Instructor Questions Resource Page

Questions that encourage observations. Use these questions to encourage observations about the physical characteristics of an object or discovery. This helps students get to know the object and gather observations that can be used later as evidence for explanations.

- What do you notice?
- What does it remind you of?
- What can you find out by using your other senses-—smell, touch, etc?
- How heavy/dense is it?
- What can we say about its shape?
- We haven't heard from you, Sarah. Check out the size—what do you see?
- What color is it? Is it the same color everywhere?

Questions that encourage student dialogue. Use these questions to involve all members of the group and to model the importance of multiple perspectives and corroboration in scientific investigation. Questions that ask a student to agree or disagree with another's observations are low-risk and help involve students who may be reluctant to speak. They also encourage student-to-student dialogue.

- Isaiah, do you see the holes, too?
- Do you agree with what Bernice said?
- Does it also seem to be that way from your perspective too?
- What do you think, Juan?

Questions that deepen observations about a specific feature or phenomenon. Use these questions to follow student curiosity about a specific aspect of an object or discovery going beyond general observations. Restating a student's observation before asking another question helps keep the discussion on-track.

- Is there any pattern to what we're observing? If so, is there any place on the object where the pattern does not exist?
- So, Roberto showed us that these holes go all the way through this object. What else can we notice about them? Are they like that everywhere?
- Where have you seen something like this before?
- Is there anything else on the object that could be related to this?

Questions that encourage explanations. Use these types of questions to find out what students are thinking and to encourage them to begin to make explanations based on what they've observed. Make sure students share the evidence behind their explanations.

- What makes you think that?
- How long do you think it has been that way? What's your evidence?
- If it reminds you of an accordion, do we see any evidence it functions like one? Why could that be important?
- Where did this object come from? How long has it been here? How can we tell?
- Has this object been altered by outside forces?
- What could have caused this? Do your observations back up that idea?
- Can anyone else come up with an explanation for what this is or where it came from?