

TYPES OF QUESTIONS

During the Cartesian diver discussion, the questions the teacher asks are important in directing and focusing the thinking processes of the students. His questions also direct the students toward an intended goal: understanding how the diver works. In inquiry discussions, the teacher's questions can be classified into four types:

1. *Clarifying questions* require students to make their thoughts and understanding more explicit. We ask these when students fail to provide reasonable explanations. Clarifying questions ask the student to restate his or her understanding, elaborate further, or articulate a particular position on a topic. Teachers often pose clarifying questions by asking "What do you mean by that?", "Can you be more specific about that?", or "What's the significance of that?"

2. *Focusing questions* require students to narrow their answers and provide more specific responses. We ask this kind of question when students provide vague or generalized answers. Teachers often pose focusing questions by asking "Can you give me an example of that?"

3. *Probing questions* require a student to justify a response, support a point of view, or analyze a situation to make further generalizations, formulate outcomes, or state a cause-and-effect description. They are aimed at correcting, improving, or expanding a student's original response to a question (Moore, 1994). Teachers ask probing questions when students' answers are flimsy or partially explained or when they feel students know more than they are answering. Probing questions encourage students to clarify answers by providing more evidence or giving supporting details. They also cause students to think and respond at higher cognitive levels. Teachers often pose probing questions by asking, for example, "What if you tried adding more soap solution?", "What do you think will happen if you used a larger marble?", "What do you mean by that?", "What are you thinking about when you say that?", or "What do you think you should do next?"

4. *Prompting questions* require students to provide answers that are guided by questions asked by the teacher. We ask prompting questions when we want a student to come to a particular conclusion. They often contain clues or hints to guide the student to answering correctly. Sometimes, a teacher will use a prompting question as a follow-up question when a student cannot answer an original query correctly. Rather than say that he or she did not answer correctly, a teacher can follow up with a prompting question that is simpler and more direct. This kind of question is reworded from the original question with additional hints and suggestions (Moore, 1994). When a student's response seems to be scattered, the teacher can pose a prompting question that tends to lead to an obvious answer. Some examples of prompting questions are "Don't you think you should try it again?", "Have you thought about trying to increase the angle of the ramp?", "Have you tried using more paper clips?", and "What can you do to the Bugs-o-Copter to make it fall faster?"