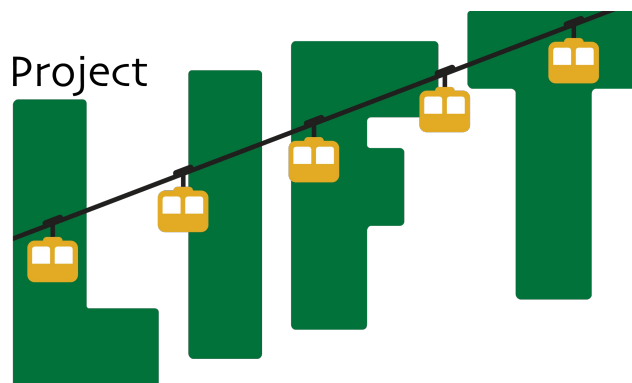


# Inviting Engagement and Exploration: Supporting Inquiry in ELA and Math

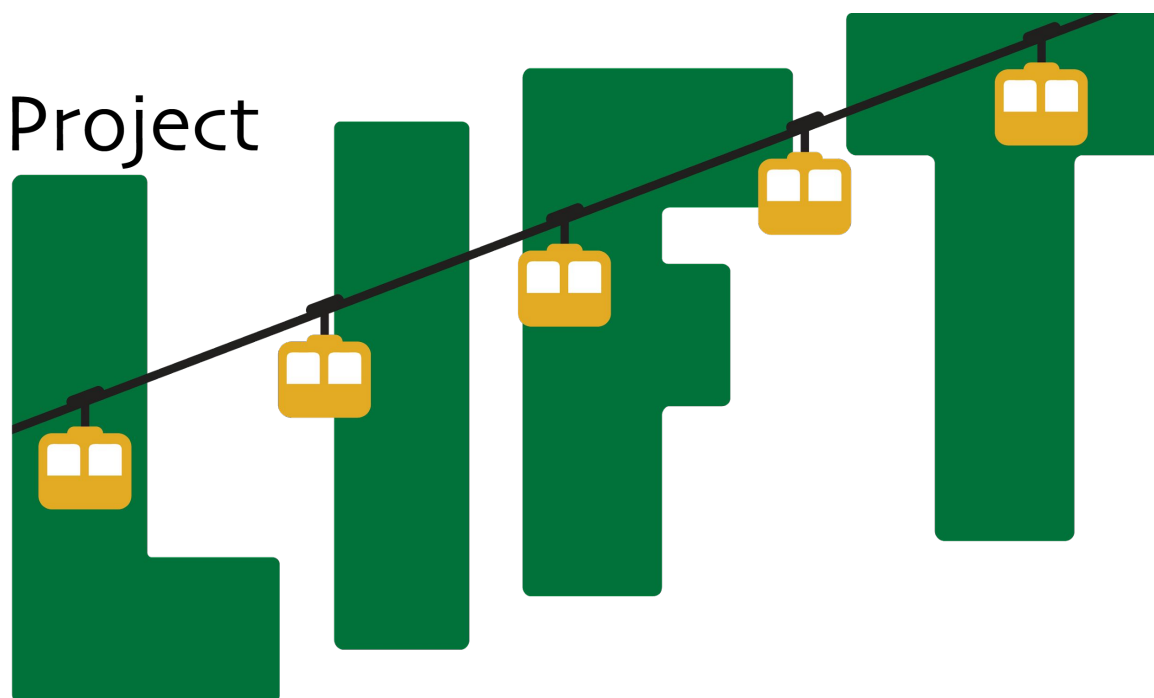


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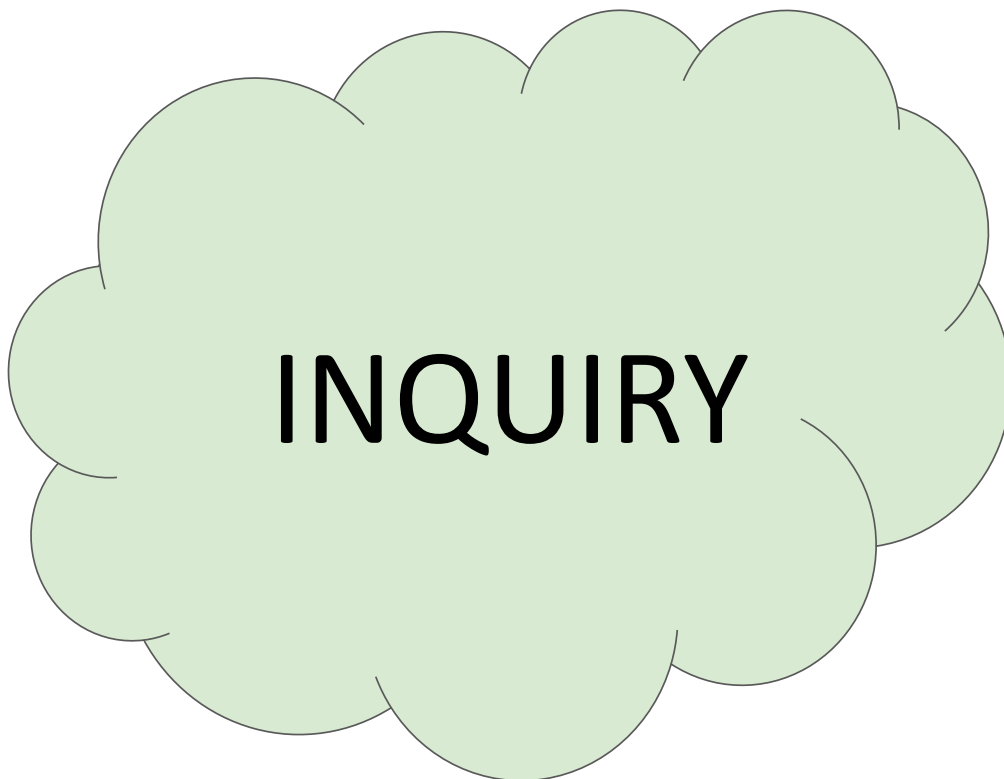
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Scan with phone camera

## SAMPLE LESSONS

LOOK through sample lesson and  
complete the lesson tasks with  
your group.



Where did you  
see Inquiry in  
these two lesson  
plans?

Engage

Explore

Explain

Elaborate/Extend

Evaluate

# 5e Lesson Plan Model

Diagram of the larger  
Lesson Plan

Grade Level/Content Area

Lesson Title

Brief Description

Add standards addressed here

Materials

**Engage**  
HOOK related to the focus concept of the lesson

**Explore**  
Students begin to investigate a problem or question related to the concepts

**Explain**  
Focus and refine students' ideas; provide information

**Elaborate/Extend**  
Learning experiences that extend, expand, and enrich student learning

Tiering Options:

**Evaluate**  
Student sharing of ideas; assessment of student learning

Engage

Explore

Explain

Elaborate/Extend

Evaluate

Grade Level/Content Area

Lesson Title

Brief Description

Add standards addressed here

Materials

**Engage**

HOOK related to the focus concept of the lesson

**Explore**

Students begin to investigate a problem or question related to the concepts

**Explain**

Focus and refine students' ideas; provide information

**Elaborate/Extend**

Learning experiences that extend, expand, and enrich student learning

Tiering Options:

**Evaluate**

Student sharing of ideas; assessment of student learning

## Engage

“The main point is that the students are puzzled and thinking about content related to the learning outcomes of the instructional sequence” (Bybee, 2014, p. 11).

- “Hook” related to the focus concept of the lesson - excite and engage student interest
- Opportunity for students to talk about what they know and develop questions related to the central ideas



## Explore

“[C]oncrete, hands-on experiences where students express their current conceptions and demonstrate their abilities as they try to clarify puzzling elements of the Engage phase” (Bybee, 2014, p. 11).

- Students begin to investigate a problem or question related to the concepts
- Students work collaboratively on the exploration



## Explain

In the Explain phase, “the teacher introduces scientific or technological concepts briefly and explicitly” (Bybee 2014, 11) and based on ideas generated by the students through their explorations and investigations.

- Students share information gathered during the Engage and Explore phases
- Teacher can provide information related to the concepts



## Elaborate/Extend

“Students are engaged in learning experiences that extend, expand, and enrich the concepts and abilities developed in the prior phases” (Bybee, 2014, p. 11).

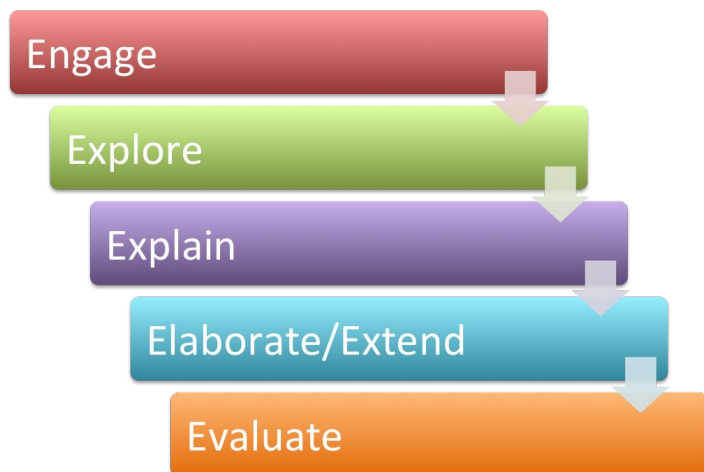
- Deepening understanding
- Applying understanding to a task related to the concept that is more complex
- Opportunity to differentiate to extend or provide additional support



# Evaluate

“The teacher should determine the evidence for student learning and means of obtaining that evidence, as part of the evaluate phase” (Bybee, 2014, p. 11)

- May be somewhat more formal assessment of understanding
- Includes providing additional feedback to help students continue to refine their ideas about the concept.



Where did you  
see the elements  
of each stage of  
the 5E Inquiry  
model?

# Engage

## Book with a Hole

- Look at the page that is blank except for a circle in the middle.
- Think “What do you notice about this?” “What could it be?”
- Think “What might you see happening inside this hole or around this hole?”
- Share your ideas.

## Counting Cupcakes

- Think of a time you had to picture or imagine something in their mind. Share examples with those in your group.
- Today you will practice visualizing or making pictures in your mind to help with problem solving.
- Picture a giant pile of cupcakes in the center of the room. Share with your group what you are picturing.
- Now, imagine what might happen if the teacher in the room full of cupcakes left the room. What might happen to the cupcakes? Picture it!
- Share your ideas with the group about what could happen to the cupcakes. Have a recorder in the group create a list of ideas that are shared.



# Explore

## The Book with a Hole

- Take a copy of the paper with a circle on it and draw a scene around the circle. Consider the following questions: What is the circle? What's around the circle? Who is there and what is happening there.
- Share your ideas with your group members.
- Share 10-15 pages from *The Book with a Hole*.
- Share your ideas about the pages you're seeing.

## Counting Cupcakes

- Now, imagine that there are 10 cupcakes in front of you.
- Select one of the action prompt cards and describe to the group what you picture happening to the cupcakes based on what the card says.
- Repeat this step several times, taking turns, in your group.





# Explain

## Book with a Hole

- Look at the page with a flowery hill. Share your ideas in your group: Who could live here? You can pick an animal that you know lives underground, or any kind of character that might be there. Who can you imagine being in this setting?
- Now draw your own character idea on the paper that has the hill.
- Share your characters with the others in the group.
- Think about the following: Think a bit more about the characters that we drew. What could they be doing? What could be happening here?
- Share out ideas with your group. Think about: What additional ideas could your characters be doing?
- After group members have shared, you'll be adding the story behind the character.

## Counting Cupcakes

- Discuss some of these questions with your group
  - How did the image that you pictured change after the action took place?
  - How did picturing the action in your mind help you to solve the problem?
  - What is similar between all of these actions or their results?
  - What did you show in your model?
  - How might we show this with numbers and symbols?



# Elaborate/Extend

## Book with a Hole

- Now turn your picture of a character into a story by writing down what happened. Add details to your picture to show what is happening? What might the words sound like on your writing paper?
- Use the lined paper to show originality and use details in your writing.
- For an added challenge, use your booklet of 2-3 lined pages to add the following ideas:
  - Who else might be there with your character?
  - What might they say to each other?
  - What might happen next?
- If you're not sure what to write about, think about your answers to the following questions:
  - Is your character happy or sad - why/what happened?
  - Is your animal like a snake or a worm? What kinds of things do those animals do?
  - or narrate all or some of the story to a designee to write for you.

## Counting Cupcakes

- Now picture a set of 20 cupcakes. Use the set of cards again to picture and discuss what is happening to the cupcakes. Consider how you might show this with drawing, acting out, or modeling with manipulatives.
- For an extra challenge, turn over two cards at a time and picture what would happen in two steps.



# Evaluate

## Book with a Hole

- Come back together to share your writing with your group. Share what their animal is doing in the hole. Ask questions about your groupmates' work and notice the way that flexibility, fluency, originality, and elaboration played a role in their writing.
- To keep the discussion moving, think about your answers to these questions:
  - What can you ask the author about what is happening?
  - What do you notice about all of our writing?
  - Was our writing all the same? Why or why not?

## Counting Cupcakes

- Discuss with the group how you visualized the situation and how the situations could be represented with drawings, acting it out, with manipulatives, and with equations. Have a recorder in the group create a list of the ideas that are shared.



Engage

Explore

Explain

Elaborate/Extend

Evaluate

## 5e Lesson Plan Model

Grade Level/Content Area	
Lesson Title	
Brief Description	
Add standards addressed here	
Resources	
Engage	HOOD: ... Contextual connections: what is the big deal?
Explore	HOOD: ... Contextual connections: what is the big deal? Engage: ... Explore: ... Explain: ... Elaborate/Extend: ... Evaluate: ...
Explain	HOOD: ... Contextual connections: what is the big deal? Engage: ... Explore: ... Explain: ... Elaborate/Extend: ... Evaluate: ...
Elaborate/Extend	HOOD: ... Contextual connections: what is the big deal? Engage: ... Explore: ... Explain: ... Elaborate/Extend: ... Evaluate: ...
Evaluate	HOOD: ... Contextual connections: what is the big deal? Engage: ... Explore: ... Explain: ... Elaborate/Extend: ... Evaluate: ...