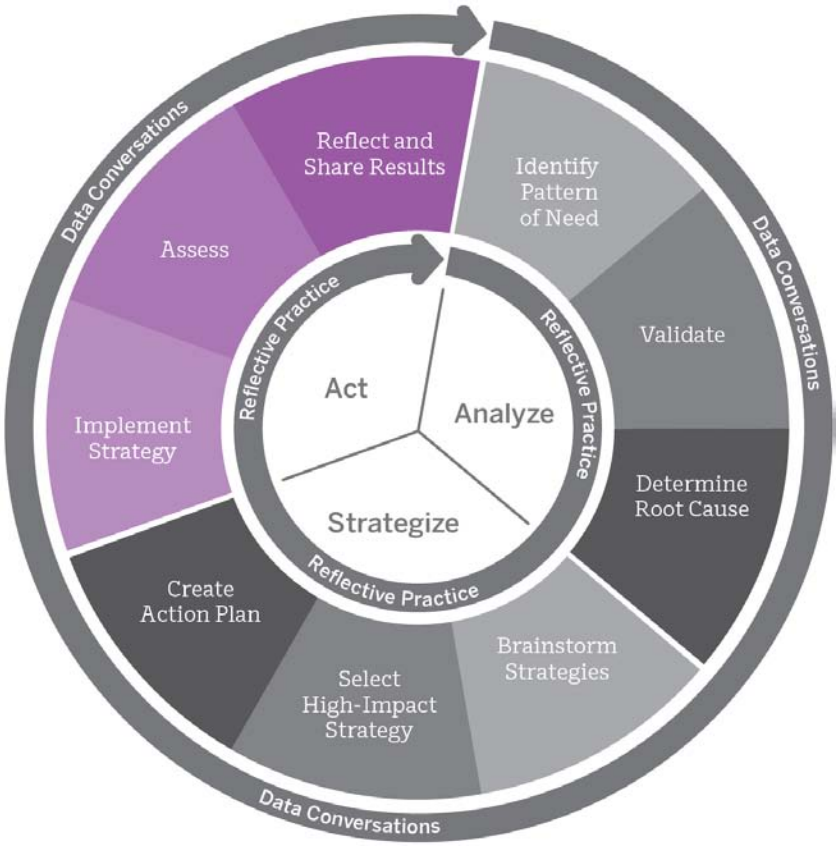
Act

Data Use Professional Development Series
Rhode Island Department of Education



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Act: Completing the Cycle of Inquiry

Overview

In the last stage of the Cycle of Inquiry, Act, we implement the high-impact strategy, assess the results, and reflect and share results with others. It is important to fully complete a Cycle of Inquiry to know whether our action plan has adequately addressed our pattern of need. If it has, then we can move on and identify another pattern of need. If our action plan has not adequately addressed our pattern of need, then we need to continue the current Cycle of Inquiry and choose another high-impact strategy and create a new action plan to address the original pattern of need.

The exercises in this Act Turnkey packet focus on:

- Implementing the Action Plan
- Assessing the High-Impact Strategy
- Using Data Displays to reflect and share results

Exercise 5.1: Implementing and Assessing a High-Impact Strategy

Purpose:

Educators will learn the importance of implementing and assessing a high-impact strategy in a Cycle of Inquiry.

Objectives:

Upon completion of the Exercise 5.1, educators will be able to:

- Use the *Long Cycle of Inquiry Template* to complete a long Cycle of Inquiry.
- Assess the effectiveness of their high-impact strategy.

Materials Needed (for each educator):

- *Long Cycle of Inquiry Template*
- Data related to a long Cycle of Inquiry that the educator has implemented or is currently implementing.

Time:

Approximately 20 minutes

Instructions:

1. Provide educators with a copy of the *Long Cycle of Inquiry Template*.
2. Talk through the template with the educators. Answer any questions educators may have.
3. Discuss the importance of completing a Cycle of Inquiry and focusing on the steps in the Act stage.
4. Have each educator complete the Analyze and Strategize portion of the template related to a long Cycle of Inquiry that they have implemented or are currently implementing.

5. Have educators pair up and discuss the the implementation and assessment of their long Cycle of Inquiry, using the questions on the template as a guide. Encourage educators to probe and ask questions of their partners, to help push their thinking.

    - With whom did you implement the high-impact strategy?
    - When and how did you implement? At which checkpoints did you adjust implementation?
    - How did you assess effectiveness? What measures/assessments did you use?
    - Did your high-impact strategy work? How do you know?
    - What are your next steps?

6. Provide a few minutes for educators to complete the Implement and Assess portions of the *Long Cycle of Inquiry Template*.

7. Invite educators to share out about completing their long Cycles of Inquiry and the process of using the *Long Cycle of Inquiry Template*. Answer any questions educators may have.

6. When the discussion concludes, ask each educator to complete the *Exercise 5.1 Reflections* handout.

Exercise 5.1: Long Cycle of Inquiry

Analyze

Data Source	
Pattern of Need	
What additional data source(s) will you use to validate?	
Refined Pattern of Need	
Root Cause	

Strategize

High-Impact Strategy	

Create Action Plan	What is the goal of the Action Plan? How does this goal support the school's other goals/plans?	
	□ Schoolwide □ Grade Level □ Whole Class □ Small Group	
	List the steps you will need to take to reach your goal:	Timeline:
	What are the main resources you will need?	
	How and when will you assess whether your high-impact strategy is working? What measures/assessments will you use? Where are the checkpoints along the way that will help you adjust, if needed?	
	What will success look like as measured by your identified measures/assessments? How will you know that you've reached it?	
	What stakeholders will receive a copy of your Action Plan?	

Act

Implement	With whom did you implement the high-impact strategy?
	When and how did you implement? At which checkpoints did you adjust implementation?

Assess	How did you assess effectiveness? What qualitative or quantitative evidence does your measure(s) provide?
	Did your high-impact strategy work? How do you know?

Reflect and Share Results	Reflect on the successes and challenges of this process.
	With whom will you share the results and how? What data displays will you use?

Next Steps	

Exercise 5.1: Reflections

Describe your process for assessing whether or not your high-impact strategy worked in a Cycle of Inquiry.

Rate your ability to implement and assess in a Cycle of Inquiry.

Cannot do it	Can do it with significant support	Can do it with some support	Can do it independently
1	2	3	4

Information I still need or want to pursue further:

Data Displays

Overview

The last step in the Cycle of Inquiry is to reflect and share results. When we are choosing to share our data with others, we need to make decisions about the best way to share it. One way to share data is through a visual data display. It is also important to understand how to read a data display and understand the message a data display is communicating.

Vocabulary

Data Display: A data display is a visual representation of data that conveys information in a table or a graph. The point of a data display is to communicate the message or the "story" of the data.

This module provides opportunities to work with data displays in two ways: 1) Reading a Data Display and 2) Choosing a Data Display.

Objectives:

Upon completion of the Data Displays module, educators will be able to:

- Define "data display"
- Articulate the process for reading a data display
- Articulate the process of choosing the appropriate data display to represent data

Opening Discussion: Data Displays

Discuss the following before starting the first exercise. This discussion allows you to unpack educators' varying approaches to brainstorming.

1. How do you "make meaning" of a visual data display?
2. What steps can you take to understand what a visual data display is communicating?

Exercise 5.2: Reading a Data Display

Purpose:

Educators will practice using a protocol to read a data display.

Objectives:

Upon completion of Exercise 5.1, educators will be able to:

- Use a protocol to read a data display.
- Make inferences and/or conclusions based on a data display.

Materials Needed (for each educator):

- Two copies of *Protocol: Reading a Data Display* handout
- *Reading a Data Display – Sample 1* handout
- *Reading a Data Display – Sample 2* handout
- *Exercise 5.1 Reflections* handout

Time:

Approximately 15 minutes

Instructions:

1. Provide educators with two copies of the *Protocol: Reading a Data Display* handout.

2. Talk through the protocol with the educators. Answer any questions educators may have.

3. Provide each educator with copies of the *Reading a Data Display – Sample 1* and *Reading a Data Display – Sample 2* handouts and have them practice using the protocol with the sample data displays.

4. After reading each sample data display, have the educators write one sentence that answers the question, "What is one inference or conclusion you can make by looking at the data display?"

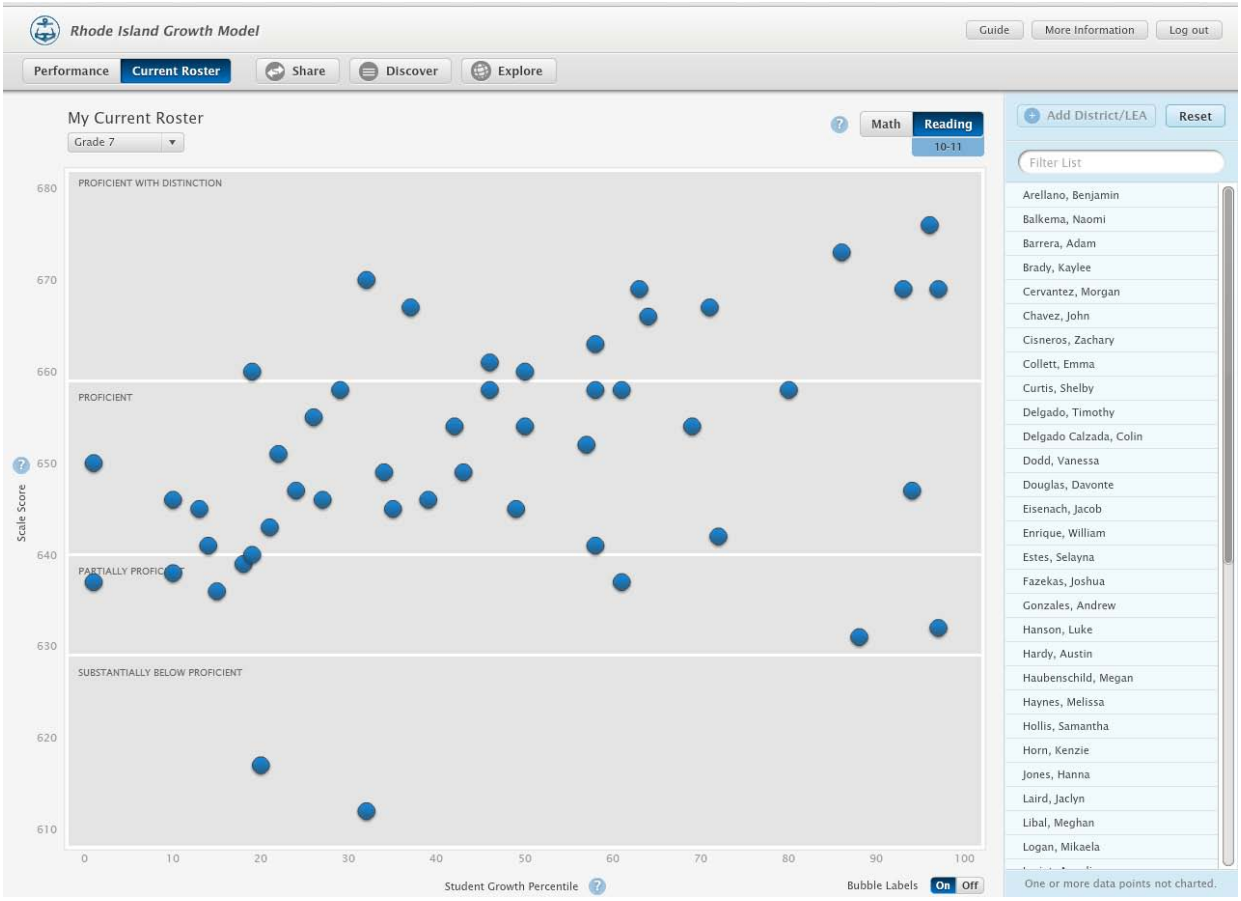
5. Invite educators to share out the process of using the protocol. Also, invite educators to share out their conclusions based on the two data displays.

6. When the discussion concludes, ask each educator to complete the *Exercise 5.1 Reflections* handout.

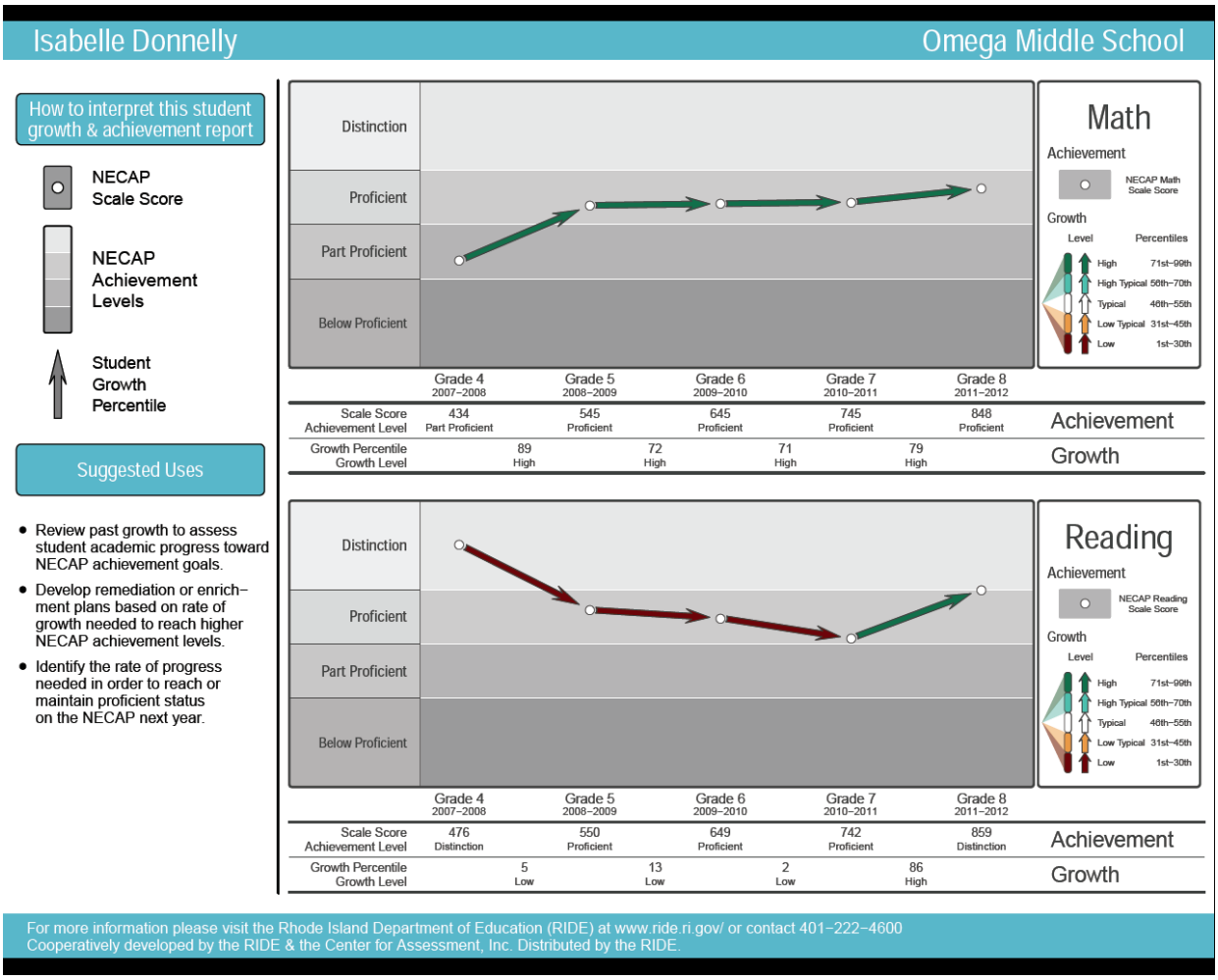
Exercise 5.2 Protocol: Reading a Data Display

Protocol	Notes
Step 1: What do the text and labels convey? • Title or heading • Label on the vertical axis (the y-axis) • Label on the horizontal axis (the x-axis) • Text on or around the graphic • Symbols or keys indicating what different colors or sections mean Step 2: What is the underlying context of the visual data display? • Which population(s) does the visual represent (e.g., a particular class, a whole school, all third graders, all RI students)? • What units are used (e.g., time, scores, percentages)?	
What is one inference or conclusion you can make by looking at this data display? Write one sentence:	

Exercise 5.2: Reading a Data Display – Sample 1



Exercise 5.2: Reading a Data Display – Sample 2



Exercise 5.2: Reflections

Describe how you make inferences and/or conclusions about a data display.

Rate your ability to use a protocol in reading a data display.

Cannot do it	Can do it with significant support	Can do it with some support	Can do it independently
1	2	3	4

Information I still need or want to pursue further:

Exercise 5.3: Choosing a Data Display

Purpose:

Educators will examine the purposes of different types of data displays.

Objectives:

Upon completion of Exercise 5.2, educators will be able to:

- Articulate the process of choosing the appropriate data display to represent data
- Identify different types of data displays

Materials Needed:

- *Choosing a Data Display – Sample 1* handout
- *Choosing a Data Display – Sample 2* handout
- *Types of Data Displays* handout
- Fall 2012 NECAP Reading Tests handout
- *Exercise 5.2 Reflections* handout

Time:

Approximately 15 minutes

Instructions:

1. Provide each educator with one of two samples: either *Choosing a Data Display – Sample 1* or *Choosing a Data Display – Sample 2* handout.

2. Have each educator review his or her sample data display and answer the questions on the handout:
   - What kind of data is displayed?
   - What is the purpose of the data display?
   - Why did the author choose this type of data display to represent this information?

3. In small groups, have educators present their data display and their answers to the questions. Discuss both data display examples in a large group share out.

4. Provide each educator with the *Types of Data Displays* handout. Review the different types of data displays on the handout and guide conversation to connect thinking to the previous discussion.

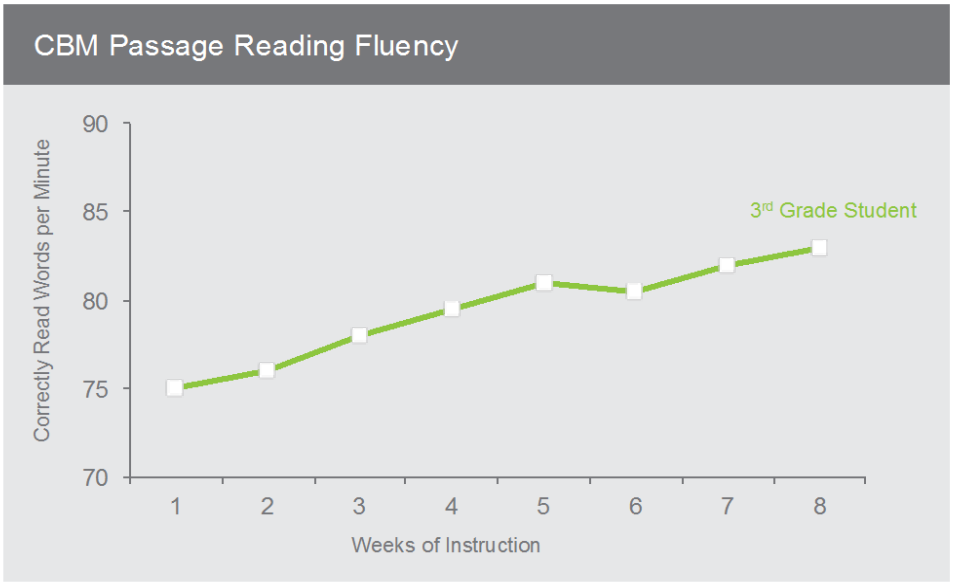
5. Provide each educator with the Fall 2012 NECAP Reading Tests handout. In either small groups or one large group, have educators discuss which data display(s) represent the data appropriately and which one(s) do not. Encourage educators to look back at the *Types of Data Displays* handout as a reference. Make sure to point out that the line graph on the Fall 2012 NECAP Reading Tests handout is incorrect.

6. When the discussion concludes, ask each educator to complete the *Exercise 5.2 Reflections* handout.

Exercise 5.3: Choosing a Data Display

Review the data display and discuss the following questions:

Sample 1: CBM Passage Reading Fluency



What kind of data is displayed?

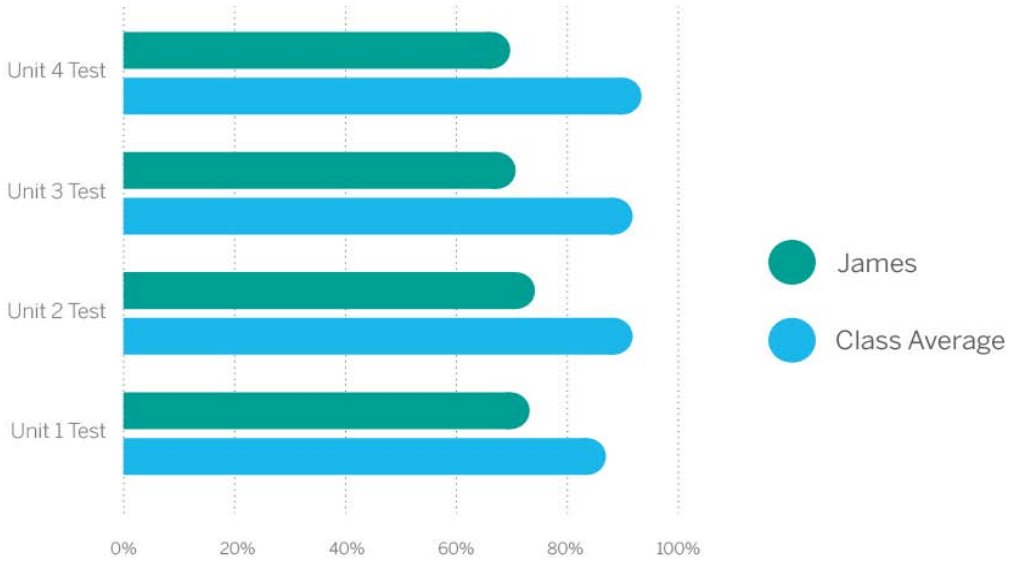
What is the purpose of the data display?

Why did the author choose this type of data display to represent this information?

Exercise 5.3: Choosing a Data Display

Review the data display and discuss the following questions:

Sample 2: James' Math Unit Test Performance, Percentage Correct



What kind of data is displayed?

What is the purpose of the data display?

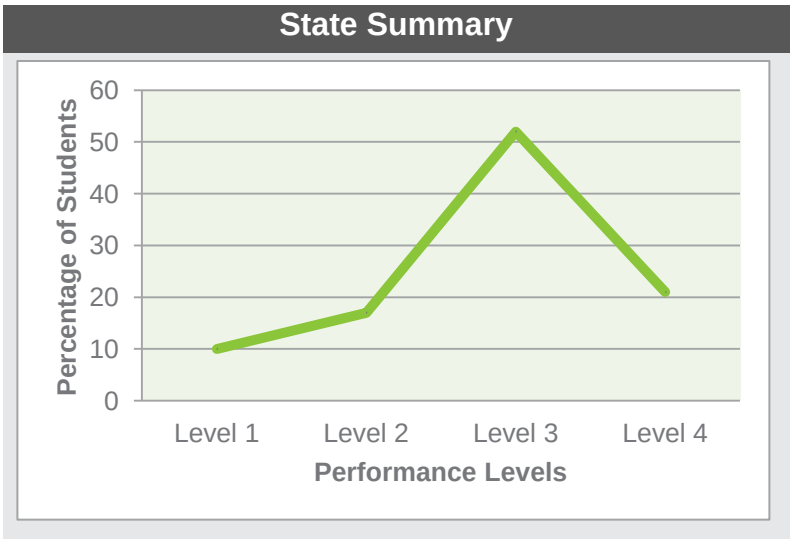
Why did the author choose this type of data display to represent this information?

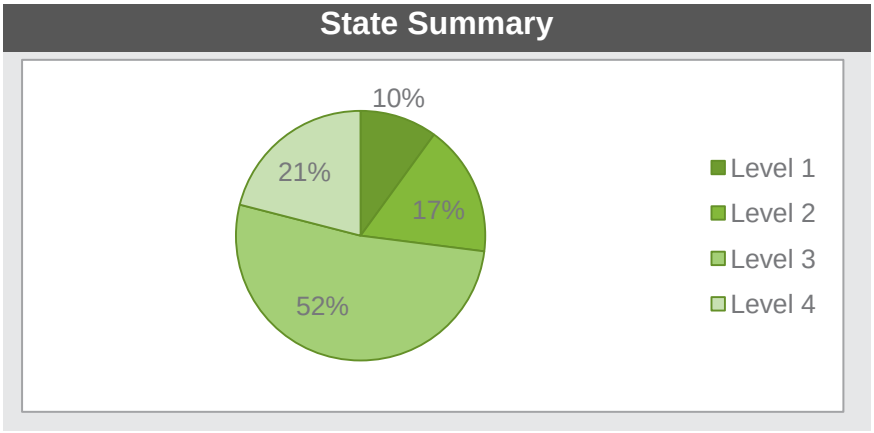
Types of Data Displays

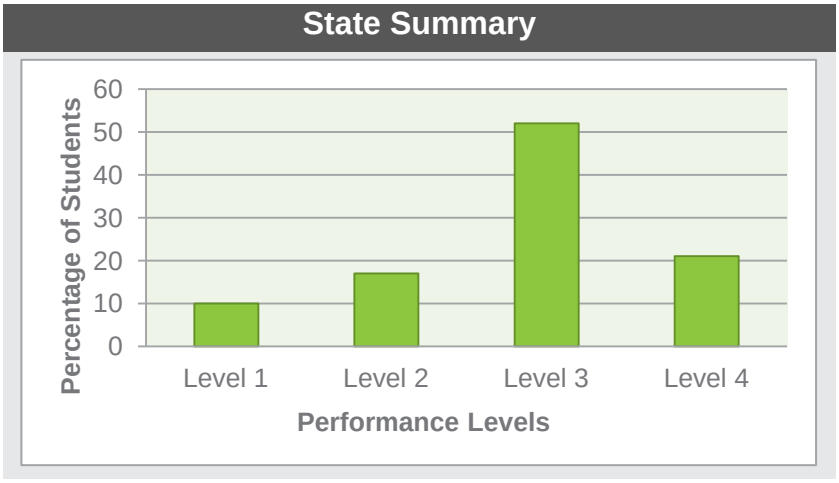
Type	Purpose	Sample Questions
Bar Graph	• Compares quantities in particular categories or groups • Displays relationships	• What percentage of students in each grade level achieved proficiency? • How do female students compare to male students?
Line Graph	• Shows changes in data over time at equal intervals • Displays trends over time, such as performance or growth	• How did the fourth graders from Wilson Elementary perform on the NECAP over the last five years? • How has an intervention over the last 8 weeks increased the number of words a student can read per minute?
Pie Chart or Circle Graph	• Compares parts of a whole • Shows percentages or proportions of data as it relates to the whole	• What is the relative distribution of student scores across performance levels in Ms. Park's class?
Scatter Plot	• Shows relationship between two different measures	• What is the correlation between a student's grade on a unit assessment and her NECAP score?

Sample Data Displays: Fall 2012 NECAP Reading Tests

Which data display(s) represents the data appropriately?







Exercise 5.3: Reflections

Describe the process you would use to determine the appropriate type of data display to use when displaying data.

Rate your ability to choose the appropriate type of data display when displaying data.

Cannot do it	Can do it with significant support	Can do it with some support	Can do it independently
1	2	3	4

Information I still need or want to pursue further: