Tiered and Differentiated Questions with Depth & Complexity

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Why Questions?

They’re CHEAP!;
Don’t take much time to develop;
Relate directly to class material;
And are easy to use.
Elements of Complexity

- Over Time
- Different Perspectives
- Interdisciplinary Relations
What are Q3 Cards?

Q3 Cards are a tool to quickly develop quality questions to differentiate content according to the elements of depth and complexity.

They contain question stems based on the elements of depth and complexity as defined in Sandra Kaplan’s model.

They can be used by the teacher or by the student. (They can also be used by parents.)
When/How to Use Questions

1. Questions can be used as the “hook” to introduce the lesson or as the way to culminate the learning at the end of the lesson.
Hook/Culminating Questions

Example:

Language of the Discipline:
  What specialized language is needed to define and/or describe energy resources?

Details:
  What distinguishes a renewable from a nonrenewable energy resource?

Patterns:
  What elements are repeated in all these energy resources: sun, wind, geothermal, coal, oil, and nuclear?

Science Standard: 3. Earth Systems Science, 5th Grade
Hook/Culminating Questions

Example:

Language of the Discipline:
What specialized language is needed to define and/or describe a quadrilateral?

Details:
What distinguishes a rhombus from a parallelogram?

Patterns:
What elements are repeated in all of these quadrilaterals: rhombus, parallelogram, trapezoid, rectangle?

Mathematics Standard: 4. Shape, Dimension, and Geometric Relationship, 3rd Grade
Hook/Culminating Questions

Example:

Language of the Discipline:

What specialized language is needed to define and/or describe civic holidays?

Details:

What distinguishes Presidents Day from Independence Day?

Patterns:

What elements are repeated in all of these civic holidays: Presidents Day, Veterans Day, and Independence Day?

Social Studies Standard: 4. Civics, 1st Grade
Your Turn

Work with teachers at your grade level to write a question using your Q3 Cards that you could use as a hook or culminating question for a lesson you plan to teach.
Differentiating Instruction Using Single Questions

Idea: Place one card/question on each student’s desk at the beginning of the day/class as an idea starter for journal writing.

Use your knowledge of the structure of the elements of depth to differentiate the questions according to student’s need. Give students different questions:

- Struggling students receive a , or question.
- Students on grade level receive a , or question.
- High achieving/gifted students receive a or question or a question combining two elements, such as .
Other Ideas for Using Single Questions

1. Give each student one card/question a few minutes before the end of class to use for writing a “ticket out of the door.”
2. Select a card/question to write an essay question for a test.
3. Write one question on each face of a cube and let students roll as a die. They answer the question that lands on top.

Your idea: ________________________.
When/How to Use Questions

2. A set of questions can be used as part of the class discussion.
Discussion/Activity Questions

Example:

Patterns: What elements, events, or ideas are repeated in *this chapter of Charlotte’s Web*?

Trends: What factors contributed to the conflict in *this chapter*?

Multiple Perspectives: How did *Wilber* view *his situation* differently from *Charlotte*?

Big Idea: Based on *what you have read so far*, what do you think is one theme of *this story*?
Discussion/Activity Questions

Example:

Patterns:
What elements, events, or ideas are repeated in this chapter of *Where the Red Fern Grows?*

Trends:
What factors contributed to the conflict in this chapter?

Multiple Perspectives:
How did Billy’s parent view his situation differently from him?

Big Idea:
Based on what you have read so far, what do you think is one theme of this story?
Discussion/Activity Questions

Example:

Patterns: What elements, events, or ideas are repeated in this chapter of *Lord of the Flies*?

Trends: What factors contributed to the conflict in this chapter?

Multiple Perspectives: How did Jack view his situation differently from Ralph?

Big Idea: Based on what you have read so far, what do you think is one theme of this story?
Discussion Questions

Language of the Discipline:

What terms would a chemist use to describe the Periodic Table of Elements?

Details

What distinguishes a compound from a molecule? What distinguishes an element from a compound?

Patterns:

How does the pattern of the number of protons in an element relate to the atomic number?

Trends:

What two new elements have been added to the Periodic Table? What trend was followed in naming these elements?
Your Turn

Work with teachers at your grade level to write a set of 3 questions using your Q3 Cards that you could use as discussion questions in your classroom.
Differentiating Instruction Using a Set of Questions

Idea: Use a **frame** to present the questions. Frames can be used for:

- Group or individual exploration of topic
- Discussion guide in literature circles
- Follow-up assignments (whole or small group)
- Extension activity
- Independent study guide
Frame with Less In-depth Questions

What does a microbiologist do?

What specific language is associated with...

Bacteria

What rules are in place for working with bacteria?

What details concern a microbiologist?
Frame with More In-Depth Questions

Do any potential ethical issues arise from the presentation of this data?

What is the big idea the creator of this graph is trying to communicate?

From whose perspective is this data given?

What unanswered questions arise from this/these graph(s)?
Complex Frame

- Identify the pattern in the image and the graph affecting the pattern.

- State the dimensions in the situation to what you are studying.

- Apply the dimensions of the frame to what you are studying.

- Describe the features in a situation involving pattern changes.
When/How to Use Questions

3. Questions can be used to create a tiered assignment.
Tiered Assignment: Group 1

Language of the Discipline:
What words would an election judge use to describe an election?

Details:
What features characterize an election?

Patterns:
What reoccurring events occur in an election?
Tiered Assignment: Group 2

Trends:
What ongoing factors have influenced elections?

Rules:
Explain the overt and covert rules affecting elections.

Unanswered Questions:
What ideas are still unresolved/not settled about elections?
Tiered Assignments: Group 3

Ethics:
What dilemmas or controversies are involved in elections?

Multiple Perspectives:
How might the following people view an election differently: a voter, a politician, an incumbent, an opponent, a sociologist, a political scientist?

Big Idea:
What general statement sums up all we have discussed regarding elections?
Tiered Assignment: Group 1

Language of the Discipline:

What words would a biologist use to describe DNA replication?

Details:

What are the components of DNA replication?

Patterns:

What reoccurring events occur in DNA replication?
Tiered Assignment: Group 2

Trends:

What ongoing factors influence DNA replication?

Rules:

What hidden rules of order are found in DNA replication?

Unanswered Questions:

What is still not understood about DNA replication?
Tiered Assignments: Group 3

Ethics:
What dilemmas or controversies are involved in controlling DNA replication?

Multiple Perspectives:
How might the following people view DNA replication differently: an average citizen, a geneticist, a politician, a religious leader, a farmer/rancher?

Big Idea:
What general statement sums up all we have discussed regarding DNA replication?
Your Turn

Work with teachers at your grade level to write a tiered assignment using the Q3 Cards that you could use in your classroom.

Write 1 question for each of the following:
- a struggling student
- a student on grade level
- a high achieving/gifted student
What Questions Do You Have?

Session Code
TDQ-MV3