

# Endeavor

STEM Teaching Certificate Project



## Life on Mars?

Grade(s): *4th*

Lesson Duration: *Class 2 weeks*

Course Name(s): *4<sup>th</sup> grade science*

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### BIG IDEAS

*Could there be life outside of Earth?*

*Is there life on Mars?*

*Did Mars have an environment that could have supported life?*

### EDUCATION STANDARDS

*4-ESS1- Earth's place in the universe.*

*4-ESS2- Earth's systems*

NGSS Performance Expectation(s):

*4-ESS1-1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.*

*4-ESS2-2 Analyze and interpret data from maps to describe patterns of the Earth's features. (This will be applied to Mars.)*

Science and Engineering Practices:	Disciplinary Core Ideas:	Crosscutting Concepts:
<p><b>Constructing Explanations and Designing Solutions</b>            Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing</p>	<p><b>ESS1.C: The History of Planet Earth</b></p> <ul style="list-style-type: none"> <li>● <i>Local, regional, and global patterns of rock formations reveal changes over time due to earth</i></li> </ul>	<p><b>Patterns</b></p> <ul style="list-style-type: none"> <li>● <i>Patterns can be used as evidence to support an explanation. (4-ESS1-1, 4-ESS2-2)</i></li> </ul> <p><b>Connections to Nature</b></p>

<p><b>explanation that specific variables that describe and predict phenomena and in designing multiple solutions to design problems.</b></p> <ul style="list-style-type: none"> <li>● Identify the evidence that supports particular points in an explanation. (4-ESS1-1)</li> </ul> <p><b>Planning and Carrying Out Investigations</b>  Planning and carrying out investigations to answer questions or test solutions to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <ul style="list-style-type: none"> <li>● Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon. 4-ESS2-1</li> </ul> <p><b>Analyzing and Interpreting Data</b>  Analyzing data in 3-5 builds on K-2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.</p>	<p><i>forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed. (4-ESS1-1)</i></p> <p><b>ESS2.A Earth Materials and Systems</b></p> <ul style="list-style-type: none"> <li>● <i>Rainfall helps shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around. 4-ESS2-1</i></li> </ul> <p><b>ESS2.B Plate tectonics and Large-Scale Systems Interactions</b></p> <ul style="list-style-type: none"> <li>● <i>The locations of mountain ranges, deep oceans trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns, Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major</i></li> </ul>	<p><b>of Science</b></p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b></p> <ul style="list-style-type: none"> <li>● <i>Science assumes consistent patterns in natural systems. (4-ESS1-1)</i></li> </ul> <p><b>Cause and Effect</b></p> <ul style="list-style-type: none"> <li>● <i>Cause and effect relationships are routinely identified, tested, and used to explain change. 4-ESS2-1</i></li> </ul>
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<ul style="list-style-type: none"> <li>Analyze and interpret data to make sense of phenomena using logical reasoning. 4-ESS2-2</li> </ul>	<p><i>mountain chains form inside continents or near their edges. Maps can help locate the different land and water features of Earth. 4-ESS2-2</i></p>	
<p><b>Common Core State Standards:</b></p> <p><b>Math:</b>  <i>MP.2 Reason abstractly and quantitatively. 4-ESS1-1, 4-ESS2-1</i></p> <p>and</p> <p><b>ELA:</b>  <i>W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic. 4-ESS1-1, 4-ESS2-1</i>  <i>W.4.8 Recall relevant information from experiences or gather relevant information from print and digital a sources; take notes and categorize information, and provide a list of sources. 4-ESS1-1, 4-ESS2-1</i>  <i>W.4.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. 4-ESS1-1</i>  <i>RI.4.7 Interpret information presented visually, orally, or quantitatively(e.g. in charts, graphs, diagrams, time lines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears. 4-ESS2-2</i></p>		
<p><b>ITEEA Standards:</b> <i>N/A</i></p>		
<p><b>Other Standards:</b> <i>N/A</i></p>		

## MEASURABLE STUDENT LEARNING OBJECTIVES

### ENGAGE

*Students will be able to form opinions and give support.*

*Students will be able to make predictions by using text features.*

*Students will read with a purpose to identify the opinions and supports.*

*Students will be able to reflect on new information and determine if it supports their opinion or if they need to change their opinion.*

## EXPLORE

Students will be able to identify and explain how a rover works.  
Students will be able to draw connections from the rocks to the land features on Mars.  
Students will be able to describe the rock cycle.  
Students will be able to describe how rocks change over time.  
Students will be able to make connections from Earth's landforms to Mars's landforms.

## EXPLAIN

Students will be able to compare and contrast Earth and Mars.  
Students will be able to draw conclusions about the landforms on Mars.  
Students will be able to find explicit and implicit information in a text.  
Students will be able to use text features to have a deeper understanding of the text.

## ELABORATE

Students will be able to compare and contrast land features of Mars and Earth.  
Students will be able to create models of Mars and Earth.  
Students will be able to present and explain their models.

## Evaluate

Students will be able to write in paragraph form.  
Students will be able to use the information that was learned in this unit to form their opinion and find support for it.

## MATERIALS NEEDED

### ENGAGE

Hook:

Opinion/Claim & Support/evidence/reasons anchor chart\*  
Chart paper & poster markers

Modeling & Guided Practice:

Previewing with Text Features and Making Predictions Anchor Chart

Article about how alien life could have been unknowingly killed on Mars 50 years ago

<https://www.space.com/nasa-may-have-unknowingly-found-and-killed-alien-life-on-mars-50-years-ago-scientist-claims#>

Chart Paper and markers

Colored pencils for students to identify the opinion/claims and the evidence/support/reasons

Closing:

Video and article with the Mar's Rover Perseverance Mission

<https://mars.nasa.gov/mars2020/mission/overview/>

Chart paper for recording

### EXPLORE

DAY 1:

Hook:

Sentence Stems

Think Pair Share Anchor Chart

Model & Guided Practice

Recording Sheet

Driving the Rover simulation <https://eyes.nasa.gov/curiosity/>

Day 2:

Mars rover game <https://spaceplace.nasa.gov/explore-mars/en/>

Day 3 & 4:

[Rock and Mineral Lesson](#)

[Rock cycle Crayon Inquiry Lab](#)

Lab Materials

- Wax paper
- Tin Foil/Aluminum Foil
- Coins or Plastic Knives
  - Crayons (1 per person)
  - Hot Plate
  - Ice water or Ice

Mars sample 19 video <https://mars.nasa.gov/mars2020/multimedia/videos/?v=559>

Additional Mars samples <https://mars.nasa.gov/mars-rock-samples/#21>

**EXPLAIN**

Article about how the rover is mapping the crater <https://www.planetary.org/articles/heres-how-scientists-mapped-jezero>

**ELABORATE**

Video about What if Olympus Mons was located in South America <https://www.youtube.com/watch?v=G-Je-ZWOXyc>

MODELS- clay, colored paper, colored pencils, markers, glue, paint, scissors

**EVALUATE**

[opinion writing piece](#)

## ENGAGING CONTEXT/PHENOMENON

My students will investigate and form their opinion about if there is alien life. I will hook them with an article that debates if alien life was destroyed 50 years ago from a previous mission. Then students will be introduced to a current mission, Perseverance that is looking for ancient life on Mars.

## DATA INTEGRATION

What data is being used in this lesson? Are students analyzing or collecting data? What are they doing with the data? This would be a great place to include all the different NASA data made available to you. If NASA data is not appropriate for your lesson, speak to your course instructor to identify another source of data that is appropriate. It may be publicly available, collected by students, or accessible to you with permission through other projects.

## TEACHER BACKGROUND KNOWLEDGE

NASA Missions: [Viking](#), [Curiosity](#), and [Perseverance](#)

## DIFFERENTIATION OF INSTRUCTION

**ENGAGE:**

Hook: The teacher can review what a claim/opinion is and support/evidence/reasons through an

*anchor chart. Sentence stems can be provided for the group discussions.*

*Modeling & Guided Instruction: The teacher can review and show an anchor chart for previewing a text through text features and how to make a prediction with text features. Have this article be read aloud for the entire class or already pre record the reading for the students. When pairing the students pair a high fluency reader with a low fluency reader.*

*Independent Practice: Have the students listen to a recording of the article.*

### **EXPLORE**

*Day 1:*

*Hook:*

*Sentence stems for sharing,  
review expectations for think pair share by an anchor chart*

*Model & Guided Practice:*

*Provide a recording sheet for the features*

*Independent Practice:*

*Read the exit ticket aloud.*

*Provide sentence stems*

*Day 2:*

*Model & Guided Practice:*

*Students could work in pairs*

*Recording sheet provided*

*Independent Practice: Provide Sentence stems and word bank of land features*

*Day 3 & 4:*

*Model & Guided Practice:*

*Teacher reads aloud the directions.*

*Breaks the lab into smaller tasks by only assigning one part at a time.*

*Teacher provide sentence stems*

*Review of small group expectation via anchor chart*

*Independent Practice:*

*Sentence Stems*

*Read Aloud questions*

### **EXPLAIN**

*The article can be pre recorded*

*Sentence stems*

*Recording sheet*

### **ELABORATE**

*Model & Guided Practice*

*Teacher may provide specific jobs for each group member.*

*Teacher will review group expectations and gallery walks.*

*Graphic organizer to compare and construct the planets.*

*Independent Practice*

*Sentence Stems*

**EVALUATE**

*Opinion outline will be broken into smaller parts*

*Sentence stems*

*Access to all anchors that were created*

**REAL-WORLD CONNECTIONS FOR STUDENTS**

*Students will be able to connect the landforms that they see to the landforms on Mars.*

*Students will be able to understand how the rock cycle system is a system on Mars.*

*Students will be able to see how landforms can help nurture life.*

**POSSIBLE PRIOR or MISCONCEPTIONS**

*Students may not connect alien life with microbes.*

*Students may not know what microbes are.*

**LESSON PROCEDURE**

5E	Details of 5E Lesson Implementation
<p><b>Engage</b> 1-2 days duration</p>	<p><b>Lesson Objective:</b> <i>Students will be able to form opinions and give support. Students will be able to make predictions by using text features. Students will read with a purpose to identify the opinions and supports. Students will be able to reflect on new information and determine if it supports their opinion or if they need to change their opinion.</i></p> <p><b>Procedure:</b> <i>HOOK: The teacher will begin the lesson asking students if they believe in alien life. The teacher will have the students go to opposite sides for if they believe there are and if they think not. For students who are unsure they will stay in the middle of the classroom. The teacher will have the students work in their new groups to discuss and explain their reasons for their opinion. Afterwards, the teacher will have each group share out while the teacher records their opinions and reasons in a double t-chart anchor chart.</i></p> <p><i>Modeling &amp; Guided Instruction: The teacher will have the students preview the text by reading the title, subtitles, looking at the photographs and reading the captions. The students will make predictions about what will be included in the text based on the text features. The teacher will set the reading purpose of reading for identifying the opinions and reasons for the opinions stated. The teacher will model this strategy with the first section of the article(stopping right before the Viking Experiments) being sure to box each opinion in different colors and underlining the support with the</i></p>

coordinating color of the opinion while confirming predictions or not from the preview. The teacher will create a new t chart with the opinions/claims as the headings and then add reasons/support/evidence under each section. Students will be paired, read the Viking Experiments, and practice the same skill of boxing the claims/opinions and underlining the evidence/support/reasons. Afterwards, the class will share their support and the teacher will add this to the double t chart.

*Independent Practice:* Then the students will work independently to read the rest of the article practicing the same skill of finding the opinion/claim and the evidence/support/reasons which will be used for assessment.

*Closing:* The teacher will ask the students what was surprising to them from the article and have them complete the same Hook activity from the beginning. The students will complete an exit ticket explaining why they kept their opinion or changed it after this lesson. After the class discussion, the teacher will explain that NASA sent another mission to Mars to look for ancient life. The teacher will show the video and read the article. The students will ask their questions and pose their wonderings which will be recorded. Then the teacher will explain that they will be looking more at two of the Mars Rovers in the next lesson

#### **Modifications**

*Hook:* The teacher can review what a claim/opinion is and support/evidence/reasons through an anchor chart. Sentence stems can be provided for the group discussions.

*Modeling & Guided Instruction:* The teacher can review and show an anchor chart for previewing a text through text features and how to make a prediction with text features. Have this article be read aloud for the entire class or already pre record the reading for the students. When pairing the students pair a high fluency reader with a low fluency reader.

*Independent Practice:* Have the students listen to a recording of the article.

#### **Standards Addressed**

*W.4.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. 4-ESS1-1*

*RI.4.7 Interpret information presented visually, orally, or quantitatively(e.g. in charts, graphs, diagrams, time lines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears. 4-ESS2-2*

**Formative/Summative Assessments** *Students will be assessed from*

	<p><i>their section of the article that they collect the evidence for the claims/opinions and their exit ticket. Informally, the teacher will use the class discussion and reflections.</i></p> <p><b>Resources</b></p> <p><i>Hook:</i>  <i>Opinion/Claim &amp; Support/evidence/reasons anchor chart*</i>  <i>Chart paper &amp; poster markers</i></p> <p><i>Modeling &amp; Guided Practice:</i>  <i>Previewing with Text Features and Making Predictions Anchor Chart</i>  <i>Article about how alien life could have been unknowingly killed on Mars 50 years ago <a href="https://www.space.com/nasa-may-have-unknowingly-found-and-killed-alien-life-on-mars-50-years-ago-scientist-claims#">https://www.space.com/nasa-may-have-unknowingly-found-and-killed-alien-life-on-mars-50-years-ago-scientist-claims#</a></i>  <i>Chart Paper and markers</i>  <i>Colored pencils for students to identify the opinion/claims and the evidence/support/reasons</i></p> <p><i>Closing:</i>  <i>Video and article with the Mar's Rover Perseverance Mission <a href="https://mars.nasa.gov/mars2020/mission/overview/">https://mars.nasa.gov/mars2020/mission/overview/</a></i>  <i>Chart paper for recording</i></p>
<p><b>Explore</b>  <i>4 days</i></p>	<p><b>Lesson Objective:</b>  <i>Students will be able to identify and explain how a rover works.</i>  <i>Students will be able to draw connections from the rocks to the land features on Mars.</i>  <i>Students will be able to describe the rock cycle.</i>  <i>Students will be able to describe how rocks change over time.</i>  <i>Students will be able to make connections from Earth's landforms to Mars's landforms.</i></p> <p><b>Procedure:</b>  <i>Day 1:</i>  <b>HOOK:</b>  <i>The teacher will begin the lesson by posing the question if you had the controls of Perseverance what would you plan to accomplish with it. The students will pair share their responses with the teacher listening in. The teacher will ask for a few students to share. Afterwards, the teacher will explain that we are going to do just that with a simulator of Curiosity Rover which is an actual rover that traveled on Mars looking for life.</i></p> <p><i>Model &amp; Guided Practice:</i>  <i>The teacher will model how the Curiosity Rover simulator works. The teacher will explain that the purpose today is for students to gain knowledge about how a rover works and the parts. The students will then explore the rover on the website in pairs. Then the pairs will share with another pair about what they noticed and learned through exploring the rover.</i></p>

*Independent Practice: Students will be asked in an exit ticket how exploring the rover helps you understand the articles from yesterday.*

*Closing; The class will share some of their conclusions from their exit tickets.*

*Day 2:*

*Connection: The teacher asked students to share what they did yesterday. The teacher will explain that now that the students know about the features and how a rover works, the students will begin their own mission with a rover.*

*Model & Guided Practice:*

*The teacher will model how to move the rover in the game and how to collect rocks. The teacher will show how to use the angles and to estimate the distance needed to be covered to reach the rocks. Then the students will begin their adventure and play the game so that they can begin learning about what is on Mars through the rock collection.*

*Independent Practice:*

*After the game, students will click on the link at the bottom titled All About Mars. Students will read the article with the reading purpose of making connections from the game to the land features that they learn about in the article. Students will record these connections for a quick check.*

*Closing:*

*Students will share their connections.*

*Day 3 & 4:*

*Connection:*

*The teacher will ask students how the information about the Mars rocks connects with what they know about Earth. The students will share their ideas and the teacher will put it into a Venn Diagram.*

*Model & Guided Practice:*

*The teacher will go through the Rocks and Minerals Lesson. Afterwards, the students will complete parts 1-5 in small groups.*

*Independent Practice:*

*Students will complete Post Lab Questions and the Research Questions independently.*

*Closing:*

*The teacher will have the class watch the sample 19 rock video and the additional rock collections. Then the class will discuss:*

*How does the rock cycle connect to the lab?*

*How does the rock cycle connect to the samples found on Mars?*

**Modifications**

*Day 1:  
Hook:  
Sentence stems for sharing,  
review expectations for think pair share by an anchor chart*

*Model & Guided Practice:  
Provide a recording sheet for the features*

*Independent Practice:  
Read the exit ticket aloud.  
Provide sentence stems*

*Day 2:  
Model & Guided Practice:  
Students could work in pairs  
Recording sheet provided*

*Independent Practice: Provide Sentence stems and word bank of land features*

*Day 3 & 4:  
Model & Guided Practice:  
Teacher reads aloud the directions.  
Breaks the lab into smaller tasks by only assigning one part at a time.  
Teacher provide sentence stems  
Review of small group expectation via anchor chart*

*Independent Practice:  
Sentence Stems  
Read Aloud questions*

#### **Standards Addressed**

*MP.2 Reason abstractly and quantitatively. 4-ESS1-1, 4-ESS2-1  
MP.4 Model with mathematics 4-ESS1-1, 4-ESS2-1  
MP.5 Use appropriate tools strategically. 4-ESS2-1  
4.MD.A.1 Know relative sizes of measurements within one system of units including km, m, cm; lb, oz; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table 4-ESS1-1, 4-ESS2-1  
W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. 4-ESS1-1, 4-ESS2-1  
W.4.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. 4-ESS1-1  
RI.4.7 Interpret information presented visually, orally, or quantitatively(e.g. in charts, graphs, diagrams, time lines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which*

*it appears. 4-ESS2-2*

**Formative/Summative Assessments** *Exit Ticket from day 1, quick check from day 2, Lab Recording Sheet from day 3 & 4,*

**Resources**

*DAY 1:*

*Hook:*

*Sentence Stems*

*Think Pair Share Anchor Chart*

*Model & Guided Practice*

*Recording Sheet*

*Driving the Rover simulation <https://eyes.nasa.gov/curiosity/>*

*Day 2:*

*Mars rover game <https://spaceplace.nasa.gov/explore-mars/en/>*

*Day 3 & 4:*

*[Rock and Mineral Lesson](#)*

*[Rock cycle Crayon Inquiry Lab](#)*

*Lab Materials*

- Wax paper
- Tin Foil/Aluminum Foil
- Coins or Plastic Knives
- Crayons (1 per person)
- Hot Plate
- Ice water or Ice

*Mars sample 19 video*

*<https://mars.nasa.gov/mars2020/multimedia/videos/?v=559>*

*Additional Mars samples <https://mars.nasa.gov/mars-rock-samples/#21>*

**Explain**  
*1-2 days*

**Lesson Objective:**

*Students will be able to compare and contrast Earth and Mars.*

*Students will be able to draw conclusions about the landforms on Mars.*

*Students will be able to find explicit and implicit information in a text.*

*Students will be able to use text features to have a deeper understanding of the text.*

**Procedure:**

*Hook:*

*The teacher will asked the following:*

*How do scientists know where to send the rovers?*

*Model & Guided Practice:*

*The teacher will have the students preview the text by reading the title, subtitles, looking at the photographs and reading the captions. The students will make predictions about what will be included in the text based on the text features. The teacher will explain that the purpose of the reading purpose today is to find specific information about the*

	<p><i>features of Mars and how they compare to Earth. Students will be paired with a partner to complete the reading. Then the class will discuss the information found.</i></p> <p><i>Independent Practice:</i>  <i>Students will complete a comparison of Earth features vs Mars features.</i></p> <p><i>Closing:</i>  <i>The class will discuss how landforms support life and then the class will reflect on their opinion about life on Mars. The students will share if their opinion remains the same or if it has changed. Students must give their reasons.</i></p> <p><b>Modifications</b>  <i>The article can be pre recorded</i>  <i>Sentence stems</i>  <i>Recording sheet</i></p> <p><b>Standards Addressed</b>  <i>W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. 4-ESS1-1, 4-ESS2-1</i>  <i>W.4.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. 4-ESS1-1</i>  <i>RI.4.7 Interpret information presented visually, orally, or quantitatively (e.g. in charts, graphs, diagrams, time lines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears. 4-ESS2-2</i></p> <p><b>Formative/Summative Assessments</b> <i>Comparison</i></p> <p><b>Resources</b>  <i>Article about how the rover is mapping the crater</i>  <a href="https://www.planetary.org/articles/heres-how-scientists-mapped-jezero">https://www.planetary.org/articles/heres-how-scientists-mapped-jezero</a></p>
<p><b>Elaborate</b>  <i>1-2 days</i></p>	<p><b>Lesson Objective:</b>  <i>Students will be able to compare and contrast land features of Mars and Earth.</i>  <i>Students will be able to create models of Mars and Earth.</i>  <i>Students will be able to present and explain their models.</i></p> <p><b>Procedure:</b>  <i>Hook:</i>  <i>The teacher will explain to the students that we have learned a lot about the features of Mars and Earths. Then the teacher will pose the following question: How can we show all of our knowledge that we have gained from the Rovers and articles? Then the teacher will have some of the students share their thoughts and lead them to creating a 3D/2D model of Earth and Mars.</i></p>

*Model & Guided Practice:*  
The teacher will explain that scientists are able to show the landforms by making models and maps. The teacher will then show the video about if Olympus Mons was located in South America. Afterwards, the teacher will have students work in groups to either create a map or 3D model of their given planet. The students will complete a gallery walk of the models of Earth and Mars. Students will present the landforms that they included and students are able to ask questions.

*Independent Practice:*  
Students will write a paragraph comparing and contrasting the features of both planets.

**Modifications**

*Model & Guided Practice*  
Teacher may provide specific jobs for each group member.  
Teacher will review group expectations and gallery walks.  
Graphic organizer to compare and construct the planets.

*Independent Practice*  
Sentence Stems

**Standards Addressed**

*W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic. 4-ESS1-1, 4-ESS2-1*

*W.4.8 Recall relevant information from experiences or gather relevant information from print and digital a sources; take notes and categorize information, and provide a list of sources. 4-ESS1-1, 4-ESS2-1*

*MP.2 Reason abstractly and quantitatively. 4-ESS1-1, 4-ESS2-1*

**Formative/Summative Assessments** *Compare and contrast models, presentation, models*

**Resources**

*Video about What if Olympus Mons was located in South America*  
<https://www.youtube.com/watch?v=G-Je-ZWOXyc>

*Planet MODELS- clay, colored paper, colored pencils, markers, glue, paint, scissors*

**Evaluate**  
2-3 Days

**Lesson Objective:**  
*Students will be able to write in paragraph form.*  
*Students will be able to use the information that was learned in this unit to form their opinion and find support for it.*

**Procedure:** *The teacher will explain to the students that after this unit they will now finally decide whether or not they think there is alien life. Students must have 3 reasons from this unit for their opinion. The*

*teacher will review the opinion writing piece outline and how to transform that into their 5 paragraph essay.*

**Modifications**

*Opinion outline will be broken into smaller parts*

*Sentence stems*

*Access to all anchors that were created*

**Standards Addressed**

*W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic. 4-ESS1-1, 4-ESS2-1*

*W.4.8 Recall relevant information from experiences or gather relevant information from print and digital a sources; take notes and categorize information, and provide a list of sources. 4-ESS1-1, 4-ESS2-1*

*W.4.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. 4-ESS1-1*

*RI.4.7 Interpret information presented visually, orally, or quantitatively(e.g. in charts, graphs, diagrams, time lines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears. 4-ESS2-2*

**Formative/Summative Assessments** *Opinion Essay*

**Resources** [\*opinion writing piece\*](#)