criteria and Coding Materials

Criterion	Who measures criterion
2) The content is academic and includes the major domains/strands of the content area as reflected in state standards/GSEs	Content Experts
2) The content is referenced to the student's assigned grade level (based on chronological age).	Content Experts
3- The focus of achievement maintains fidelity with the content of the original grade level standards (content centrality) and when possible, the specified performance (category of knowledge).	Content Experts
4- The content differs from grade level in range, balance, and DOK, but matches high expectations set for students with significant cognitive disabilities.	Content Experts - AAGSEs Spec Ed Experts- SPTs
5- There is some differentiation in CONTENT across grade levels or grade bands.	Content Experts - AAGSEs Spec Ed Experts- SPTs
6- The expected achievement for students is for students to show learning of grade referenced academic content.	
7- The potential barriers to demonstrating what students know and can do are minimized in the assessment.	Special Ed Experts
8- The instructional program promotes learning in the general curriculum.	Special Ed Experts

APPENDIX B.3

AA Codebook
Explanations for Alternate Assessment Alignment Coding

Prepared by Karin Hess, National Center for Assessment

Table of Contents

127 Coding protocols for AA alignment study adapted using NAAC Guidelines.

Criterion 1: The Content is Academic
Criterion 3: Fidelity with Grade Content and Performance Level *– secondary coding*

Coding of Non-Academic Content

Code	Description
F	**Foundational Skill**—skills that students are assumed to be competent in, in order to perform the grade level skill (e.g., turning the page of a book is foundational to reading; distinguishing numbers from letters and counting are foundational to mathematics)
P	**Pivotal Skill –** those skills which cross content areas that are necessary to participate in the curriculum (e.g., activate a switch, listen attentively)
Secondary coding ONLY for Foundational and Pivotal Skills	*For all AA GSE subparts coded F or P, do second level of coding for those AA GSEs only –* ***use "F & P" Templates.*** ***The purpose is show the degree of accessibility to students with pre and early symbolic communication.***
1	**Awareness**: Student has no clear response and no objective in communication **Pre-symbolic**: Student communicates with gestures, eye gaze, purposeful moving to object, sounds
2	**Early Symbolic**: Student is beginning to use pictures or other symbols to communicate within a limited vocabulary
3	**Symbolic**: Student speaks or has vocabulary of signs, pictures to communicate. Recognizes some sight words, numbers, etc.

Criterion 4: The Content Differs in Range, Balance, and Depth of Knowledge (DOK)

Webb's Modified Depth of Knowledge for Special Education

Codes	Depth of Knowledge (DOK) Levels
1a	**Respond** - touch, look, vocalize, attend, recognize
1b	**Reproduce** – copy, repeat, follow directions
1c	**Recall** - list, describe, identify, state, define, label, locate facts or details, perform routine operation (measure, compute) (e.g., identify proper names that begin with capital letters)
2	**Basic Reasoning** – focus on skills and concepts, categorize, classify, compare, organize information, perform multi-step task, explain, restate, summarize, translate, choose strategy, comprehend, make basic interpretations (central idea) or predictions
3	**Complex Reasoning** – requires planning and/or complex reasoning, make inferences across a passage (e.g., interpret theme or purpose), analyze, conduct experiment, test hypothesis, create a model or diagram, compose, adapt or modify, make connections, defend, verify, draw conclusions, rate, judge
4	**Extended Reasoning** – requires investigation/research, apply/analyze/synthesize across multiple contexts/sources, extend to new applications
X	**Can't code/too vague**

Criterion 3: Fidelity with Grade Content and Performance Level

Content Centrality

Code	
No	Content may be "academic" but **no link** is found to grade level content
FL	**Far link**—the item/task/extended standard partially captures the "essence" of the content found in the standards (usually at a much lower grade level)
NL	**Near link**—the item/task/extended standard clearly captures the "essence" of content found in the standards (usually at a grade level near current grade)

Criterion 3: Fidelity with Grade Content and Performance Level

Performance Centrality

Code	
No	The performance of the AA **IS NOT identical** to the performance of the content standard
Yes	The performance of the AA **IS identical** to the performance of the content standard
Some	The performance of the AA **PARTIALLY MATCHES** the performance of the content standard (may occur when two different performances are asked in the content standard).

Criterion 3: Fidelity with Grade Content and Performance Level

Code for Reasons for Lack of Content and Performance Centrality

Code	Description
1	Back-mapping (retrofitting) - the content is the functional activity
2	Mismatch to the wrong grade level standard (e.g., clerical error, different strand; incorrect/inapproipriate content match for standard)
3	Overstretch - *overextended* or "too watered down" so that the link is lost

Criterion 5: Differentiation across Grade Levels or Grade Bands

Codes for Age Appropriateness

Code	
1	Adapted from grade level content (e.g., Roll of Thunder, Hear My Cry)
2	Not grade specific; neutral; themes are appropriate for all ages (e.g., pets)
3	Inappropriate for teens (e.g., circus)
4	Inappropriate even for elementary age (e.g., Barney)

129 Coding protocols for AA alignment study adapted using NAAC Guidelines.

Criterion 6: Expected Achievement of Students is Grade Referenced Academic Content

Degree of Inference About Student Learning (based on scoring for each AA task)

Criterion	**High Student Inference** Can clearly infer student showed learning	**Low Student Inference** Student performance mixed with educator performance	**No Student Inference** Can clearly infer student did not have to show any learning/ Teacher or program performance rated ("Raggedy Andy" would pass)
Level of accuracy	High level of accuracy (If one response; response is correct. If multiple responses, above 90% correct)	Lower level of accuracy or accuracy intermixed with teacher assistance to extent difficult to determine what student did.	Does not have to get items correct to receive credit.
Level of independence	Only independent response receives credit (Students may receive a verbal question/ direction to respond but not told what response to make)	Credit given for responses in which student performs either without guidance after told or shown the exact response to make (verbal, model prompts, scaffolding) or are done after shown/ told exact response to make and also given some guidance to make the response (partial physical)	Credit given for responses made with hand over hand assistance
New learning (important to AA because alternate achievement is not as clear as grade level)	Baseline or pretest provides support that this is new learning OR One time performance but clear differentiation by grade level (criteria 5)	One time performance AND grade level differentiation was not clear (criteria 5)	No baseline, pretest, and weak differentiation across grade levels suggests student could achieve proficiency by making same response year after year.

130 Coding protocols for AA alignment study adapted using NAAC Guidelines.

Criterion 6: Expected Achievement of Students is Grade Referenced Academic Content

Interpreting Definitions of "Proficient"

Use these descriptors to consider the overall alternate assessment content and definitions of "proficient" (Use with Alternate Achievement Standards/performance level descriptors and scoring of AA Structured Performance Tasks (SPTs)

Look for these additional criteria for proficiency that strengthen the student inference:

_____ Complexity; proximity to grade level achievement given additional credit

_____ Generalization of response across people and/or settings

_____ Conceptual generalization (stronger than simple people/setting generalization) in which student shows response across more than one task format (e.g., understands concept of the number 10 as used in time telling, bus numbers, math problems, etc. vs. simply pointing to 10 on their schedule)

_____ Overall accuracy (number correct) needed to be proficient is not substantially low (compare to % correct needed for proficiency in general assessment)

Look for these criteria that weaken the student inference:

_____ Program quality indicators are added to the student score (like "extra credit") for things like choice-making, inclusion with peer, etc. (*Remember these indicators do receive recognition under criteria 8*)

Criterion 7: Barriers to Performance *- coded for each Structured Performance Task (SPT) AA GSE*

Codes for Symbolic and Non-symbolic Communication

Codes	*Definitions*
S	Symbolic: Item/task is answered through symbolic communication (pictures, symbols, signs, speech)
N	Non-symbolic: Item/task is answered through non-symbolic communication (gesture, eye gaze, purposeful moving toward object, sounds)

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Rules, Examples, & Procedures for Coding

Rule	Example	Error/Non Example	Who
NOTE: All RI grade span content standards GSEs ***have been pre-coded* for DOK**. If the GSEs have multiple DOKs, all levels are included.	Identify literary elements; Compare and contrast text types = **DOK 1, 2** **DOK 1 =identify** **DOK 2 =compare** (See content-specific DOK handout and codes.)	COMMENT: If while coding, content experts want to revise the DOK coding for NECAP GLEs, it should be done by consensus after consultation with NCIEA facilitator – these should be at the same grade level as NECAP	Content experts (in consultation with Facilitator) Content-specific templates
NOTE: All RI science GSEs ***have been pre-coded*** for "essence" - only to assist raters.	M(N&O)–2–1 **Demonstrates conceptual understanding of rational numbers with: whole numbers** from 0 to 199 using place value, by… ESSENCE: Compose/ decompose whole numbers; Place value, expanded notation	COMMENT: If while coding, content experts want to revise the GSEs "essence" descriptions or add others, it should be done by consensus – must be at "grade level" (4, 8, or 11) – *these not mandatory*	Content experts (if questions - ask facilitator) Content-specific templates
1. Review the AA GSEs/extended standards for each grade span. Code each AA GSE as a "best match" to corresponding RI GSE.	M(N&O)–10–2 **Demonstrates understanding of the relative magnitude of real numbers** by solving problems involving ordering or comparing rational numbers… CODE: AA GSE #5 (do not list all sub parts here!)	COMMENT: Stems will be helpful in matching the essences of the content ERROR: AA GSE #5.2, 5.12, 5.8, etc.	Content experts Content-specific templates AA GSEs
2a. Review the subparts/wording of each AA GSEs coded in step 1. Code each AA GSE as a "best match" to corresponding grade level of RI GSE.	**AAGSE** **ESS1.2.8 Describe how rocks form** 1.2.8a describe one way rocks form through erosion and deposition 1.2.8b describe one way rocks form from melted rock material 1.2.8c describe one way rocks form from alteration by heat ands pressure	COMMENT: After general content match, start with current grade, then slowly move to next lower grade span Look for highest "level" generally expected across subparts – EXAMPLE: There is no grades 7-8 match for this content (formation of rocks). AA GSE matches with RI GSE grades 5-6: **5a** representing the processes of the rock cycle in words, diagrams, or models.	Content experts Content-specific templates AA GSEs
2b. Code the **content link** to each AAGSE. Content Centrality **No**-no link **FL**-far link **NL**- near link	EXAMPLES" 1. GLE: Read and write amounts of money using the dollar sign ($) and decimal notation (.). AAGSE: Identify the dollar amount in written	NON EXAMPLE: GLE: Demonstrate the ability to respond to texts both orally and in writing. AA GSE: Hold a book while a story is being read = **No (no link)**	Content experts Content-specific templates AA GSEs

(see also page 3 and detailed examples at the end of this handout)	form = **NL (near link)** 2. GLE: Apply strategies and skills to create oral, written, and visual texts AA GSE: Compose visual representations = **FL (far link)**	*HOLDING A BOOK DOES NOT EQUATE TO RESPONDING TO TEXT.*	
2b. Review all AA GSEs for potential "no" links – Identify all Foundational or Pivotal skills. (see also page 2)	1. AA GSE: Hold a book while a story is being read = **No (no link)** *HOLDING A BOOK DOES NOT EQUATE TO RESPONDING TO TEXT* – Foundational Skill for this grade level 2. AA GSE: activate a switch – not reading = Pivotal skill	COMMENT: Content experts make the final decision about academic or foundational NOTE: Some AAGSEs might be "academic" but still have no link. This happens more often when you go higher in grade levels.	Content experts Content-specific AA GSE templates AA GSEs
3a. For all NOT ACADEMIC, code as F or P (see also page 2)	Turn the page of a book = **F- Foundational Skill**	ERROR: Make choices = **0- No Foundational Skill** COMMENT: All NON ACADEMIC standards (coded F or P) should not be coded by content expert any further.	Content experts Content-specific templates
3b. For all NOT ACADEMIC AAGSEs, code the communication/ accessibility level of each item (1=PS, 2=ES, 3=S). (see also page 2)	Turn the page of a book (Foundational skill) = **Pre-symbolic** (a students communicating pre-symbolically CAN access this AAGSE	NOTE: Consider ALL communication levels *If STUDENTS communicating at a PRESYMBOLIC LEVEL COULD PARTICIPATE IN TASK, then so could students at symbolic level*	Special Ed experts Content-specific AA GSE templates – F&P secondary coding
3c. Count & summarize why: any AA GSE that was rated as "No link" for content centrality: -backmapping, -standard mismatch, or -standard overstretch. All standards that are coded as "No link" should not be coded any further. (see also page 3 descriptions)	1.GLE: Apply strategies to read and write AAGSE: Communicate with peers = **backmapping** 2. GLE: Compute with rational numbers AAGSE: Change in one quantity relates to change in second quantity = **mismatch** 3.GLE: Apply strategies to comprehend text AAGSE: Choose text for exploration = **overstretch**	Mismatches could be other GLEs/other strands (e.g., problem solving, not N&O; incorrect content – weather prediction IS NOT math probability) COMMENT: This is summarized on the last page for each grade span and content area – include # plus reason on Content-specific templates	Content experts Content-specific templates
4a. Identify DOK levels for all AA GSE subparts *NOT coded as F or P* Use DOK content – specific handouts (see also page 2)	DOK 1a – Respond/ Recognize 1b - Reproduce 1c - Recall 2 – Basic Skills & Concepts (apply, explain,	ERROR: Identify the character in the story = DOK 2 *WRONG CODE: THIS IS SIMPLY RECALL AND SHOULD BE CODED 1c.*	Content expert Special Ed expert – review what content experts did DOK content-specific templates

	compare) 3 – Strategic Thinking Too vague, code it as an X.		DOK handouts for math, reading, writing, or science
4b. Transfer DOK codes from DOK template to larger Content template with RI GSEs	These columns align in content templates with RI GSEs	COMMENT: Once you have these filled in, you can compare DOK of RI GSEs (already on content-specific templates) and AA GSEs	Content experts Special Ed experts will use the content expert coding when reviewing SPTs Content-specific templates
4c. Compare & determine the performance link of the AAGSEs to the RI content standard. (see also p. 3) Coding Practice – last page of this handout	GLE: *Read and write* whole numbers. AAGSE: *Identify* numerals up to 10 = **DOK 1 (code as "some")** **See examples at end of handout**	NON EX: GLE: *Read and solve* simple addition/subtraction word problems AAGSE: *Identify* the + and – signs in problems = **0 (no)** *THE PERFORMANCE FOR THE AAGSE IS CLEARLY DIFFERENT THAN THE PERFORMANCE EXPECTED IN THE state's GLE/CONTENT STANDARD.*	Content experts
5a. Rate the overall "differentiation" of AAGSEs/standards across grades (e.g., look for examples of differentiation).	Describe how AA GSEs change across grade spans in terms of content: **-breadth** **-depth** **-new content** **-same content**		Content experts or special education experts, depending on time Template - Differentiation of Content across Grades
5b. Code all SPTs for each grade span & content area using DOK information already identified; rate the overall differentiation of assessment/SPTs (see also pp. 4-5)	Describe how STP content changes across grade spans in terms of content **-breadth** **-depth** **-new content** **-same content**		Special Ed experts SPT Templates
5c. Rate the overall progression of AA achievement standards (see also pp. 4-5)	Describe how AA achievement standards change within a grade span (performance levels) and across grade spans in terms of content		NCIEA facilitator
5d. Code age appropriateness of each alternate assessment SPT **(1=adapted from grade level, 2= grade neutral, 3=**	Identify story characters about a book about planting a garden = **2 (grade neutral)** **For science:** consider types of tools /materials students are using and context – weather calendar	ERROR: Participate in group songs such as "If You're Happy and You Know It" = **2 (grade neutral)** *SONG IS A PRESCHOOL /EARLY ELEMENTARY SONG AND IS NOT APPROPRITATE FOR*	Spec Ed experts SPT Templates

inappropriate for teens, 4=inappropriate for school age) (see also p. 3)	appro for elem, but weather maps more appro for high school	*MIDDLE /HIGH SCHOOL*	
6. Code the symbolic /non-symbolic accessibility of each alternate assessment SPT (see also p. 5)	Add two written numbers using manipulatives or pictures, or objects = **2= symbolic**	ERROR: Rote count to 5 = **1 = non symbolic** *STUDENTS DO NOT NEED SYMBOLIC COMMUNICATION SKILLS TO ROTE COUNT*	Spec Ed experts SPT Templates
7. Code the overall accessibility of AA SPTs (e.g., accommodations, supports, adaptations for sensory or physical impairments) (See also p. 5)			Spec Ed experts Minimizing Barriers checklist.
8. Code after reviewing the professional development materials	This is not required for the AA alignment study, but will provide useful information for RIDE	COMMENT: divide resources for this review	Spec Ed experts **Professional Development Resource checklist** Quality Indicator Checklist

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Determining Content and Performance Centrality

GRADE LEVEL STANDARD	AAGSE/Extended STANDARD	ALTERNATE ASSESSMENT ITEM	CONTENT CENTRALITY	PERFORMANCE CENTRALITY
1. *4th grade: Reading Comprehension*: The student comprehends selections using a variety of strategies.	Uses strategies to comprehend texts for basic understanding.		**Near Link**	**Yes = same as**
2.	Uses strategies to comprehend texts for basic understanding.	The teacher will read a short excerpt from a newspaper article. After completing the article the teacher will present 3 items (a photo or tactile representation that matches the main idea or topic of the article and two distracters). The student will identify which photo or tactile representation corresponds to the text they heard.	**Far Link**	**Yes = same as** (if the teacher had presented the representation during the reading of the paper, then it would have be a recall performance which would equate to a performance centrality rating of "some" but since the representation is not presented until after the article is finished, it requires the student to understand the article to identify the correct representation)
3. *6th grade: Patterns, relationships, and algebraic thinking:* The student uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes.	Understands and uses tables, symbols, variables, and formulas.		**Far Link** (Content is how one quantity changes when related quantity changes. Understanding data in various formats is on the way to understanding relationship of change between variables.)	**Some** (*Understanding* the data is a step to be able to *describing* the change.)
4.	Understands and uses tables, symbols, variables, and formulas.	Each day after gym, a student will be allowed to participate in an activity he or she finds very enjoyable. The student will begin to recognize a pattern by showing anticipation of the enjoyable activity before its	**No Link** (No match in content even if stretching to identify a pattern in assessment item)	**No** (No performance match between the two- show anticipation and understand and use)

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		onset.		
5. *10th grade: Biology.* The student knows that cells are the basic structures of all living things and have specialized parts that perform specific functions, and that viruses are different from cells and have different properties and functions.	Knows that viruses and bacteria can affect the health of organisms.		**Far Link** (The extended standard only addresses 1 part of the grade level standard.)	**Some** (Performance of knowing information is one piece of recognition difference between cells and viruses.)
6.	Knows that viruses and bacteria can affect the health of organisms.	When presented a poster or table containing information on healthy lifestyles in regard to sleep, exercise, and food and a table of an individual's weekly habits, the student will evaluate the individual's performance (e.g., excellent, good, fair poor).	**No** (no content overlap between healthy habits and viruses and bacteria)	**No** (knowing information versus evaluation (comparing information)
11. *5th grade science*: Explain how water and other substances change from one state to another (including melting, freezing, condensing, boiling, and evaporation).	Recognize and describe water as liquid, solid, or gas.			
12.	Recognize and describe water as liquid, solid, or gas.	When given 3 picture symbols (1 of water and 2 distracters), student will independently identify which picture is water.		

137 Coding protocols for AA alignment study adapted using NAAC Guidelines.

RHODE ISLAND ALTERNATE ASSESSMENT
Achievement Level Descriptors
Grade 4 Science

Proficient with Distinction: Students performing at this level submitted datafolios that demonstrate
- strong connections to the Science Alternate Assessment Grade Span Expectations (AAGSEs) in Earth Space Science, Life Science, and Physical Science through participation in instructional activities throughout the year that are consistently aligned with the Science Inquiry Constructs of Observing/Questioning an Experiment *or* Conducting an Experiment that follows procedures, uses equipment or measurement devices accurately to collect or record data
- participation in distinct standards based instructional activities that demonstrates consistent application of the Science AAGSEs across all collection periods within the context of the Structured Performance Tasks
- consistent progress in the Inquiry Construct during the year
- a high level of accuracy on skills within instructional activities and
- a high level of independence demonstrating skills within instructional activities

Proficient: Students performing at this level submitted datafolios that demonstrate
- consistent connections to the Science AAGSEs in Earth Space Science, Life Science, and Physical Science through participation in instructional activities throughout the year that are regularly aligned with the Science Inquiry Constructs of Observing/Questioning an Experiment *or* Conducting an Experiment that follows procedures, uses equipment or measurement devices accurately to collect or record data
- participation in distinct standards based instructional activities that demonstrates consistent application of the Science AAGSEs across most collection periods within the context of the Structured Performance Tasks
- consistent progress in the Inquiry Construct during the year
- adequate level of accuracy on skills within instructional activities and/or
- adequate level of independence demonstrating skills within instructional activities

Partially Proficient: Students performing at this level submitted datafolios that demonstrate
- inconsistent connections to the Science AAGSEs in Earth Space Science, Life Science, and Physical Science through participation in instructional activities throughout the year that may or may not be aligned with the Science Inquiry Constructs of Observing/Questioning an Experiment *or* Conducting an Experiment that follows procedures, uses equipment or measurement devices accurately to collect or record data
- participation in standards based instructional activities that demonstrates consistent application of the Science AAGSEs across few collection periods within the context of the Structured Performance Tasks
- inconsistent progress in the Inquiry Construct during the year
- minimal level of accuracy on skills within instructional activities and/or
- minimal level of independence demonstrating skills within instructional activities

Substantially Below Proficient: Students performing at this level demonstrate
- little or no connections to the Science AAGSEs in Earth Space Science, Life Science, and Physical Science through participation in instruction activities and connections may or may not be consistently aligned with the Science Inquiry Constructs of Observing/Questioning an Experiment *or* Conducting an Experiment that follows procedures, uses equipment or measurement devices accurately to collect or record data
- participation in standards based instructional activities that demonstrates consistent application of the Science AAGSEs across little or no collection periods within the context of the Structured Performance Tasks
- little or no progress in the Inquiry Construct during the year
- low level of accuracy on skills within instructional activities and
- low level of independence demonstrating skills within instructional activities

APPENDIX C.1

Alignment with Rhode Island's Elementary School Grade-Span Expectations - Science

PHASE I: Determine relationship between grade level/span expectations and content used to guide alternate assessment

Grade 4 **RI Science GSEs** **Domain: Life Science**	**Essence of GSE**	**2.** AA GSE - Content linked		**1.** List AA GSEs that match	Is content of AA GSE academic?	**3.** DOK (range/balance) of AA GSEs extensions					
		Grade ?	Content Centrality **0-Far-Near**		**If No – code + F or P**	1a Respond	1b **Repro-duce**	1c **Recall**	2	3	Performance Centrality **Y-Some-N**
LS1 (3-4) –1 **Students demonstrate an understanding of classification of organisms by …** **1a** citing evidence to distinguish between living and non-living things. **1b** identifying, sorting and comparing based on similar and/or different external features. **1c** recording and analyzing observations/data about external features (e.g., within a grouping, which characteristics are the same and which are different). **1d** citing evidence (e.g., prior knowledge, data) to draw conclusions explaining why organisms are grouped/not grouped together (e.g. mammal, bird, and fish).	Identify or distinguish living/nonliving; external features of organisms DOK 1 – identify, recall DOK 2- Classify, sort, compare, explain, observe DOK 3 – cite evidence, draw conclusions	GR 3-4 GR K-2	NL	LS1.1.1 LS1.1.2	F-LS1.1.1a	b	c, d				
LS1 (3-4)-2 **Students demonstrate understanding of structure and function-survival requirements by…** **2a** observing that plants need water, air, food, light and space to grow and reproduce; observing that animals need water, air, food, and shelter/space to grow and reproduce.	Basic needs of organisms DOK 1 – recall DOK 2- make observations	GR									

Grade 4 **RI Science GSEs** **Domain: LS**	**Essence of GSE**	**2.** AA GSE - Content linked		**1.** List AA GSEs that match	Is content of AA GSE academic?	**3.** DOK (range/balance) of AA GSEs extensions					
		Grade?	Content Centrality **0-Far-Near**		**If No – code** **+ F or P**	**1a** Respond	**1b** Repro-duce	**1c** Recall	**2**	**3**	Performance Centrality Y-Some-N
LS1 (3-4)–3 Students demonstrate an understanding of reproduction by … **3a** observing changes and recording data to scientifically draw and label the stages in the life cycle of a familiar plant and animal. **3b** sequencing the life cycle of a plant or animal when given a set of data/pictures. **3c** comparing the life cycles of 2 plants or 2 animals when given a set of data/pictures.	Life cycles & reproduction DOK 1 Record data, Draw/label DOK 2 – make observations; compare	GR									
LS1 (3-4)–4 **Students demonstrate understanding of structure and function-survival requirements by…** **4a** identifying and explaining how the physical structure/characteristic of an organism allows it to survive and defend itself (e.g. of a characteristic – the coloring of a fiddler crab allows it to camouflage itself in the sand and grasses of its environment so that it will be protected from predators). **4b** analyze structures needed for survival of populations of plants and animals in a particular habitat/environment	Structure & function DOK 1 identify DOK 2 explain relationships DOK 3 analyze	GR									

AA GSE	Foundation-al Skill -F		Pivotal Skill -P	Awareness/ Pre-Symbolic	Early Symbolic	Symbolic
LS 1 Living Organisms						
LS 1.1.1 (living/non)	LS1.1.1.a			×	×	×
LS 1.1.2						
LS 1.1.3 (plant/animal)						
LS 1.1.4	LS1.1.4a,b,c,d			×	×	×
LS 1.1.5						
LS 1.1.6						
LS 1.1.7 (classify)						
LS 4 Human Species						
LS 4.1.1						
LS 4.1.2	LS4.1.2a			×	×	×

LS1.1.1 Distinguish between living and non-living things.

LS1.1.1a Recognize self as living.

LS1.1.1b Recognize at least one characteristic of living things. (e.g., Living things need food and water.)

LS1.1.1c Discriminate between a living thing and a non-living thing.

(Suggestion: Select a living thing from a group of non-living things.)

LS1.1.4 Recognize external features common to familiar animals (including self).

LS1.1.4a Recognize legs. (e.g., dog, cat, person)

LS1.1.4b Recognize head. (e.g., dog, cat, person)

LS1.1.4c Recognize tails. (e.g., dog, cat)

LS1.1.4d Recognize arms. (e.g., person)

LS4.1.2 Identify patterns of human health and disease.

LS4.1.2a Recognize feelings of being sick.

Reviewer(s) _____ **Date:** _____

Alternate Assessment Alignment with Rhode Island's Grade-Span Expectations - S

APPENDIX C.3

Determining the relationship between RI AA Test Blueprint and Teacher-Designed Assessment Tasks

1. Grade: 4 8 11 Science Inquiry Student ID:	**2.** Is there a work sample? √	**3.** Science Inquiry assessed with *SPT* Inquiry Q-P-C-A	 Domain L-ES-P	**4.** Age/ Grade Appro Rating 1-2-3-4	5. Content Centrality with INQUIRY 0=None P=Partial F=Full	**6.** DOK (range/balance) of AA GSEs extensions Identify AA GSE parts (C#4) 1a Respond touch	1b Repro-duce copy	1c Recall, identify match	2 Compare sort	3 analyze	7. List specific INQUIRY skills the task actually assesses (not the knowledge)
Data Col1 1: **SPT 1-2-3** **3.2.1a** (p61)	**X** **(p61)**	***C*** **(p61)**	**P** **(p61)**	**1**	**F** **(equip, steps, data recorded)**		**Follow each step**	**record**	**observe**		1. Use equipment 2. follow step-by-step 3. observe attract or not attracted 4. Record data
Data Col1 2: **SPT 1-2-3** **No assessment**											
Data Col1 3: **SPT 1-2-3** **No assessment**											
TOTALS	1		**L-0** **ES-0** **P-1**	**1-1** **2** **3** **4**	**0-** **P-** **F-1**		1	1	1		

Reviewer(s) _____ **Date:** _____

Alternate Assessment Alignment with Rhode Island's Grade-Span Expectations - Science

1. **Grade: 4 8 11** **Science Knowledge** **Student ID:**	**2.** **Is there a work sample?** √	**3.** **Science content assessed with *SPT*** **AAGSE**	**Domain** **L-ES-P**	**4.** **Age/ Grade Appro Rating** **1-2-3-4**	5. Content Centrality with AAGSE 0=None P=Partial F=Full	**6.** **DOK (range/balance) of AA GSEs extensions Identify AA GSE parts (C#4)** **1a** Respond **touch recognize**	**1b** **Repro-duce copy**	**1c** **Recall, identify match**	**2** **Compare sort**	**3** **Analyze**	**7.** **Any Comments** (for PD purposes)
Data Col1 1: **SPT 4-5-6**	X	PS 3.2.1a	P	1	F						
Data Col1 2: **SPT 4-5-6** **No assessment**											
Data Col1 3: **SPT 4-5-6** **No assessment**											
TOTALS	1		L- ES- P-1	1-1 2 3 4	O- P- F-1						

Reviewer ID(s):
Date:

Science

APPENDIX C.4

Alignment Criterion #5: Differentiation of Content across Grades

Content Differences from grade ___ to grade ___ Review of: RI AA GSEs _____ RI AA SPTs _____		
Differentiation (across grade levels/spans)	**List Examples (use codes)**	**Comments/Notes of Interest**
Broader **Increasing breadth of content** (e.g., broader application of target skill such as expanding the types of graphic displays of data used in mathematics; more features of text – index, captions; expanding types of energy sources or materials investigated in science)		
Deeper **Increasing depth of content** (e.g., deeper mastery of target skill, such as going beyond basic recall to interpretation or analysis or to more complex/abstract content)		
New **New content introduced** (e.g., content/concepts not covered in prior grade, such as new strands of content or content more appropriate for older learners)		
Identical/Same Content As adjacent grade span		

Reviewer: _____

Date:

APPENDIX C.5

Criterion # 7: Minimizing Barriers for Students Checklist

Instructions: Using the assessment as a whole (including assessment materials and administration manual), consider whether a student with each of the characteristics listed in the first column (see table on page 3) would be able to complete the assessment with the level of independence and accuracy expected by the state. Indicate in the other columns whether the student would be able to show what s/he knows on the assessment, based on the kinds of supports provided.

Definitions:

No provision: This type of student would not be able to demonstrate knowledge/skill on the assessment; needed supports are nonexistent or insufficient to help this type of student demonstrate learning.

→ If you answer "yes" to "no provision" in the first column for a type of student, skip to the next row.

Flexibility built into tasks: This type of student would be able to demonstrate knowledge/skill because of flexibility in administration. Flexibility is built into the items (e.g., teacher choice/design in portfolio, scaffolding in scripted performance events).

Accommodations: This type of student would be able to demonstrate knowledge/skill because of allowable accommodations. Accommodations are not built into items/tasks, but are described in the test administration materials and may be applied to this type of student. Accommodations do not change the construct being measured.

Modifications: This type of student would be able to demonstrate knowledge/skill because of modifications in assessment materials, administration procedures, etc. Modifications are not built into items/tasks, but are described in the test administration materials and may be applied to this type of student. Modifications do change the construct being measured.

Examples for Minimizing Student Barriers

Disability	Can do	w/ accommo	w/ modify/ support	No provision
VI./ blind	Select cube from mix of items Select hat from items to indicate what Sara bought in story	Student can use abacus or talking calculator Braille vs. printed word answers	Student can use objects to count out/ indicate answer Student can show understanding of story using raised pictures or objects	Item is point to pictures or other printed text and no modification is described
Deaf/ HI	Directions are printed with words/ pictures	Directions can be signed; story can be signed	Alternative provided for listening comprehension or phonics section	Phonemic awareness items and no alternatives given
Deaf/blind	Item requires motor manipulation- e.g., assembly of shape puzzle	Can sign or provide tactile support to show what is expected for task like the shape puzzle	Can use an object book for a story; Can use objects for math problem	Items require hearing or vision and no modification for deaf/blind specifically described
Nonverbal- uses words or pictures	Task does not require a verbal response- e.g., select correct picture	Student can type or sign exact response	An expressive item is made receptive with an array of options to respond (instead of "what sound is first in 'sun'" changed to which one begins with the "s" sound)	Test requires a verbal response and not directions given for nonverbal students
Nonverbal and nonsymbolic communication	Task can be completed using real life materials/ scenario- e.g., choose a book; give each plate a napkin	(probably not an option as any change to be nonsymbolic will alter content)	Changed to nonsymbolic response, so student can show partial achievement….e.g., select an object that goes with story	Most test items assume at least picture use and no alternatives are described
Verbal –no use of hands	Task requires a verbal answer	Student can verbally direct person to make each response (e.g., to show steps of a math problem)	Task can be simplified for brief verbal response to show some achievement- e.g., indicate yes/ no	Many test items require a motor response and no alternatives are described

Reviewer: _____

Date:

Criterion #7: Minimizing Barriers for Students Checklist

Circle Subject: Reading Writing Math Science

Grade:

Type of student	**No provision** for students with these characteristics	Can do alternate assessment as designed, with **flexibility built into tasks**	Can do with **accommodations** available/ stated (no change in construct measured)	Can do with **modifications** or supports stated (may alter construct being measured)
Visual impairment/ legally blind	Y	Y N	Y N	Y N
Hearing impaired	Y	Y N	Y N	Y N
Deaf/ blind	Y	Y N	Y N	Y N
Nonverbal; responds using printed words	Y	Y N	Y N	Y N
Nonverbal; responds using pictures	Y	Y N	Y N	Y N
Nonverbal; responds using manual signs	Y	Y N	Y N	Y N
Nonverbal; responds using eye gaze	Y	Y N	Y N	Y N
Verbal but no use of hands	Y	Y N	Y N	Y N
Communicates with objects or by indicating yes/no	Y	Y N	Y N	Y N

Does the assessment include any way of capturing responses or any responses for students who do not yet have clear, intentional communication even at the non-symbolic level?	Yes	No
Are the accommodations, modifications, and supports that can be used clearly defined to the extent that standardized administration of the assessment is possible?	Yes	No
Comments/Describe where supporting evidence can be found:		

Reviewer: _____
Date:

APPENDIX C.6

Criterion #8: PROGRAM QUALITY INDICATORS CHECKLIST

Does the instructional program provide evidence of:	**Yes/No**	**If so, what is evidence?** Note document & page numbers, with brief example(s)
1. Opportunities for instruction in general education classrooms for students with significant cognitive disabilities?		
2. Opportunities for instruction with typical peers for students with significant cognitive disabilities?		
3. Opportunities for students with significant cognitive disabilities to make choices, problem solve, self-advocate, self-evaluate?		
4. The provision of assistive technology for students who need it?		
5. The access and use of typical classroom resources within instruction (e.g., science kits, grade level books, textbooks)?		
6. Literacy being promoted across the content areas for students with significant cognitive disabilities (e.g., the pairing of text with picture symbols and objects)?		
7. The meaningful linking of academic skills in functional contexts?		
8. Other? [Additional comments on back]		

Reviewer: _____

Date: