TYPES OF QUESTIONS BASED ON BLOOM'S TAXONOMY

As teachers, we tend to ask questions in the "knowledge" category 80% to 90% of the time. These questions are not bad, but using them all the time is. Further, we can support students in developing and using academic language by modeling and having them practice asking varying levels of questions. Try to utilize higher order level of questions. These questions require much more "brain power," eliciting a more extensive and elaborate response. Below are the six question categories as defined by Bloom.

Category/Skills	Cognitive Tasks	Types of Questions
KNOWLEDGE Memorizing Recalling identification Recalling information Recognizing Remembering	Complete Count Define Describe Identify List Locate Match Name Observe Recite Select Tell	What is the definition of…? Who did…? When did… occur? How much/many …?
COMPREHENSION Describing in one's own words Interpreting Organization and selection of facts and ideas Paraphrasing Translating from one medium to another	Arrange Combine Compare Construct Contrast Describe relationships Distinguish Estimate Experiment Group Infer Invent Make an analogy Organize Plan Produce Report Retell Separate Sequence Use	How did…occur? Why does…occur? What are examples of …? Name types of …?

Adapted from Bloom, et al., 1956

ANALYSIS Applying information to produce some result Finding the underlying structure of a communication Identifying motives Problem solving Separation of a whole into component parts Subdividing something to show how it is put together	Analyze Apply principles or rules Build a model Classify Compile Create Discuss Extrapolate Expand Forecast Generalize Hypothesize Imagine Predict Project Speculate	What are the parts or features of ...? Classify ... according to ... Outline/diagram ... How does ... compare/contrast with ...? What evidence can you list for ...? If…occurs, what would happen? If … changes, what would result? How is ... an example of ...? How is ... related to ...? Why is ... significant?
SYNTHESIS Combination of ideas to form a new whole Creating a unique, original product that may be in verbal form or may be a physical object	Analyze and classify Arrange Assimilate Associate Blend Combine Compose Coordinate Incorporate Integrate Merge Organize Synthesize Unify Unite	What would you predict/infer from ...? What ideas can you add to ...? How would you create/design a new ...? What might happen if you combined ...? What solutions would you suggest for ...?
EVALUATION Development of opinions, judgments or decisions Making value decisions about issues Resolving controversies or differences of opinion	Advise Agree or disagree Argue for or against Choose Evaluate Express an opinion Judge Justify Propose Present advantages or disadvantages Recommend	Do you agree that ...? What do you think about ...? What is the most important ...? Place the following in order of priority ... How would you decide about ...? What criteria would you use to assess ...? What is the best solution? Why?

Adapted from Bloom, et al., 1956

Questioning Strategies

Good questions are …	Avoid …
• **Thought-provoking** (They stimulate thought and response) • **Clear and brief** (Stated in as few words as possible in a way that students understand what is meant) • **Followed by wait time** (At least 5-10 seconds of silence after the question) • **Purposeful** (Asked to achieve a specific purpose)	• **Yes-no** ("Did you go to the ocean station?") • **Vague** (Doesn't give students a clear idea of what is asked for: "Tell me about the water cycle.") • **Tugging** ("Come on, think of one more reason.") • **Guessing** (encourages speculation rather than thought: "How long do you think water molecules spend in the ocean?")

Levels of Questions

Recall (Cognitive Memory, Factual, Input)
Questions used to determine students' knowledge about factual information. Use to reinforce learning and check on student retention.

- ☆ Name 3 states of water in the water cycle.
- ☆ How many times did you visit the ocean station?
- ☆ What is (the definition of) transpiration?

Comprehension (Convergent, Analysis, Interpretation, Process)
Questions used to determine students' understanding of a subject.

- ☆ What processes occur when water molecules move from the ocean to plants?
- ☆ Compare your journey with another person's journey.
- ☆ Explain why your journey was different than your partner's.

Analysis (Divergent, Hypothesis/Prediction, Output)
Questions that require students to take their knowledge and apply it to new situations. Use to determine whether students are making generalizations.

- ☆ What might be affected in the water cycle if there was a source of pollution next to the river?
- ☆ Create a story about what you experienced during your journey.
- ☆ If the average temperature of the earth increased by 5 degrees Celsius, where might activity in the water cycle change, and why?

Evaluation (Evaluative, Critical Analysis, Opinion)
Questions used to give students an opportunity to make a value judgment, express opinions, provide criticisms, or raise their own questions. There are no right or wrong answers. Use to get a feel for what students are thinking, how they are balancing their new learning with prior beliefs and values.

Adapted from Bloom, et al., 1956

- ☆ What are the advantages and disadvantages of “cloud seeding”?
- ☆ What part do humans (you) play in the water cycle?