

2019



George Washington Carver  
Engineering and Science High School  
Summer Enrichment

8<sup>th</sup> Grade Science

Due Date: September 3<sup>rd</sup> (first day of school)

Worth: 1 first quarter assessment grade

1. **Choose a cycle in nature that you are interested in observing this summer.** (Examples: the moon going through its phases, clouds in different weather systems, rising and falling tides, the movement of the sun from morning to evening, a flower garden that blooms and fades, etc.)

2. **Choose a strategic time frame for your observations.**

You will need to observe changes in the cycle. These observations can be brief (even 5 minutes should be enough). You will need to make 7-10 observations that capture the full course of the cycle you've chosen. (If you are observing the moon, space your observations out over the course of a month. If you are observing the tides, you may make several observations each day throughout the course of about a week.)

3. **Complete a Data Log**

Complete the attached log to record changes in the cycle that you are observing. You will be asked to find a way to measure the changes you observe. (Be inventive. For the moon, you could trace the changing shape of the moon on tracing paper as you observe it through a window each night. For tides, you could place a stick in the sand and notice when the water level reaches a certain height.) **YOU ARE ONLY RECORDING OBSERVATIONS THAT YOU PERSONALLY OBSERVE. DO NOT DO ANY OUTSIDE RESEARCH ABOUT THE CYCLE YOU HAVE CHOSEN (no internet, no books etc. should be used in your analysis or conclusion. If you use a secondary source of data you will not receive credit for the assignment!)**

4. **Create 3 artistic pieces that capture "snapshots" of 3 distinct stages in your chosen cycle. (Do this on a separate "paper" not on the data log).**

For example, as a way of showing the movement of the sun from morning to evening, you may choose to create 3 landscape watercolor paintings at the beach showing change in light and shadows in the morning, at noon, and at sunset.)

- **Chosen medium:** Media to consider are watercolors, pencil, charcoal, clay, fabric, photography, collage, etc.

5. **Create a list of 10 science vocabulary words that go along with the investigation you have finished. Make sure to define each vocabulary word and demonstrate how they relate to both your investigation and science class in general.**

Name: \_\_\_\_\_

# DATA LOG

Cycle: \_\_\_\_\_

Location: \_\_\_\_\_

(should stay the same for each observation)

	Observation #1	Observation #2	Observation #3	Observation #4	Observation #5	Observation #6
<b>Date</b>						
<b>Time (note AM or PM)</b>						
<b>Observations as Qualitative Data</b> What do you see, smell, or touch? What physical properties do you notice? Be specific: notice color, shape, texture, size, etc. Be consistent with what you observe each time.						
<b>Measurements or Quantitative Data</b> Find a scientific way, which may be inventive, to measure the changes you observe. This can be as simple as marking the level of the tide on a stick in the sand, or tracing the shape of the moon through its phases but use numbers/units.						

	Observation #7	Observation #8	Observation #9	Observation #10	Analysis	Conclusion
<b>Date</b>					Whap pattern or trends do you notice?	What can you conclude about your analysis of this cycle?
<b>Time (note AM or PM)</b>					WRITE THE ANALYSIS AND CONCLUSION ON A SEPARATE SHEET.	CONCLUDE ABOUT THE PATTERNS AND TRENDS YOU HAVE OBSERVED.
<b>Observations as Qualitative Data</b> What do you see, smell, or touch? What physical properties do you notice? Be specific: notice color, shape, texture, size, etc. Be consistent with what you observe each time.					1. ANALYZE A PATTERN /TRENDS OBSERVED IN THE CYCLE.  2. IDENTIFY TWO VARIABLES AND THE EFFECT OF THE INDEPENDENT VARIABLE ON THE DEPENDENT VARIABLE.  3. HYPOTHESEZE .... IF _____ THEN _____.	WHAT <u>CAUSED</u> THE PATTERN YOU IDENTIFIED?  HOW DOES THE PASSAGE OF TIME AFFECT THE <b>SUBJECT YOU</b> ARE OBSERVING? (A CYCLE)?  DO YOU THINK THERE ARE ANY OTHER FACTORS THAT AFFECT YOUR SUBJECT?
<b>Measurements or Quantitative Data</b> Find a scientific (inventive way) to measure the changes you observe. This can be as simple as marking the level of the tide on a stick in the sand, or tracing the shape of the moon through its phases but use numbers/units.						ARE THERE ANY ERRORS THAT MAY HAVE AFFECTED YOUR DATA?