Effective Questioning: 5Ws and 1H

Trisha Weaver
Natchitoches Parish School Board

Accessing Prior Knowledge

- On the Post-Its, write 3 to 4 questions about the US Constitution (or government in general) that you could ask in class. Only one question per post it.
- You don’t have to have an answer, just jot down the question.
US Constitution in LA Standards

- 1.4.4 Describe the student's role, rights, and responsibilities as a citizen of the class, the school, and the community
- 2.3.2 Identify the three branches of national government as represented by the President, Congress, and the Supreme Court
- 3.5.6 Compare how government officials at the state and national levels are elected
- 4.7.2 Explain the significance of key ideas contained in the Declaration of Independence, the United States Constitution, and the Bill of Rights
- 5.7.1 Investigate basic rights and responsibilities of citizens in present-day government
- 7.8.4 Evaluate the principles of government embodied in the United States Constitution
- 8.6.1 Compare the foundation, function, and powers of the Louisiana and United States Constitutions
- C.2.2 Describe the structure and functions of the federal government as stated in the United States Constitution
- US.6.4 Describe events that changed American people's perceptions of government over time

Objectives

- To increase teachers' understanding of how the effective use of questioning in the classroom can increase student understanding of content.
- To provide teachers with practical strategies and activities that can be used to facilitate effective questioning in the classroom.
Session Outline

- Understanding Effective Questioning: The 5Ws
  - Why do we need to increase the effectiveness of our questions?
  - Who's asking the questions?
  - When are questions best used?
  - What types of questions are most effective?
  - Where can I find additional resources?

- And...the 1H
  - How do I do it?

Why do we need to ask “better” questions?

- Research connects student engagement through questioning and discussion to improved learning outcomes, including higher levels of thinking and increases in student achievement.
- Instruction which includes posing questions during lessons is more effective in producing achievement gains than instruction carried out without questioning students.
- Students perform better on test items previously asked as recitation questions than on items they have not been exposed to before.
- Oral questions posed during classroom recitations are more effective in fostering learning than are written questions.
Who should be asking questions?

- Students who compose and answer their own questions are perceived as playing an active, initiating role in the learning process.
- Students who can formulate quality questions can become self-directed learners with high levels of intrinsic motivation.
- After learning how to develop quality questions in class, students seem to apply the strategy in other situations.

When should questions be asked?

- Setting the stage for learning - Essential/Guiding Questions
- Chunked within activities
  - Directed Reading-Thinking Activity - group problem solving approach to reading that teaches children comprehension skills through making predictions about the text and finding evidence to support or refute those predictions.
- As part of formal (summative) and informal (formative) assessment
  - Formative assessment strategies are used throughout a unit of study, linked to the instruction and focus on discovering what students know and need to know about the end goal or outcome.
Essential Questions vs Guiding Questions

Essential Questions
- Big ideas
- Provoke deep thought
- Require Information gathering and evaluation of information
- Usually covers more than one lesson
- Can ask for an opinion

Guiding Questions
- Focused on one concept or skill
- Specific to the lesson’s objective
- Have specific answers teachers can expect
- Can be used as part of the assessment

Is it better to be brave or smart?

How does the main character show bravery?

Text-Dependent Questions

- Opinions, Arguments, Inter-textual Connections
- Inferences
- Author’s Purpose
- Vocab & Text Structure
- Key Details
- General Understandings

Whole

Across texts

Entire text

Segments

Paragraph

Sentence

Word

Part
Text-Dependent Questions

- Do the questions require the reader to return to the text?
- Do the questions require the reader to use evidence to support his or her ideas or claims?
- Do the questions move from text-explicit to text-implicit knowledge?
- Are there questions that require the reader to analyze, evaluate, and create?

Questions as Assessment

- Plan ahead with questions that will assess mastery of the objective.
  - Build on student thinking to make connections
  - Challenge students to prove their thinking
  - Probe students’ ideas and misconceptions
  - Bring other student voices into the conversation
  - Engage others to elicit different thinking
- Have a recording procedure
  - Running records, etc.
What kind of questions should be asked?

- Open or Closed?
- Recall or Evaluation?
- Procedural or Higher Order?
- Thin or Thick?
- Skinny or Fat?
- In the Book or In My Mind?

- Bloom’s Taxonomy
- Webb’s Depth of Knowledge (DOK)
- Costa’s Levels of Questioning
- Marzano’s Cognitive and Metacognitive Systems

Bloom’s Taxonomy (Revised)

- Remember
- Understand
- Apply
- Analyze
- Evaluate
- Create

Combining parts to make a new whole
Judging the value of information or ideas
Breaking down information into component parts
Applying the facts, rules, concepts, and ideas
Understanding what the facts mean
Recognizing and recalling facts
Costa’s Levels of Questions

- 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.
Marzano’s Cognitive Taxonomy

- Retrieval
  - Recognizing
  - Recalling
  - Executing

- Comprehension
  - Integrating
  - Symbolizing

- Analysis
  - Matching
  - Classifying
  - Analyzing
  - Generalizing
  - Specifying

- Knowledge Utilization
  - Decision Making
  - Problem Solving
  - Experimenting
  - Investigating

Marzano’s Questioning Sequence

- DETAILS
  Ask questions about important details; areas of focus

- CATEGORIES
  Ask students to identify examples within a category

- ELABORATION
  Ask students to explain reasons for characteristics

- EVIDENCE
  Ask students to identify sources that support their elaborations
Vague Verbs

- Be cautious when using Bloom’s to not have verbs that are vague or cannot be measured/assessed to determine if the student has mastered the content
  - Know
  - Comprehend
  - Understand
  - Appreciate
  - Learn
  - Study
  - Realize

A little about “wait time”

- The average wait-time teachers allow after posing a question is one second or less.
- Students who teachers perceive as slow or poor learners are given less wait-time than those teachers view as more capable.
- Research supports 3+seconds as the minimum wait time for students to process the question and start to come up with an answer.
A little about “wait time”

By increasing wait time to 3-5 seconds, teachers will notice:
- Improvements in the student achievement and retention of content
- Increases in the number of higher cognitive responses generated by students
- Increases in the length and variety of student responses
- Increases in the number of unsolicited responses
- Decreases in students’ failure to respond
- Increases in the amount and quality of evidence students offer to support their inferences
- Decreases in student interruptions
- Increases in student-student interactions
- Increases in the number of questions posed by students

Webb’s Depth of Knowledge

- **Level 1 (Acquired knowledge)** involves recall and reproduction. Remembering facts or defining a procedure.
- **Level 2 (Knowledge Application)** are skills and concepts. Students use learned concepts to answer questions.
- **Level 3 (Analysis)** involves strategic thinking. Complexity increases here and involves planning, justification, and complex reasoning. Explains how concepts and procedures can be used to provide results.
- **Level 4 (Augmentation)** is extended thinking. This requires going beyond the standard learning and asking, how else can the learning be used in real world contexts.
### Difficulty ≠ Complexity

<table>
<thead>
<tr>
<th>Difficulty</th>
<th>Complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of time and effort</td>
<td>Kind of knowledge</td>
</tr>
<tr>
<td>Circumstances and conditions</td>
<td>Type of thinking</td>
</tr>
<tr>
<td>Confidence and capability of the student</td>
<td>Depth and extent of knowledge, understanding, and awareness</td>
</tr>
<tr>
<td>Accuracy of answers</td>
<td>Abstractness of concepts</td>
</tr>
<tr>
<td>Percentage of students answer correctly [p = \frac{\text{count}}{\text{total}} \times 100]</td>
<td>Quality of responses</td>
</tr>
</tbody>
</table>

---

**Where are additional resources?**

- Random Name Spinner: [https://www.classtools.net/random-name-picker/](https://www.classtools.net/random-name-picker/)
- Name Picker Ninja: [https://namepickerninja.com/](https://namepickerninja.com/)
- Using Bloom’s to Improve Instructional Practice: [http://farr-integratingit.net/Theory/CriticalThinking/revisedcog.htm](http://farr-integratingit.net/Theory/CriticalThinking/revisedcog.htm)
- Richardson’s Question to Increase Comprehension: [http://www.janrichardsonguidedreading.com/resources-1](http://www.janrichardsonguidedreading.com/resources-1)
How can you implement effective questioning strategies/activities?

- **Model Self-Questioning - Think Aloud**
  - **Before Reading:**
    - When you first approach a text, ask yourself, “What does the title mean? What does it remind me of? What is the author known for? What do I predict this will be about?”
  - **During Reading:**
    - Throughout your reading, ask questions like, “I am confused by____, I wonder____?” “I do not understand____?” “I like the paragraph about____,” “Why didn’t the character____?”
  - **After Reading:**
    - Once you have completed the text say to yourself, “I originally thought this but now I think____. What is my opinion of this? What did I learn from this?”

---

**Planning and Protocols**

- Explicitly teach students how to write questions using stems.
- Plan questions that encourage thinking and reasoning. Write the questions down!
- Ask questions with a clear content or inquiry skill focus
- Give students time to think (3+ second rule)
- Avoid judging students’ responses
- Follow up students’ responses in ways that encourages deeper thinking
Planning and Protocols

Students need to learn how to answer questions in the classroom and these need to be explicitly taught

- Procedures for choral response
- Partner talk guidelines - ABC feedback
  - Agree with, Build upon or Challenge their response
- Teacher protocols - Pose-Pause-Pounce-Bounce
- “Safe” space to answer

QAR (Question-Answer-Relationships)

4 Types of Comprehension Questions:

<table>
<thead>
<tr>
<th>Right There</th>
<th>Think and Search</th>
<th>Author and Me</th>
<th>On My Own</th>
</tr>
</thead>
<tbody>
<tr>
<td>The answer is there, in one spot, in the passage.</td>
<td>This requires you to think about how different parts of the passage work together.</td>
<td>Use ideas and information that is not stated directly in the passage to answer the question. Think about what you have read and formulate your own ideas or opinions.</td>
<td>Can be answered using your background knowledge on a topic. This type of question does not usually appear on tests of reading comprehension because it does not require you to refer to the passage.</td>
</tr>
<tr>
<td>“According to the passage...”</td>
<td>“The main idea of the passage...”</td>
<td>“The author implies...” “The passage suggests...” “The speaker’s attitude...”</td>
<td>“In your opinion...” Based on your experience... “Think about someone/something you know...”</td>
</tr>
</tbody>
</table>
Richardson’s Questions for Guided Reading

- **Step 1: Turning Facts Into Questions**
  Teaching students how to write questions and answers directly from the text.

- **Step 2: Ask Green Questions (Literal)**
  Answers are found in one spot in the text.

- **Step 3: Ask Red Questions (Inferential)**
  Answers are not found in the text.

- **Step 4: Ask Yellow Questions (Complex)**
  Readers use different parts of the text to ask and answer questions.

- **Step 5: Combine Questions**

Math Questioning Model (OsloMet)

- A teacher in fifth grade in primary school asked her students to calculate $14 \times 7$, using their own methods. After a while she asked the students what answer they had found (A-question), and they answered “98”. She then asked them to describe their methods to find the answer (C-question).

![Diagram of the Math Questioning Model (OsloMet)]
Trisha Weaver

tmweaver@nat.k12.la.us
## Leading Through Quality Questioning  
Walsh and Sattes  

**Follow-Up Questions and Comments to Extend Thinking**

<table>
<thead>
<tr>
<th>Purpose of Question or Comment</th>
<th>Examples and Stems</th>
</tr>
</thead>
</table>
| **To expose and get behind thinking** | Help me understand what you were thinking when you said .. .  
Can you help me understand how you reached that conclusion?  
How did you know?  
What assumptions are you making when you say that?  
What experiences have you had that lead you to this conclusion?  
What data did you use to reach that inference?  
What do you mean by ... ?  
What criteria did you use to make that assessment?  
How does your perspective compare to . . . ?  
Is there anyone who has a different perspective who has not yet spoken? |
| **To confirm our own understanding of the speaker's statement** | Let's see if I've got this right. *(Summarize your understanding of what the speaker said.)*  
I understood you to say. . . Am I interpreting your comments correctly?  
So you think that ... ? |
| **To elicit extension or expansion of thinking** | How else might we think about ... ?  
What if ...?  
Can you give an example?  
Can you be more specific?  
How could we go about finding out?  
How are you planning to go about ... ?  
I follow your logic. What's best to do at this point?  
I'd like to hear more of your thinking.  
Please say more.  
What can we infer from ... ?  
What do you mean by the word ... ?  
Keep going. I'd like to hear more.  
Let's take this a little further. Can you say more? |
| **To encourage self-assessment** | Which part are you sure of? What is still puzzling you?  
What did you learn when . . . ?  
Is that an observation or a hypothesis?  
How do you feel about . . . ?  
What can we learn from this?  
Do we have all the facts?  
Is there other evidence we might try to collect?  
How does this work for you?  
Where are you in relation to this topic? |
<table>
<thead>
<tr>
<th>Domain 3: Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component 3b: Using Questioning and Discussion Techniques</td>
</tr>
<tr>
<td>Elements Include:</td>
</tr>
<tr>
<td>• Quality of Questions/Prompts: Questions of high quality cause students to think and reflect, to deepen their understanding, and to test their ideas against those of their classmates. When teachers ask questions of high quality, they ask only a few of them, and they provide students with sufficient time to think about their response, to reflect on the comments of their classmates, and to deepen their understanding. Occasionally, for the purposes of review, teachers ask students a series of (usually low-level) questions in a type of verbal quiz. This may be helpful for the purpose of establishing the facts of an historical event, for example, but they should not be confused with the use of questioning to deepen students’ understanding.</td>
</tr>
<tr>
<td>• Discussion Techniques: Effective teachers promote learning through discussion. Some teachers report that “we discussed x” when what they mean is that “I said x.” That is, some teachers confuse discussion with explanation of content; as important as that is, it’s not discussion. Rather, in a true discussion, a teacher poses a question, and invites all students’ views to be heard, and enabling students to engage in discussion directly with one another, not always mediated by the teacher.</td>
</tr>
<tr>
<td>• Student Participation: In some classes a few students tend to dominate the discussion, other students, recognizing this pattern, hold back their contributions. Teacher uses a range of techniques to ensure that all students contribute to the discussion, and enlist the assistance of students to ensure this outcome.</td>
</tr>
<tr>
<td>Indicators Include:</td>
</tr>
<tr>
<td>• Questions of high cognitive challenge, formulated by both students and teacher</td>
</tr>
<tr>
<td>• Questions with multiple correct answers, or multiple approaches even when there is a single correct response</td>
</tr>
<tr>
<td>• Effective use of student responses and ideas</td>
</tr>
<tr>
<td>• Discussion with the teacher stepping out of the central, mediating role</td>
</tr>
<tr>
<td>• High levels of student participation in discussion</td>
</tr>
</tbody>
</table>
**Domain 3: Instruction**

**Component 3b: Using Questioning and Discussion Techniques**

<table>
<thead>
<tr>
<th>Critical Attributes</th>
<th>Ineffective</th>
<th>Effective: Emerging</th>
<th>Effective: Proficient</th>
<th>Highly Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions are rapid-fire, and convergent, with a single correct answer.</td>
<td>Teacher frames some questions designed to promote student thinking, but only a few students are involved.</td>
<td>Teacher uses open-ended questions, inviting students to think and/or have multiple possible answers.</td>
<td>In addition to the characteristics of “proficient,”</td>
<td></td>
</tr>
<tr>
<td>Questions do not invite student thinking.</td>
<td>The teacher invites students to respond directly to one another’s ideas, but few students respond.</td>
<td>The teacher makes effective use of wait time.</td>
<td>- Students initiate higher-order questions.</td>
<td></td>
</tr>
<tr>
<td>All discussion is between teacher and students; students are not invited to speak directly to one another.</td>
<td>Teacher calls on many students, but only a small number actually participate in the discussion.</td>
<td>The teacher builds on student responses to question effectively.</td>
<td>- Students extend the discussion, enriching it.</td>
<td></td>
</tr>
<tr>
<td>A few students dominate the discussion.</td>
<td>In addition to the characteristics of “proficient,”</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Students invite comments from their classmates during a discussion.

- Many students actively engage in the discussion.
Innovative Learning Question Stems

© Functional Teaching • FunctionalTeaching.com
<table>
<thead>
<tr>
<th>cognitive domain</th>
<th>learning map area</th>
<th>key words</th>
<th>question stems</th>
</tr>
</thead>
</table>
| level i - remembering | assessment prompts low level | choose, how, match, recall, select, spell, when, who, define, label, name, relate, show, tell, where, why, find, list, omit, what, which | What is...?  
Where is...?  
How did ___ happen?  
Why did...?  
When did...?  
How would you show...?  
Who were the main...?  
Which one...?  
How is...?  
When did ____ happen?  
How would you explain...?  
How would you describe...?  
Can you recall...?  
Can you select...?  
Can you list three...?  
Who was...? |
| level ii - understanding | assessment prompts low level | classify, explain, interpret, show, compare, extend, outline, summarize, contrast, illustrate, relate, translate, demonstrate, infer, rephrase | How would you classify the type of...?  
How would you compare/contrast...?  
State or interpret ______ in your own words...?  
How will you rephrase this meaning...?  
What facts or ideas show...?  
What is the main idea of...?  
Which statements support...?  
Can you explain what is happening...?  
What is meant...?  
What can you say about...?  
Which is the best answer...?  
How would you summarize...? |
| level iii - applying | essential questions medium level | apply, develop, make use of, select, build, experiment with, model, solve, choose, identify, organize, utilize, construct, interview, plan | How would you use...?  
What examples can you find to...?  
How would you solve...?  
How would you organize & show...?  
Show your understanding of...?  
How would you apply what you learned to develop...?  
What questions would you ask in an interview with...?  
What other way would you plan to...?  
What would result if...?  
Make use of these facts to...?  
What elements would you choose to change...?  
What facts would you select to show...? |
| level iv - analyzing | essential questions medium level | analyze, contrast, function, simplify, assume, discover, inference, survey, categorize, dissect, inspect, take part in, classify, distinguish, list, test for, compare, divide, motive, theme, conclusion, examine, relationships | What are the parts of features of...?  
How is ____ related to...?  
Why do you think...?  
What is the theme...?  
What motive is there...?  
Can you list the parts...?  
What inference can you make...?  
What conclusions can you draw...?  
How would you classify...?  
How would you categorize...?  
Can you identify the parts...?  
What evidence can you find...?  
What is the relationship between...?  
Can you distinguish between...?  
What is the function of...?  
What ideas justify...? |
<table>
<thead>
<tr>
<th>Level V - Evaluating</th>
<th>Unit Essential Questions</th>
<th>High Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>agree, deduct, interpret, recommend, appraise, defend, judge, rule on, assess, determine, justify, select, award, disprove, mark, support, choose, dispute, measure, value, compare, estimate, opinion, conclude, evaluate, perceive, criteria, explain, prioritize, criticize, importance, prove, decide, influence, rate</td>
<td>What choices would you have made...?</td>
<td>Do you agree with the actions...? With the outcome...?</td>
</tr>
<tr>
<td>What is your opinion of...?</td>
<td>How would you prove...? Disprove...?</td>
<td>Can you assess the value or importance of...?</td>
</tr>
<tr>
<td>How would you rate the...?</td>
<td>What would you cite to defend your actions...?</td>
<td>What would you prove...? Decide...?</td>
</tr>
<tr>
<td>What judgment would you make about...?</td>
<td>What criteria would you use to support the view...?</td>
<td>What way would you design...?</td>
</tr>
<tr>
<td>Based on what you know, how would you explain...?</td>
<td>How would you justify...?</td>
<td>What could be done to maximize (minimize)...?</td>
</tr>
<tr>
<td>What information would you use to support the view...?</td>
<td>What data was used to make the conclusion...?</td>
<td>Why is it better that...?</td>
</tr>
<tr>
<td>Why is it better that...?</td>
<td>How would you compare the ideas? People...?</td>
<td>Can you construct a model that would change...?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level VI - Creating</th>
<th>Unit Essential Questions</th>
<th>High Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>adapt, delete, improve, predict, build, design, invent, propose, change, develop, make up, solution, choose, discuss, maximize, solve, combine, elaborate, minimize, suppose, compile, estimate, modify, test, compose, formulate, original, theory, construct, happen, originate, create, imagine, plan</td>
<td>What changes would you make to solve...?</td>
<td>What changes would you make to solve...?</td>
</tr>
<tr>
<td>How would you improve...?</td>
<td>How would you improve...?</td>
<td>What would happen if...?</td>
</tr>
<tr>
<td>What would happen if...?</td>
<td>Can you elaborate on the reason...?</td>
<td>Can you elaborate on the reason...?</td>
</tr>
<tr>
<td>Can you elaborate on the reason...?</td>
<td>Can you propose an alternative...?</td>
<td>Can you propose an alternative...?</td>
</tr>
<tr>
<td>Can you formulate a theory for...?</td>
<td>Can you predict the outcome if...?</td>
<td>Can you predict the outcome if...?</td>
</tr>
<tr>
<td>How would you test...?</td>
<td>How would you estimate the results for...?</td>
<td>How would you estimate the results for...?</td>
</tr>
<tr>
<td>Can you formulate a theory for...?</td>
<td>What facts can you compile...?</td>
<td>What facts can you compile...?</td>
</tr>
<tr>
<td>What could be combined to improve (change)...?</td>
<td>How would you adapt ____ to create a different...?</td>
<td>How would you adapt ____ to create a different...?</td>
</tr>
<tr>
<td>Suppose you could ______ what would you do...?</td>
<td>How could you change (modify) the plot (plan)...?</td>
<td>How could you change (modify) the plot (plan)...?</td>
</tr>
<tr>
<td>What could be combined to improve (change)...?</td>
<td>Can you construct a model that would change...?</td>
<td>Can you construct a model that would change...?</td>
</tr>
</tbody>
</table>
| Can you think of an original way for the...? | Can you think of an original way for the...? | Can you think of an original way for the...?
Costa’s Levels of Questioning

Math

**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...
- Explain the concept of...
- Give me an example of...
- Describe in your own words what ________ means
- What mathematical 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?
- What occurs when..?
- Does it make sense to...?
- Compare and contrast ______ to _______
- What was important about...
- What prior research/formulas support your conclusions?
- How else could you account for...?
- Explain how you calculate...
- What equation can you write to solve the word problem?

**Level 3**
- Predict what will happen to ______ as ______ is changed.
- Using a math 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...
- 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 formula to the subject you're learning?
- What type of evidence is most compelling to you?
**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 of, 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...
- What would happen to ____ if ______ variable were increased/decreased?
- How would repeated trials affect your data?
- What significance is this experiment 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?
**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?
Level 1
What information is given?
What are you being asked to find?
When did the event take place?
Point to the...
List the...
Name the...
Where did...?
What is...?
Who was/were...?
Make a map of...

Level 2
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?
Compare and contrast _____ to ______
What other ways could _____ be interpreted?
What things would you have used to...
What is the main idea of the event?
What information supports your explanation?
What was the message in this event...
Explain the concept of...
Give me an example of...
Describe in your own words

Level 3
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 event...
Describe the events that might occur if...
Pretend you are...
What would the world be like if...
How can you tell if your analysis is reasonable?
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?
### QAR Question Stems

#### In the Book

<table>
<thead>
<tr>
<th>Right There</th>
<th>Think &amp; Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>What did...</td>
<td>How do you...</td>
</tr>
<tr>
<td>Who did...</td>
<td>What happened to...</td>
</tr>
<tr>
<td>How many...</td>
<td>How long did...</td>
</tr>
<tr>
<td>What was...</td>
<td>How time did...</td>
</tr>
<tr>
<td>Who are...</td>
<td>What happened before...</td>
</tr>
<tr>
<td>When did...</td>
<td>What happened after...</td>
</tr>
<tr>
<td>What does...</td>
<td>How would you describe...</td>
</tr>
<tr>
<td>What kind...</td>
<td>What examples...</td>
</tr>
<tr>
<td>Who is...</td>
<td>Where did...</td>
</tr>
<tr>
<td>What is...</td>
<td>How do you make...</td>
</tr>
<tr>
<td>Where is...</td>
<td>Why does...</td>
</tr>
<tr>
<td>Name...</td>
<td>Explain...</td>
</tr>
<tr>
<td>List...</td>
<td>Compare...</td>
</tr>
</tbody>
</table>

#### In My Head

<table>
<thead>
<tr>
<th>Author &amp; Me</th>
<th>On My Own</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you agree with...</td>
<td>Have you ever...</td>
</tr>
<tr>
<td>Why did the main character...</td>
<td>What are the reasons that...</td>
</tr>
<tr>
<td>What did they mean by...</td>
<td>If you could...</td>
</tr>
<tr>
<td>How did she/he feel when...</td>
<td>If you were going to...</td>
</tr>
<tr>
<td>Give the reasons why...</td>
<td>What are the pros &amp; cons of...</td>
</tr>
<tr>
<td>What do you think...</td>
<td>Do you know anyone who...</td>
</tr>
<tr>
<td>What if...</td>
<td>How do you feel about...</td>
</tr>
<tr>
<td>What do you think will happen...</td>
<td>What is your favorite...why...</td>
</tr>
<tr>
<td>What did the author mean by...</td>
<td>What do you do when...</td>
</tr>
<tr>
<td>What did the character learn about...</td>
<td>What can be exciting about...</td>
</tr>
<tr>
<td></td>
<td>What do you already know about...</td>
</tr>
<tr>
<td></td>
<td>What would you do if...</td>
</tr>
</tbody>
</table>
Jan Richardson: How to Use Asking Questions to Increase Comprehension

“Questioning is a critical comprehension strategy that helps readers construct and extend meaning. It is one of the most powerful strategies students can learn, and one of the easiest for you to teach.” Jan Richardson, pg. 209, The Next Step in Guided Reading

**Step 1: Turning Facts Into Questions**

Green Cards – Teaching students how to answer a question that is answered, ‘right there’.

- Students make two columns in their notebooks, one for “Facts”, one for “Questions.
- Ask students to read the text, write a fact from story, paragraph, or article in Column 1.
- Turn the fact into a question in Column 2.
- After reading, close books/text and take turns asking questions and calling on others in group/class to answer.
- If no one can answer, students can look back for the answer in the text.

**Step 2: Ask Green Questions (Literal)**

Green Question Cards – Students must know Step 1 before doing Step 2.

- Students make two columns in their notebooks, one for “Question”, one for “Answer”.
- Students read, stop and write a green question, Column 1, that is answered in the text.
- Students close their books and write the answer to the question in, Column 2.
- Share and discussion- students take turns answering with books closed. Only if no one can answer, allow them to look back in the text, or to confirm
Step 3: Ask Red Questions  (Inferential) Interpretive Level

Red Question Cards – Answers are not found in the text

- As students read, they ask (and write down) questions that begin with Red Card words, I wonder why..., How could..., Why would...., What if....What would happen if....

- Guide students to ask questions that could be answered using background knowledge and information in the text. Model for them.

- When sharing, encourage students to think of more than one logical answer.

- After a few days/rounds of practice of writing just the red questions, require them to write answers in their notebooks. Encourage divergent thinking and different answers.

Step 4: Ask Yellow Questions (Complex)

Yellow Question Cards – Readers use different parts of the text to ask and answer questions

- Questions include, cause/effect, compare/contrast and idea-to-examples.

- Students are proficient at green and red questions before doing yellow questions.

- Teacher models, students practice. (Review cause/effect pgs. 225-227)

Step 5: Combine Questions

Students must know how to ask at least two kinds of questions to combine questions/strategies.

Ask Green and Red Questions:

- Students make two columns in their notebooks.

- As they read, they must think of a green question for column 1 and red for column 2.

- Early/fast finishers make more questions for the group.

- During sharing, students share one question.

- Before the group answers, students decide if it’s a green or red question.

Question-Answer & Connection or Prediction

- Three column framework

- Students write a question (red, yellow, green) in Column 1, answers in Column 2 and a prediction in Column 3.

- At the Evaluative Level in Fiction or Non-Fiction, students think of a question that asks for an opinion or a judgment. (Why do you think? Do you agree (disagree) that...? Do you think it was right for ...?)
**Conversation Stems for Grades 3-5**

If you want to express your ideas clearly...

<table>
<thead>
<tr>
<th>Listener Prompt</th>
<th>Speaker Response</th>
</tr>
</thead>
</table>
| ● What do you think about ____?                      | ● Overall what I’m trying to say is ____.
| ● How did you answer ___[the question]___?            | ● My whole point in one sentence is ____.
| ● What is the most important idea you are communicating? |                                                     |
| ● What is your main point?                           |                                                     |

If you want to make sure you are listening carefully and clearly understand the ideas presented...

<table>
<thead>
<tr>
<th>Listener Prompt</th>
<th>Speaker Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>● You said _____. Did I hear you correctly?</td>
<td>● Yes/no. I said _____.</td>
</tr>
<tr>
<td>● I heard you say ____. Is that correct?</td>
<td></td>
</tr>
<tr>
<td>● Put another way, are you saying ____?</td>
<td></td>
</tr>
<tr>
<td>● Tell me more about _____. or Say more about _____.</td>
<td>● Sure. I said <em><strong>[restate what was said and add further explanation or examples]</strong></em>.</td>
</tr>
<tr>
<td>● I’m confused when you say ___. Say more about that.</td>
<td>● An example is ____ because <em><strong>[explain why]</strong></em>.</td>
</tr>
<tr>
<td>● Give me an example.</td>
<td></td>
</tr>
<tr>
<td>● Who can rephrase what X said?</td>
<td>● X said _____.</td>
</tr>
</tbody>
</table>

If you want to dig deeper and provide evidence to support your claims...

<table>
<thead>
<tr>
<th>Listener Prompt</th>
<th>Speaker Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>● What in the text makes you think so?</td>
<td>● According to the text _____. This means _____.</td>
</tr>
<tr>
<td>● How do you know? Why do you think that?</td>
<td>● If you look at _____, it says ____. This means _____.</td>
</tr>
<tr>
<td>● Explain how you came to your idea.</td>
<td>● I think ____ because _____.</td>
</tr>
</tbody>
</table>

If you want to establish new ways of thinking by elaborating on or challenging the thinking of others...

<table>
<thead>
<tr>
<th>Listener Prompt</th>
<th>Speaker Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Who can add to what X said?</td>
<td>● Adding to what X said, _____.</td>
</tr>
<tr>
<td>● I agree, and I want to add _____.</td>
<td></td>
</tr>
<tr>
<td>● Who agrees/disagrees with X?</td>
<td>● What X said supports what I am saying because _____.</td>
</tr>
<tr>
<td>● I agree/disagree with X because _____.</td>
<td>● I see it similarly/differently because _____.</td>
</tr>
<tr>
<td>● How does that idea compare with X’s idea?</td>
<td></td>
</tr>
<tr>
<td>● What do you think about X’s idea?</td>
<td></td>
</tr>
<tr>
<td>● X’s point ____ is important/defect because _____.</td>
<td></td>
</tr>
<tr>
<td>● Whose thinking has changed as a result of this conversation? How and why has it changed?</td>
<td></td>
</tr>
<tr>
<td>● Before I thought ____, but now I think ____ because _____.</td>
<td></td>
</tr>
<tr>
<td>● My new thinking is ____ because _____.</td>
<td></td>
</tr>
<tr>
<td>● Now that you’ve heard <strong><strong>[summarize the conversation so far]</strong></strong>, what are you thinking? What are you still wondering about?</td>
<td>● I still think _____, but now I wonder _____.</td>
</tr>
</tbody>
</table>

---

5. Example Questions for Inquiry Instruction

5.1 Questions in Engage Phase
- Have you heard …? Have you seen …? Have you ever thought …?
- What if … then …?
- What did you observe…?
- What is…? Where is …?
- When did ____ happen?
- Can you list the…?
- What evidence of water appears in this container?
- What substances from your everyday experience appear dry, but actually contain water?

Purposes of Questions in Engage Phase
- To initiate/increase students’ motivation and interest
- To assess prior knowledge and understanding
- To encourage students to actively engage in the lesson
- To guide students to see the value of the lesson
- To guide students to formulate scientific questions

5.2 Questions in Explore Phase
- How is ______ related to your question/hypothesis?
- What questions/hypothesis do you have…?
- Can you identify the different parts . . . ?
- What evidence do you expect . . . ?
- What is fixed here, and what can we change?
- Can you list the three …?
- How would you control …?
- How would you change …?
- What have you decided to investigate?
- What is the same and what is different here?
- What would happen if you changed this… to this…?
- What mistakes have you made in…?
- How many times do you think you need to test to be certain about your results?
- How will you remember all of your observations?
- Can you suggest a different way of doing this?
- How do these results compare with your first test?

Purposes of Questions in Explore Phase
- To help students formulate scientific questions
- To guide students to formulate hypotheses
- To guide students to identify DVs and IVs in their investigations
- To help them discover the need for and how to control and manipulate variables
- To help them discover the need for and how to conduct repeated trials
- To guide them to find the better ways of collecting data through trials and errors
- To help them to organize the data they have collected and are collecting
5.3 Questions in Explain Phase

- How would you classify the type of...? • How would you compare...? Or contrast...?
- How would you categorize...? • What evidence did you find...?
- Can you construct a model that would explain...?
- How is _____ related to your questions/hypotheses?
- What inference can you make...? • What ideas justify...?
- What conclusions can you draw...?
- What is the relationship between...?
- How would you prove/disprove...?
- Why did they (the character) choose...? • How could you determine...?
- What choice would you have made...?
- What data was used to make the conclusion...?
- What information would you use to support the view...?
- In what way do these results compare to those with other values?
- How might we then explain the existence of these results?
- After you have driven off all the water, what will continue heating to the mass?
- How will your group clearly present your findings to the rest of the class?

Purposes of Questions in Explain Phase
- To guide students to identify patterns and relationships in provided data
- To help students to use appropriate inferences by using data collected
- To provide an opportunity for students to prove/disprove hypotheses, formulate an explanation, and offer evidence to support their ideas
- To promote interpreting data, defending their results, scientific reasoning, evaluating the results and explanation, and developing alternative explanations.
- To help students to make connections to scientific knowledge that supports their explanations by using scientific terms and vocabularies.
- To guide students to organize data into graphs, tables, and/or charts that represents their results properly.
- To allow students time and opportunity to reflect upon and verbalize their results and explanation by using data collected
- To support student own understanding of the concept and promote students’ thinking about the way they have learned
- To observe and strategically question students to clarify and extend their thinking
- To provide opportunities for students to demonstrate their understanding, skills and new learning

5.4 Questions in Extend/Application Phase

- How would you solve ____ using what you’ve learned...?
- How would you apply what you learned to develop...?
- What other way would you plan to...?
- What would result if...?
- What elements would you use to change...?
- What changes would you make to solve...?
- How would you improve...?
• How would you adapt ____________ to create a different…?
• What way would you design…?
• Suppose you could _____what would you do…?
• Can you predict the outcome if…?
• Can you construct a model that would change…?
• What do you think would happen to the landforms if we used more water?

**Purposes of Questions in Extend/Application Phase**
• To guide students propose new contexts and applications of concept
• To help students to develop new questions to extend the investigation
• To create opportunities for students to transfer learning to different contexts or situations
• To help students to see connections between what they have learned and everyday lives
• To encourage students make connections that will help them move information to long-term memory
Tip: Make class norms for wait time
A thoughtful teacher is intentional in making room for student questions—both spontaneous and planned. Also, active and respectful listening—by both students and teacher—seems to be a hallmark of this classroom community. If inquiry and individual engagement are to characterize a classroom, then the teacher must proactively work with students to establish norms that support this orientation. For example, a teacher might introduce the norm “We all need time to think before speaking” by sharing research from Mary Budd Rowe (1972) about Wait Time 1 in this manner:

“Sometimes, when I ask a question, several of you raise your hands right away. You know an answer immediately and you want to share it! Others of you are still thinking. And that’s OK. In fact, I’m going to ask all of us to take more time before we speak and to use that time to think. Because even if you have an answer right away, if you think about the question for a little while before you speak, you may come up with another answer or a better answer. Why do you think it would be good to take some time to think before speaking?”

Following some discussion by the students, the teacher might continue:

“A researcher named Dr. Rowe has actually studied how long we should wait and think—and what happens when we take the time to think after a question is asked. She discovered that if we wait three to five seconds before anyone speaks, student answers are better! The answers are more complete, they are longer, and they are more ‘on target’ with the question. She also found that students are more sure of their answers. They don’t just guess as often.”  

After students demonstrate an initial understanding of this norm, it can be reinforced through practice and feedback. “Let’s try this Wait Time 1. I’m going to ask a question, and then I want all of us to say together, ‘one-thousand-and-one, one-thousand-and-two, one-thousand-and-three.’ Then I’ll call on someone to answer. OK?" “How do the two major political parties in our country select their presidential candidates?—OK, one-thousand-and-one, one-thousand-and-two, one-thousand-and-three. Carmen.” “How does it feel to wait that long before being called upon to answer a question?” “What might be the value of waiting and thinking before speaking?” “Now I want you to practice this in your teams. Team leaders, you’ll find a set of questions in your folders. You are to facilitate a team discussion, using Wait Time 1 after posing each question.”

Example Norms for Questioning
• We all need time to reflect on past experiences if we are to gain new understandings.
• We all need time to think before speaking.
• We all need time to think out loud and complete our thoughts.
• We learn best when we formulate and answer our own questions.
• We learn from one another when we listen with attention and respect.
• When we share talk time, we demonstrate respect, and we learn from one another.

Norms can be defined as stated or unstated group expectations related to individual behavior. They develop formally and informally as people interact with one another; over time, these norms become behavioral blueprints for individuals to follow (Deal & Peterson, 1998). Teachers can use norms to help students become comfortable as active participants in their learning. (Adapted from Walsh et. al., 2004, Quality questioning: Research-based practice to engage every learner. Thousand Oaks, CA: Corwin)
References


### Questions about the Past and Present
- What do we know? How do we know? What does it matter?
- How do/have groups interact/ed? What were the results?
- What do you think ___ meant when he/she said...?
- What would ___ feel/think/do about ...?
- What was/will be the impact of this decision?
- What changed/changes? What remains the same?
- How am I connected to the past/present situations?

### Questions about Geography and Culture
- What is it? Where is it? Why is it there? Why should we care?
- How does where a person lives impact how they live?
- In what ways do the movements of people, goods, and ideas change the world?
- How does what a person/group/society believes/holds important/celebrates impact their actions?
- What happens when cultures meet?
- How and why do we develop and pass down the institutions we do?

### Questions about Government & Economics
- What are the roles and responsibilities of citizens in...?
- What changes could be made to benefit society?
- Is “new” always “better”? 
- Who are the “heroes”/”villains” in this society? What does that reveal?
- In what ways did/will technology change the world?
- In what ways are (group to group) (us to them) (past to present) similar and different?

### Questions about Society and the Future
- What are the pros and cons of this choice?
- How is this related to that?
- What would happen if ...?
- Can you find evidence to prove this ...?
- What does this remind you of?
- What most surprises you/makes you curious about this...?
- What can we learn from this?

### Overarching Questions
- What should the balance be between the public good and individual rights?
- How does the government/economic system impact life?
- How should we protect people’s security?
- How should we organize resources to meet the needs of people?
- How do/did people make a living?
- What should we produce? How should we produce it? For whom do we produce it?

---

Authentic Social Studies Questions—Amy Mount—amy.mount@tylerisd.org / amylunnmount@gmail.com
MATH QUESTIONS FOR STUDENT REFLECTION:
@TEACHHEATH

Check for Accuracy (You KNOW the student understands the topic):
1. Explain your method or strategy you used - Why did you choose that method?
2. Would it work if you didn’t use that method?
3. If you broke this down into parts, what would they be?
4. Can you create and solve a problem similar to this one?
5. Try doing this a different way to show your thinking.
6. Can you think of an anti-example?

Check for Understanding (You THINK a student understands the topic):
1. Why is your method and answer correct?
2. Can you convince us you are correct?
3. Have you thought about all parts of your answer? Are there places where you could be wrong?
4. Can you explain your thinking in simpler terms?
5. Can you make a model to show that?

Check for Clarity (You THINK the student may confused):
1. What do you need to find out?
2. What strategies will you use?
3. How would you describe the problem in your own words?
4. Could you try this with simpler numbers? Fewer numbers?
5. What did other members of your group try?
6. What pieces of the problem make sense to you and which parts are confusing?

Giving Clarity (You KNOW the student is confused):
1. Which words are important?
2. Where do you think we should start?
3. Where are your issues with this problem? What confuses you?
4. Did you try a different method? Pictures or models?
5. Try explaining your thoughts. Start by saying “I know I have to do ....because...”
6. Where can you find the help you need?
7. How can your group members help you? Draw it? Talk about it?
Handout 3: Five principles for effective questioning

1. Plan to use questions that encourage thinking and reasoning

Really effective questions are planned beforehand. It is helpful to plan sequences of questions that build on and extend students’ thinking. A good questioner, of course, remains flexible and allows time to follow up responses.

| Beginning an inquiry | • What do you already know that might be useful here?  
|• What sort of diagram might be helpful?  
|• Can you invent a simple notation for this?  
|• How can you simplify this problem?  
|• What is known and what is unknown?  
|• What assumptions might we make? |
|----------------------|----------------------------------|
| Progressing with an inquiry | • Where have you seen something like this before?  
|• What is fixed here, and what can we change?  
|• What is the same and what is different here?  
|• What would happen if I changed this ... to this ... ?  
|• Is this approach going anywhere?  
|• What will you do when you get that answer?  
|• This is just a special case of ... what?  
|• Can you form any hypotheses?  
|• Can you think of any counterexamples?  
|• What mistakes have we made?  
|• Can you suggest a different way of doing this?  
|• What conclusions can you make from this data?  
|• How can we check this calculation without doing it all again?  
|• What is a sensible way to record this? |
|----------------------|----------------------------------|
| Interpreting and evaluating the results of an inquiry | • How can you best display your data?  
|• Is it better to use this type of chart or that one? Why?  
|• What patterns can you see in this data?  
|• What reasons might there be for these patterns?  
|• Can you give me a convincing argument for that statement?  
|• Do you think that answer is reasonable? Why?  
|• How can you be 100% sure that is true? Convince me!  
|• What do you think of Anne’s argument? Why?  
|• Which method might be best to use here? Why? |
|----------------------|----------------------------------|
| Communicating conclusions and reflecting | • What method did you use?  
|• What other methods have you considered?  
|• Which of your methods was the best? Why?  
|• Which method was the quickest?  
|• Where have you seen a problem like this before?  
|• What methods did you use last time? Would they have worked here?  
|• What helpful strategies have you learned for next time? |
2. **Ask questions in ways that include everyone**

It is very important that everyone is included in thinking about the questions asked. Here are three ways that teachers have tried to achieve this:

- **Use a ‘no hands up’ rule.** After a few hands have gone up some students stop thinking because they know that the teacher will not ask them. When students have their hands up they too stop thinking as they already have the answer they want. ‘No hands up’ encourages everyone to keep thinking as anyone may be called upon to respond.
- **Ask questions that encourage a range of responses.** Rather than asking for specific right answers, ask for ideas and suggestions: “How can we get started on this?”, “What do you notice about this?” Everyone will then be able to offer a response.
- **Avoid teacher - student - teacher - student ‘ping pong’.** Encourage students to listen to and to reply to each other’s responses. Aim for a pattern more like: teacher - student A - student B - student C - teacher.
- **Arrange the room to encourage participation.** Think about where students are sitting – are there some who cannot hear? Can students see and hear one another so that they can respond to the points another student makes? It is often better to sit students in a U-shape, if possible.

3. **Give students time to think**

The time interval between a teacher asking a question and supplying the answer herself, or following up with an additional question or comment, is commonly called ‘wait time’. For many teachers, the mean wait time is less than one second (Rowe (1974)\(^1\)). When teachers increase this wait time to between three and five seconds the research shows that students begin to:

- respond at greater length and with greater confidence;
- offer more unsolicited, but appropriate, responses;
- offer more diverse, alternative explanations;
- relate responses to those from other students.

Increasing wait time is difficult. Silence in a classroom can be hard to bear!

- **Talk to students about ‘wait time’.** Make sure that students know that they must take time to think before responding. (Some teachers even make themselves wait by counting slowly to themselves: “One, two, three, four, got to wait a little more”!)  
- **Use “Think - Pair – Share”.** Ask the question, give 10 seconds thinking time and then allow 30 seconds for talking to a partner. After this, everyone should be ready with an answer and they should know that anyone may be asked for what they think.  
- **Use mini whiteboards.** Ask the students to spend 30 seconds thinking about the problem and jotting ideas for the solution onto their mini whiteboards. Then ask the students to share the ideas they had for starting the problem

---

\(^1\) Rowe, M. B. 1974. ‘Wait time and rewards as instructional variables, their influence on language, logic and fate control’. 

---
4. **Avoid judging students’ responses**

Interestingly, Rowe (1974) found that if a teacher made judgmental comments, even positive ones such as “Well done!”, then this negatively affected students’ verbal performance even with the lengthened wait times. Task persistence was greatest where verbal rewards were fewer. When a teacher judges every response with ‘yes’, ‘good’, ‘nearly’ and so on, students are likely to reason to themselves:

“The teacher said that was good. That is not what I was going to say. So what I was going to say cannot be good. So I won’t say anything.”

Ask open questions that permit a greater variety of responses and reply to students with comments that do not close off alternative ideas.

“Thank you for that, that is really interesting. What other ideas do people have?”

5. **Follow up students’ responses in ways that encourage deeper thinking**

The following approaches encourage further thinking and dialogue:

<table>
<thead>
<tr>
<th>Approaches</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask students to repeat their explanation</td>
<td>• Can you just say that again?</td>
</tr>
<tr>
<td>Invite students to elaborate</td>
<td>• Can you just say a little more about that ...</td>
</tr>
<tr>
<td>Challenge students to offer a reason</td>
<td>• Can you explain why that works?</td>
</tr>
<tr>
<td>Cue alternative responses</td>
<td>• Can you suggest another way of doing this?</td>
</tr>
<tr>
<td>Support with non-verbal interest</td>
<td>• Nod head, rotate hand to indicate that you want more ...</td>
</tr>
<tr>
<td>Encourage students to speculate.</td>
<td>• What would happen if ...?</td>
</tr>
<tr>
<td>Make challenging statements</td>
<td>• Someone in this group said ... were they right?</td>
</tr>
<tr>
<td>Allow rehearsal of responses</td>
<td>• Try out the answer on your partner first.</td>
</tr>
<tr>
<td>Encourage students to ask questions</td>
<td>• Would anyone like to ask Pat a question about that?</td>
</tr>
<tr>
<td>Ask students to think aloud</td>
<td>• Can you go through that step by step?</td>
</tr>
<tr>
<td>Encourage students to make connections</td>
<td>• Can you remember something else we did like this ...?</td>
</tr>
<tr>
<td>Thinking aloud with students</td>
<td>• Let’s think this through together ...</td>
</tr>
<tr>
<td><strong>Handout 5: Planning for effective questioning</strong></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Plan how you will arrange the room and the resources needed</strong></td>
<td>Arrange students so that they can see and hear one another as well as the teacher. You may need to rearrange chairs in a U shape or the students could move and ‘perch’ closer together. Or maybe you will move to the back of the room so that the question is the focus of attention and not the teacher.</td>
</tr>
<tr>
<td><strong>Plan how you will introduce the questioning session</strong></td>
<td>Silence will be hard for you to bear in the classroom but the students may find it confusing or even threatening. Explain why there will be times of quiet.</td>
</tr>
<tr>
<td><strong>Plan how you will establish the ground rules</strong></td>
<td>If you are using ‘No hands up’ then you will need to explain this to the students. Some teachers have had to ask their students to sit on their hands so that they remember not to put their hands up. The students will be allowed to put their hands up to ask a question, so if a hand shoots up remember to ask them what question they would like to ask. The students may also be used to giving short answers so you could introduce a minimum length rule e.g. ‘your answer must be five words in length as a minimum’.</td>
</tr>
<tr>
<td><strong>Plan the first question that you will use</strong></td>
<td>Plan the first question and think about how you will continue. You cannot plan this exactly as it will depend on the answers that the students give but you might, for example, plan</td>
</tr>
<tr>
<td></td>
<td>▪ to take one answer and then ask others what they think about the reasoning given</td>
</tr>
<tr>
<td></td>
<td>▪ to take two or three answers without comment then ask the next person to say what is similar or different about those answers</td>
</tr>
<tr>
<td><strong>Plan how you will give thinking time</strong></td>
<td>▪ Will you allow 3-5 seconds between asking a question and expecting an answer?</td>
</tr>
<tr>
<td></td>
<td>▪ Will you ask the students to think – pair – share, giving 30 seconds for talking to a partner before offering an idea in whole class discussion?</td>
</tr>
<tr>
<td></td>
<td>▪ Will you use another strategy that allows the students time to think?</td>
</tr>
<tr>
<td><strong>Plan how and when you will intervene</strong></td>
<td>Will you need to intervene at some point to refocus students’ attention or discuss different strategies they are using? Have one or two questions ready to ask part way through the lesson to check on their progress and their learning.</td>
</tr>
</tbody>
</table>