

**SPT 08-2: The student will demonstrate the concept within a science investigation which includes observing/questioning, planning, conducting, and analyzing.**

**Grades 6-8  
Standards Based  
Integrated Science  
Unit  
Overview**

**Description of the Standards-Based Science Unit:**

**O/Q-**Students are introduced to the rain gauge and thermometer and what each tool is used for. The students develop a research questions “When will it be the hottest?” When will it be the rainiest?” When will it be the sunniest?

**P-** Students develop a schedule of what students will be assigned each day to collect data. They develop a chart to record daily data and a classroom chart to keep a running total of each day’s data (sun, temperature, rain)

**C-** Students record observations and data from the rain gauge and thermometer and observations (presence of sun) on their daily weather chart then chart it on the classroom chart. At the end of each week, students use their data to summarize their results.

**A-** Students compare their results to determine the month with the most rain and the highest temperature to answer their research question.

**INQUIRY CONSTRUCT: CONDUCTING**

SPT 08-2: Use data to summarize results

At the end of each week, students are assessed on their ability (accuracy and independence) to summarize the weather data they collected each week by: (1) Adding the total days of rain each week and (2) calculating the average temperature for each week.	Higher Level Learners
Students record data each day. At the end of each week, students are assessed on their ability (accuracy and independence) to summarize their weather data each week by: (1) Adding the total days of rain each week and (2) calculating the average temperature for each week.	Middle Level Learners
Each day, students go outside and feel the rain gauge: a tool that collects rain. Students feel the rain gauge, and record WET (MJ symbol for wet with a wet sponge attached) or DRY (MJ symbol for dry with a dry sponge attached). Students take their selected symbol to the class chart and place their symbol in the day’s box. Students are assessed on their ability (accuracy and independence) in summarizing their weather data each week by adding the total number of days of rain (WET) each week. If possible, students can also identify “warm” or “cold” each day and summarize whether the week was mostly warm or cold days at the end of each week.	Lower Level Learners

**KNOWLEDGE**

ESS 1.2.13a Use observations and one or more data collection tools to describe daily weather.

During the conducting part of the investigation, students are assessed on their accuracy and independence in reading the thermometer on an hourly basis during sunny days and identifying the time of the highest temperature, and relate it to the time to the presence of the sun. Students are also assessed on their accuracy and independence in reading the rain gauge to describe rainfall.	Higher Level Learners
During the conducting part of the investigation, students are evaluated on their accuracy and independence in describing the temperature (either reading a standard thermometer or one modified with clearly marked ranges of temperature (i.e. 20°s, 30°s, 40°s). Students are also assessed on their accuracy and independence in reading the rain gauge.	Middle Level Learners
During the conducting part of the investigation, students feel the rain gauge (reach to the rain gauge, and touch the bottom to see if rain has occurred) and are assessed on their accuracy and independence in selecting the corresponding symbol WET (MJ symbol for wet with a wet sponge attached) or DRY (MJ symbol for dry with a dry sponge attached). If possible, students can also identify “warm” or “cold” once outside as an additional observation (assessed on accuracy and independence).	Lower Level Learners

## Grades 6 - 8

### Standards Based Integrated Science Unit

#### MATHEMATICS

SPT 67-1: The student will use number concepts to solve everyday problems.

**How will the student apply the AAGSE and be evaluated in the integrated unit?**

**NO 6.5 Identify the larger of two written numbers.**

**Higher Learners:** Each student will be assigned two hours of the day to read the outside thermometer hourly and write down their two readings. Students will circle the larger of the temperatures collected. Students will be evaluated on their accuracy and LOA needed to identify the larger number in the two written numbers (temperatures).

**Moderate Learners:** Each student will be assigned two hours of the day to read the outside thermometer hourly and write down their two readings. Students will use a recording sheet that has a clock face that clearly marks the two assigned times. Students will circle the larger of each pair of numbers. Students will be evaluated on their accuracy and LOA needed to identify the larger number in the two written numbers (temperatures).

**NO 5.2b Compare two quantities as same, more, or less using like items when arranged differently (number conservation).**

**Lower Learners:** To assist in preparing materials each morning for temperature readings, the students are given opportunities to count out quantities of pencils placing them in separate bins (each bin has 3 pencils). As a final check, students compare the quantities of two bins. Students will be prompted to feel the first bin, feel the second bin and then asked if it is the same. Students will be evaluated on their accuracy and LOA needed to compare the two quantities using the following task analysis: 1- Feel the first bin's quantity; 2-feel the second bin's quantity; 3- select a symbol from a field of two (same: MJ symbol "same" with a "=" sign and a second symbol). Students will be given additional opportunities to compare quantities of science materials.

**What student work will be used to document student application of the AAGSE?**

Higher and Moderate Learners will submit their graded lab recording worksheets. Lower Learners will use a photo evidence sheet with a photo that clearly demonstrates the student comparing two quantities.

#### READING

SPT 67-6: The student will use informational text to gather and interpret information to gain knowledge and expand knowledge on a specific topic.

**How will the student apply the AAGSE and be evaluated in the integrated unit?**

**IT 7.3 Using explicitly stated information to answer questions about the text.**

**Higher Learners:** At the end of each day, students place their highest temperature, the time of the highest temperature, and if the sun was out on a class chart (student created informational text). Students will be asked to answer 3 questions using this data (e.g. (1) What was the highest temperature?; (2) When was the temperature the highest, (3) Was it the sun out during the highest temperature? Students will be evaluated on their accuracy and LOA needed to use the class information to answer the 3 questions about their science data.

**Moderate Learners:** Students will use an MJ written worksheet (with questions) to document their answers to key questions. Students will mark the sheet by selecting the correct answer (from a field of 2 answers). Students will be evaluated on their accuracy and LOA needed to complete the 3 questions.

**IT 8.1 Identifying the general topic of a text**

**Lower Learners:** Students will use an MJ written lab report with objects to identify the lab report. The title will be in MJ symbols "temperature report" with objects attached (thermometer and sun). Students will feel/read the lab report and will be asked "what's the report about?" Students will select the correct topic (from a field of 2 or 3 objects). Students will be evaluated on their accuracy and LOA needed to identify the general topic of the lab report (informational text).

**What student work will be used to document student application of the AAGSE?**

Higher and Moderate Learners will submit their graded worksheets. Lower Learners will use a photo evidence sheet with a photo that demonstrates them reaching to select an answer by touching the representational objects.