To better understand the content being presented in their core subject areas, it is essential for students to learn to think critically and to ask higher levels of questions. By asking higher levels of questions, students deepen their knowledge and create connections to the material being presented, which in turn prepares them for the inquiry that occurs in tutorials. Students need to be familiar with Costa’s (and/or Bloom’s) levels of questioning to assist them in formulating and identifying higher levels of questions.

Directions: Read the poem below and review the “Three House Story” on the next page. Both set the stage for Costa’s Levels of Questioning.

One- Two- Three-Story Intellect Poem

There are one-story intellects,

two-story intellects,

and three-story intellects with skylights.

All fact collectors who have

no aim beyond their facts

are one-story people.

Two-story people compare, reason,

generalize, using the labor of

fact collectors as their own.

Three-story people idealize,

imagine, predict—their best illumination

comes through the skylight.

Adapted from a quotation by Oliver Wendell Holmes
The Three-Story House

Level 1 (the lowest level) requires one to gather information.
Level 2 (the middle level) requires one to process the information.
Level 3 (the highest level) requires one to apply the information.

1—Gathering
- Complete
- Identify
- Recite

2—Processing
- Compare
- Contrast
- Classify
- Sort
- Distinguish
- Explain (Why?)
- Infer
- Analyze

3—Applying
- Evaluate
- Generalize
- Imagine
- Judge
- Predict
- Speculate
- If/Then
- Hypothesize
- Forecast

2.5: Inquiry
Tutorial Support Curriculum Resource Guide
# Vocabulary: Costa’s Levels of Thinking and Questioning

## LEVEL 1

### Remember
- Define
- Repeat
- Name

### Show
- Give examples
- Restate
- Discuss
- Express

### Understanding
- List
- State
- Describe
- Recall
- Memorize
- Label
- Identify
- Record
- Show
- Give examples
- Restate
- Discuss
- Express

## LEVEL 2

### Use
- Dramatize
- Practice
- Operate
- Imply
- Apply

### Examine
- Diagram
- Distinguish
- Compare
- Contrast
- Divide

### Create
- Compose
- Design
- Propose
- Combine
- Construct

### LEVEL 3

### Decide
- Judge
- Value
- Predict
- Evaluate

### Supportive Evidence
- Prove your answer.
- Support your answer.

### Why do you feel that way?
Bloom’s Taxonomy of Questioning

Bloom’s Taxonomy categorizes the types of thinking students do into seven categories. Evaluation and synthesis are the most complex types of thinking and questioning, and knowledge and comprehension questions and thinking are the most basic forms.

<table>
<thead>
<tr>
<th>Evaluation - Judging Based on Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess</td>
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<tr>
<td>Decide</td>
</tr>
<tr>
<td>Rank</td>
</tr>
<tr>
<td>Grade</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Synthesis - Using Parts of New Information to Create Whole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combine</td>
</tr>
<tr>
<td>Integrate</td>
</tr>
<tr>
<td>Modify</td>
</tr>
<tr>
<td>Rearrange</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analysis - Seeing Parts and Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze</td>
</tr>
<tr>
<td>Separate</td>
</tr>
<tr>
<td>Order</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comprehension - Understanding Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summarize</td>
</tr>
<tr>
<td>Describe</td>
</tr>
<tr>
<td>Interpret</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge - Recalling Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>List</td>
</tr>
<tr>
<td>Define</td>
</tr>
<tr>
<td>Tell</td>
</tr>
<tr>
<td>Describe</td>
</tr>
</tbody>
</table>
## Content Specific Questions

### Costa’s Levels of Questioning: Math

<table>
<thead>
<tr>
<th>LEVEL 1</th>
<th>LEVEL 2</th>
<th>LEVEL 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What information is given?</strong></td>
<td><strong>What additional information is needed to solve this problem?</strong></td>
<td><strong>Predict what will happen to _______ as _______ is changed.</strong></td>
</tr>
<tr>
<td><strong>What are you being asked to find?</strong></td>
<td><strong>Can you see other relationships that will help you find this information?</strong></td>
<td><strong>Using a math principle, how can we find...?</strong></td>
</tr>
<tr>
<td><strong>What formula would you use in this problem?</strong></td>
<td><strong>How can you put your data in graphic form?</strong></td>
<td><strong>Describe the events that might occur if...</strong></td>
</tr>
<tr>
<td><strong>What does _____ mean?</strong></td>
<td><strong>What occurs when...?</strong></td>
<td><strong>Design a scenario for...</strong></td>
</tr>
<tr>
<td><strong>What is the formula for...?</strong></td>
<td><strong>Does it make sense to...?</strong></td>
<td><strong>Pretend you are...</strong></td>
</tr>
<tr>
<td><strong>List the...</strong></td>
<td><strong>Compare and contrast _____ to _______.</strong></td>
<td><strong>What would the world be like if...?</strong></td>
</tr>
<tr>
<td><strong>Name the...</strong></td>
<td><strong>What was important about...?</strong></td>
<td><strong>How can you tell if your answer is reasonable?</strong></td>
</tr>
<tr>
<td><strong>Where did...?</strong></td>
<td><strong>What prior research/formulas support your conclusions?</strong></td>
<td><strong>What would happen to ____ if _______ (variable) were increased/decreased?</strong></td>
</tr>
<tr>
<td><strong>What is...?</strong></td>
<td><strong>How else could you account for...?</strong></td>
<td><strong>How would repeated trials affect your data?</strong></td>
</tr>
<tr>
<td><strong>When did...?</strong></td>
<td><strong>Explain how you calculate...</strong></td>
<td><strong>What significance is this formula to the subject you’re learning?</strong></td>
</tr>
<tr>
<td><strong>Explain the concept of...</strong></td>
<td><strong>What equation can you write to solve the word problem?</strong></td>
<td><strong>What type of evidence is most compelling to you?</strong></td>
</tr>
<tr>
<td><strong>Give me an example of...</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Describe in your own words what ______ means.</strong></td>
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</tr>
<tr>
<td><strong>What mathematical concepts does this problem connect to?</strong></td>
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</tr>
<tr>
<td><strong>Draw a diagram of...</strong></td>
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</tr>
<tr>
<td><strong>Illustrate how _____ works.</strong></td>
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</tr>
</tbody>
</table>
# Costa’s Levels of Questioning: Science

## LEVEL 1

- What information is given?
- What are you being asked to find?
- What formula would you use in this problem?
- What does _____ mean?
- What is the formula for...?
- List the...
- Name the...
- Where did...?
- What is...?
- When did...?
- Describe in your own words what _____ means.
- What science concepts does this problem connect to?
- Draw a diagram of...
- Illustrate how _____ works.

## LEVEL 2

- What additional information is needed to solve this problem?
- Can you see other relationships that will help you find this information?
- How can you put your data in graphic form?
- How would you change your procedures to get better results?
- What method would you use to...?
- Compare and contrast _____ to _____.
- Which errors most affected your results?
- What were some sources of variability?
- How do your conclusions support your hypothesis?
- What prior research/formulas support your conclusions?
- How else could you account for...?
- Explain the concept of...
- Give me an example of...

## LEVEL 3

- Design a lab to show...
- Predict what will happen to _____ as _____ is changed.
- Using a science principle, how can we find...?
- Describe the events that might occur if...
- Design a scenario for...
- Pretend you are...
- What would the world be like if...
- Which errors most affected your results?
- What were some sources of variability?
- How do your conclusions support your hypothesis?
- What prior research/formulas support your conclusions?
- How else could you account for...?
- Explain the concept of...
- Give me an example of...
- Design a lab to show...
- Predict what will happen to _____ as _____ is changed.
- Using a science principle, how can we find...?
- Describe the events that might occur if...
- Design a scenario for...
- Pretend you are...
- What would the world be like if...
- Which errors most affected your results?
- What were some sources of variability?
- How do your conclusions support your hypothesis?
- What prior research/formulas support your conclusions?
- How else could you account for...?
- Explain the concept of...
- Give me an example of...
## Costa’s Levels of Questioning: English

### LEVEL 1
- What information is given?
- Locate in the story where...
- When did the event take place?
- Point to the...
- List the...
- Name the...
- Where did...?
- What is...?
- Who was/were...?
- Illustrate the part of the story that...
- Make a map of...
- What is the origin of the word __________?
- What events led to ________?

### LEVEL 2
- What would happen to you if...
- Would you have done the same thing as...?
- What occurs when...?
- Compare and contrast ______ to ______.
- What other ways could ___ be interpreted?
- What is the main idea of the story (event)?
- What information supports your explanation?
- What was the message in this piece (event)?
- Give me an example of...
- Describe in your own words what ______ means.
- What does _________ suggest about _________’s character?
- What lines of the poem express the poet’s feelings about _________?
- What is the author trying to prove? What evidence does he present?

### LEVEL 3
- Design a ______ to show...
- Predict what will happen to ________ as ________ is changed.
- Write a new ending to the story (event)...
- Describe the events that might occur if...
- Add something new on your own that was not in the story...
- Pretend you are...
- What would the world be like if...?
- Pretend you are a character in the story. Rewrite the episode from your point of view.
- What do you think will happen to ________? Why?
- What is most compelling to you in this ________? Why?
- Could this story have really happened? Why or why not?
- If you were there, would you...?
- How would you solve this problem in your life?
## Costa’s Levels of Questioning: Social Studies

<table>
<thead>
<tr>
<th>LEVEL 1</th>
<th>LEVEL 2</th>
<th>LEVEL 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>What information is given?</td>
<td>What would happen to you if...?</td>
<td>Design a ______ to show...</td>
</tr>
<tr>
<td>What are you being asked to find?</td>
<td>Can you see other relationships that will help you find this information?</td>
<td>Predict what will happen to ______ as ______ is changed.</td>
</tr>
<tr>
<td>When did the event take place?</td>
<td>Would you have done the same thing as...?</td>
<td>What would it be like to live...?</td>
</tr>
<tr>
<td>Point to the...</td>
<td>What occurs when...?</td>
<td>Write a new ending to the event.</td>
</tr>
<tr>
<td>List the...</td>
<td>If you were there, would you...?</td>
<td>Describe the events that might occur if...?</td>
</tr>
<tr>
<td>Name the...</td>
<td>How would you solve this problem in your life?</td>
<td>Pretend you are...</td>
</tr>
<tr>
<td>Where did...?</td>
<td>Compare and contrast ______ to ______.</td>
<td>What would the world be like if...?</td>
</tr>
<tr>
<td>What is...?</td>
<td>What other ways could ____ be interpreted?</td>
<td>How can you tell if your analysis is reasonable?</td>
</tr>
<tr>
<td>Who was/were...?</td>
<td>What things would you have used to...?</td>
<td>What do you think will happen to ____? Why?</td>
</tr>
<tr>
<td>Make a map of...</td>
<td>What is the main idea in this piece (event)?</td>
<td>What significance is this event in the global perspective?</td>
</tr>
<tr>
<td></td>
<td>What information supports your explanation?</td>
<td>What is most compelling to you in this ______? Why?</td>
</tr>
<tr>
<td></td>
<td>What was the message in this event?</td>
<td>Do you feel ______ is ethical? Why or why not?</td>
</tr>
<tr>
<td></td>
<td>Explain the concept of...?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Give me an example of...?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Describe in your own words what ______ means.</td>
<td></td>
</tr>
</tbody>
</table>
# Bloom’s Levels of Questioning: Science and Math

## 1. KNOWLEDGE — recalling information

- What information is given?
- What are you being asked to find?
- What formula would you use in this problem?
- What does ______ mean?
- What is the formula for...?
- List the...
- Name the...
- Where did...?
- What is...?
- Who was/were...?
- When did ... ?

## 2. COMPREHENSION — understanding meaning

- What are you being asked to find?
- Explain the concept of...
- Give me an example of...
- Describe in your own words what ______ means.
- What (science or math) concepts does this problem connect to?
- Draw a diagram of...
- Illustrate how _____ works.
- Explain how you calculate...

## 3. APPLICATION — using learning in new situations

- What additional information is needed to solve this problem?
- Can you see other relationships that will help you find this information?
- How can you put your data in graphic form?
- What occurs when ... ?
- How would you change your procedures to get better results?
- What method would you use to...
- Does it make sense to...?

## 4. ANALYSIS — ability to see parts and relationships

- Compare and contrast _____ to ______.
- What was important about...
- Which errors most affected your results?
- What were some sources of variability?
- How do your conclusions support your hypothesis?
- What prior research/formulas support your conclusions?
- How else could you account for...?

## 5. SYNTHESIS — parts of information to create new whole

- Design a lab to show...
- Predict what will happen to ______ as ______ is changed.
- Using a principle of (science or math), how can we find ...?
- Describe the events that might occur if...
- Design a scenario for...
- Pretend you are...
- What would the world be like if ... ?

## 6. EVALUATION — judgment based on criteria

- How can you tell if your answer is reasonable?
- What would happen to ____ if ______ (variable) were increased/decreased?
- How would repeated trials affect your data?
- What significance is this experiment/formula to the subject you’re learning?
- What type of evidence is most compelling to you?
- Do you feel ______ experiment is ethical?
- Are your results biased?
Bloom’s Levels of Questioning: English and Social Science

1. KNOWLEDGE—recalling information

- What information is given?
- What are you being asked to find?
- Locate in the story where...
- When did the event take place?
- Point to the...
- List the...
- Name the...
- Where did...?
- What is...?
- Who was/were...?

2. COMPREHENSION—understanding meaning

- What are you being asked to find?
- Explain the concept of...
- Give me an example of...
- Describe in your own words what ________ means.
- Illustrate the part of the story that...
- Make a map of...
- This event led to...
- Describe the scenario...

3. APPLICATION—using learning in new situations

- What would happen to you if ... ?
- Can you see other relationships that will help you find this information?
- Would you have done the same thing as...?
- What occurs when ... ?
- If you were there, would you ... ?
- How would you solve this problem in your life?
- In the library (on the Web), find info about...

4. ANALYSIS—ability to see parts and relationships

- Compare and contrast ______ to ________.
- What was important about ... ?
- What other ways could ____ be interpreted?
- What things would you have used to ... ?
- What is the main idea of the story (event)?
- What information supports your explanation?
- What was the message in this piece (event) ... ?

5. SYNTHESIS—parts of information to create new whole

- Design a ______ to show...
- Predict what will happen to _______ as ______ is changed.
- What would it be like to live ... ?
- Write a new ending to the story (event).
- Describe the events that might occur if...
- Add a new thing on your own that was not in the story.
- Pretend you are...
- What would the world be like if ... ?

6. EVALUATION—judgment based on criteria

- How can you tell if your analysis is reasonable?
- Would you recommend this ______ to a friend? Why?
- What do you think will happen to ______? Why?
- What significance is this event in the global perspective?
- What is most compelling to you in this ______? Why?
- Do you feel ______ is ethical? Why or why not?
- Could this story have really happened? Why or why not?
## Moving On Up:
### Writing Higher-Level Questions

**Directions:** Complete the table below by writing Level 2 and 3 questions that correspond to each Level 1 question provided for the fairy tale “Cinderella.” The first set has been completed for you as an example.

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What are the names of the three stepsisters?</td>
<td>1. Compare and contrast Cinderella to one of her stepsisters.</td>
<td>1. Justify the reasons why Cinderella’s stepsisters are so undesirable to the prince.</td>
</tr>
<tr>
<td>2. Who is the person that grants Cinderella her wish of attending the ball?</td>
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<tr>
<td>3. What was Cinderella’s coach made out of?</td>
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<tr>
<td>4. What happened at midnight?</td>
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<td></td>
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<tr>
<td>5. Who found Cinderella’s glass slipper?</td>
<td></td>
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<tr>
<td>6. After Cinderella and the prince were married, how did they live?</td>
<td></td>
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</tr>
<tr>
<td>7. What was the slipper made of?</td>
<td></td>
<td></td>
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<tr>
<td>8. What changes happened as a result of the fairy godmother’s magic?</td>
<td></td>
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</tr>
<tr>
<td>9. How did Cinderella get her name?</td>
<td></td>
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</tr>
<tr>
<td>10. Describe the ball at the palace.</td>
<td></td>
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</tr>
</tbody>
</table>
### More Higher-Level Questions

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
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<tbody>
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</tbody>
</table>

### Extension Activities

1. Students may answer these questions by providing them with the fairy tale to have a text-based discussion.
2. Have students repeat this activity with a different fairy tale, subject, novel, or content area material.
3. Have students generate three level 1 questions, three level 2 questions, and three level 3 questions and fill in questions for the corresponding levels.
4. Use this activity to have students generate questions with content level material to prepare for a test.
5. Refer to this activity when students bring lower level questions during tutorials.
A. Read the question you wrote on your Tutorial Request Form.

B. Identify the verb (Costa’s vocabulary) in your tutorial question.

C. What is the level of your question?

D. Based on the verb (Costa’s vocabulary) indicated, you have a lower-level question.

E. Rewrite your question into a higher-level question OR

F. Create a new higher-level tutorial question. Go back to A and start the process over.

LEVEL OF QUESTIONS: COSTA’S 1 OR BLOOM’S 1 AND 2

LEVEL OF QUESTIONS: COSTA’S 2 AND 3 OR BLOOM’S 4–6

D. Based on the verb (Costa’s vocabulary) indicated, you have a higher-level question.

E. Do you have resources to assist you in finding the answer to your question? If not, obtain resources.

F. Using your resources, are you able to answer the question without assistance? If so, go to G1. If not, go to G2.

G1. Create a new higher-level question. Go back to A and start the process over.

G2. Congratulations! You have created a fabulous question and are prepared for the tutorial.