

**Part II. Identify Key Characteristics of the Activity**

**ENGAGE**

Read all parts of the activity before beginning this section.

Does the activity fit characteristics of an Engage?	Yes	No	Evidence (e.g., page/question #) & Ideas for improvement)
a. The activity asks students to consider or generate questions or to identify engineering problems that directly align with the major concept of the unit?			
b. The activity elicits many responses that uncover what students currently know or think about think about natural phenomena or problems related to the concept.			
c. The activity creates interest or generates curiosity.			
d. The activity does <i>not</i> require correct answers or conclusions.			
e. The activity reminds students that their ideas may change, grow, or expand as they gather evidence or test solutions in the unit so they may revisit their ideas at a later time.			
f. The activity provides appropriate support for students' use of science and engineering practices.			
g. The activity includes opportunities for students to reflect on their use of science and engineering practices.			
h. The activity includes a crux question/step/point appropriate for the Engage. <i>Note: The crux is the most important part of the activity for students to show their understanding of the main concept. If students can answer the crux of the activity correctly, then it should show that they understand the main concept of the activity. In an Explain activity, students should show some understanding of science ideas as they explain the phenomenon they are investigating or the problem they are solving.</i>			

**Note:** While an Engage activity does not have to meet all of the characteristics of an Engage, it should fit with at least several of the criteria listed above.

## Explore

Read all parts of the activity before beginning this section.

Does the activity fit characteristics of an Explore?	Yes	No	Evidence (e.g., page/question #) & Ideas for improvement
a. The activity provides a common experience that “levels the playing field” among students with different background knowledge.			
b. The activity asks students to make a prediction or pose a question about a phenomenon or to consider a problem related to the main concept of the unit.			
c. The activity allows students to manipulate materials and make observations.			
d. The activity asks students to think critically about data (their own or other).			
e. The activity encourages students to work collaboratively.			
f. The activity allows enough time for students to puzzle about a problem.			
g. The activity allows students to use the practice that is the focus on the performance expectation associated with this 5E sequence.			
h. The activity provides appropriate support for students’ use of science and engineering practices.			
i. The activity includes opportunities for students to reflect on their use of science and engineering practices.			
j. The activity includes a crux question/step/point appropriate for the Explain. <b>Note:</b> <i>The crux is the most important part of the activity for students to show their understanding of the main concept. If students can answer the crux of the activity correctly, then it should show that they understand the main concept of the activity. In an Explain activity, students should show some understanding of science ideas as they explain the phenomenon they are investigating or the problem they are solving.</i>			

**Part II. Identify Key Characteristics of the Activity**

**EXPLAIN**

Read all parts of the activity before beginning this section.

Does the activity fit characteristics of an Explain?	Yes	No	Evidence (e.g., page/question #) & Ideas for improvement)
a. The activity provides students with an opportunity to construct a scientific explanation or propose solutions.			
b. The activity allows students to examine currently accepted science ideas as they construct their own explanations or solutions.			
c. The activity formally introduces definitions and terminology for the first time in the 5E sequence.			
d. The activity encourages students to explain science concepts in their own words.			
e. The activity asks students to justify their ideas.			
f. The activity offers opportunities for students to challenge or confirm their experiences or solutions, particularly if their preliminary thinking was not aligned with current science ideas. Students have opportunities to make sense of important science ideas.			
g. The activity provides appropriate support for students' use of science and engineering practices.			
h. The activity includes opportunities for students to reflect on their use of science and engineering practices.			
i. The activity includes a crux question/step/point appropriate for the Explain. <b>Note:</b> <i>The crux is the most important part of the activity for students to show their understanding of the main concept. If students can answer the crux of the activity correctly, then it should show that they understand the main concept of the activity. In an Explain activity, students should show some understanding of science ideas as they explain the phenomenon they are investigating or the problem they are solving.</i>			

**Note:** While an Explain activity does not have to meet all of the characteristics of an Explain, it should fit with at least several of the criteria listed above.

## Part II. Identify Key Characteristics of the Activity

### ELABORATE

Read all parts of the activity before beginning this section.

Does the activity fit characteristics of an Elaborate?	Yes	No	Evidence (e.g., page/question #) & Ideas for improvement)
a. The activity provides opportunities to transfer understanding, skills, and abilities developed in the sequence to a new context.			
b. The activity allows students to study the main concept in a deeper or broader context.			
c. The activity asks students to consider another scientific question or problem related to the major concept.			
d. The activity provides opportunities for students to use data, think critically about the data, and make sense of the data.			
e. The activity asks students to consider alternative explanations or solutions.			
f. The activity helps students make connections to the Cross-cutting Concept associated with the 5E sequence.			
a. The activity provides appropriate support for students' use of science and engineering practices.			
b. The activity includes opportunities for students to reflect on their use of science and engineering practices.			
c. The activity includes a crux question/step/point appropriate for the Explain. <b>Note:</b> <i>The crux is the most important part of the activity for students to show their understanding of the main concept. If students can answer the crux of the activity correctly, then it should show that they understand the main concept of the activity. In an Explain activity, students should show some understanding of science ideas as they explain the phenomenon they are investigating or the problem they are solving.</i>			

**Note:** While an Explain activity does not have to meet all of the characteristics of an Explain, it should fit with at least several of the criteria listed above.

**Part III. Analyze the Student Thinking**

Read all parts of the activity before beginning this section.

Does the activity fit characteristics of an Evaluate?	Yes	No	Evidence (e.g., page/question #) & Ideas for improvement
a. The activity does <i>not</i> introduce any new concepts or ideas.			
b. The activity includes authentic contexts for assessment.			
c. The activity allows students to answer open-ended questions using observations, data, evidence, and previously accepted explanations or solutions.			
d. The activity allows students to demonstrate their understanding and abilities related to the major concept of the 5E sequence.			
e. The activity provides an opportunity for students to demonstrate their understanding of concepts from each of the previous activities.			
f. The activity provides opportunities for students to consider which of their ideas have changed over time and what aspect of the learning sequence contributed to the change.			
g. The activity provides opportunities for self-assessment, peer assessment, and teacher assessment.			
h. The activity includes opportunities for students to reflect on their use of science and engineering practices.			
i. The activity links to the Performance Expectation and Evidence of Learning Specifications developed as part of Tool 2.			
j. The activity includes a crux question/step/point appropriate for the Explain. <b>Note:</b> <i>The crux is the most important part of the activity for students to show their understanding of the main concept. If students can answer the crux of the activity correctly, then it should show that they understand the main concept of the activity. In an Evaluate activity, the crux is often the final product from the activity. It should allow students to show an understanding not only of the main concept in the 5E sequence but also the concepts developed in previous activities.</i>			

**Note:** While an Evaluate activity does not have to meet all of the characteristics of an Evaluate, it should fit with at least several of the criteria listed above. If you think the activity is still worth considering, go on to Part III