Observe, Describe, Question

What is it?

A technique that encourages students to *observe* carefully, *describe* what they notice, and generate *questions* based on their observations

What are the benefits of using this tool?

Curious learners are constant observers. They pay attention to what's going on around them, and they tend to notice details that others miss. Curious learners are also notorious questioners who are always on the lookout for answers and for new questions to ask. Observe, Describe, Question develops these behaviors in all students. It teaches a three-part thinking process that helps students to notice more and helps them generate questions that are both interesting to them and born out of careful observation.

What are the basic steps?

1. Present students with an item that they will be able to observe closely and generate a wealth of questions about (e.g., an object, animal, data chart, 3D model, piece of art).

Note: The tool can also be used to help students carefully examine and ask questions about a learning experience (as shown in Example 2) or a text (as shown in Example 3).

2. Give students dedicated time to OBSERVE/examine the selected item. Encourage them to pay attention to observable details (e.g., features, colors, patterns, discrepancies). Then ask students to DESCRIBE what they observe or notice using words and/or pictures.

3. Ask students to take a second look. Challenge them to find at least one thing that they didn't notice the first time—ideally more!

4. Invite students to share their observations, either in small groups or as a class.

5. Have students review everyone's observations and jot down any QUESTIONS that spring up. (Observing food scattered all over a zoo animal's enclosure might lead students to ask why the food is scattered versus just put out in a single spot.) Clarify that all questions are welcome.

Tip: To help students develop their question-generating skills, you may want to model and discuss some common types of questions. See Teacher Talk for suggestions.

6. Invite students to share their questions, either in small groups or as a class.

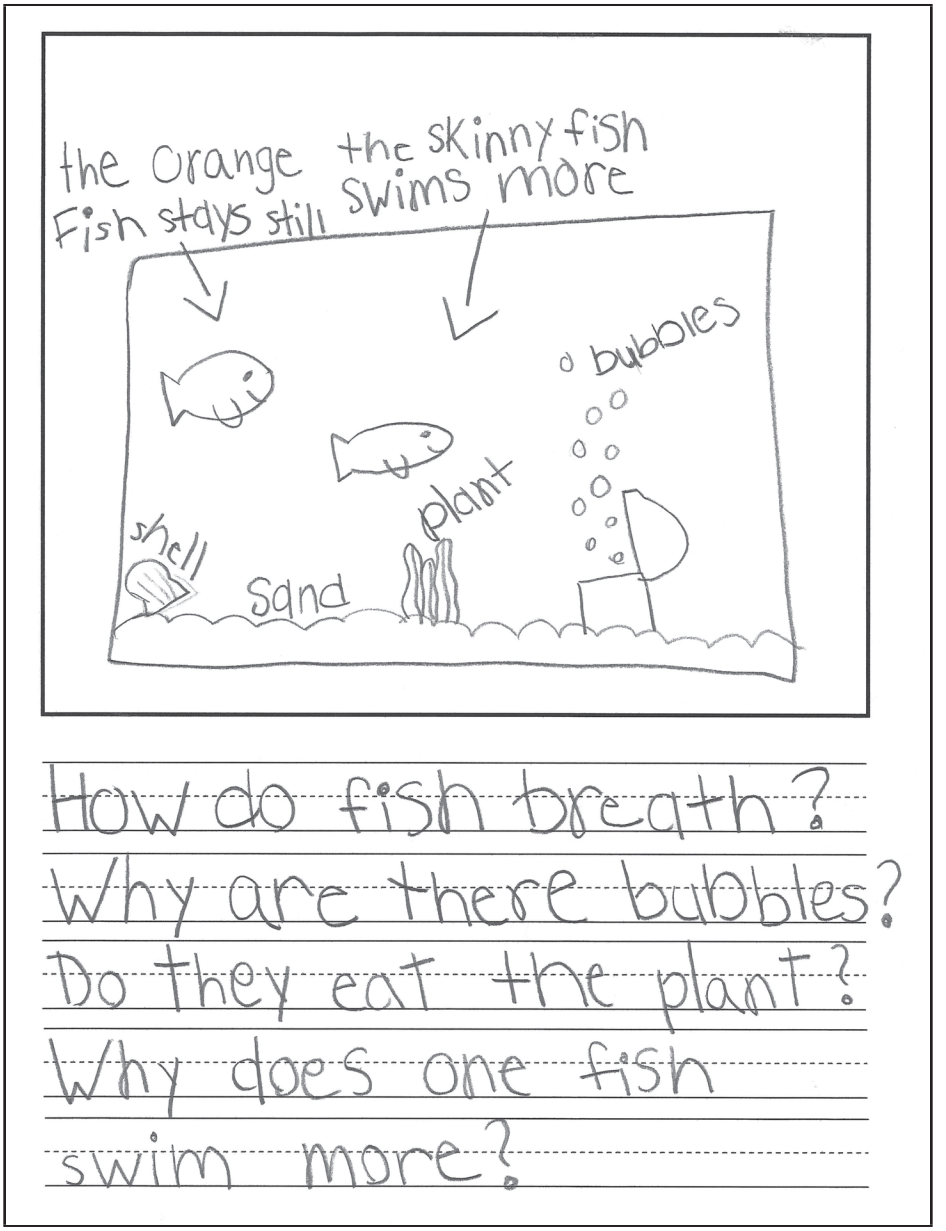
7. *Optional:* Allow students to identify questions that they want to pursue, and work with them to develop a plan for answering those questions. Depending on your goals, students might use their questions to guide research, design an experiment, or develop a design project.

How is this tool used in the classroom?

- ✔ To help all students develop the behaviors associated with curious learners
- ✔ To teach students how to observe closely and describe carefully
- ✔ To invite students to develop questions that are driven by observations and curiosity

EXAMPLE 1: Primary science

As part of a unit on animals and habitats, a second-grade teacher asks students to OBSERVE the fish and their habitat in the classroom fish tank. Students draw the fish tank and record important details that they notice in their drawings (DESCRIBE). The teacher then encourages students to generate their own QUESTIONS about the fish and fish tank based on their observations. Together, the teacher and students review all of the questions and identify three questions they can investigate as a class. One student's drawing, observations, and questions appear below.



EXAMPLE 2: Career and technical education

High school students in the food-service track of their CTE program are having a "learning meal" at a local restaurant. Their teacher uses Observe, Describe, Question to guide their learning in the following way:

- During their meal, students carefully OBSERVE everything they can about what goes into their dining experience. Students make notes to DESCRIBE what they notice.
- After their visit, students share their observations and use the sharing experience to add to their descriptions.
- Working as a class, students use their collective observations to generate QUESTIONS they hope to investigate as they learn more about the restaurant industry.

Some of the students' observations and questions are highlighted in the table below.

OBSERVATIONS	*QUESTIONS*
We were seated near a table of screaming kids, even though there were lots of open tables.	*Why were we seated there? What determines where a customer gets seated?*
I ordered the fish special, but was told that they had run out of it.	*How does a restaurant determine how much food to buy (risk of running out vs. spoiling)?*
Our server was really attentive in the beginning, but then seemed to disappear.	*What happened? Are servers supposed to check back at certain times?*
My french fries were cold and dried out. And my burger was really undercooked.	*Is this supposed to happen? Or is someone supposed to check the food before it gets served?*
My menu felt sticky.	*How often do things like menus get cleaned?*
Our long rectangular table made it hard to talk to anyone other than the people right near me.	*What if large groups were seated at round tables instead? Is there a reason we didn't see any?*
Our entire group's meals came out at the same time.	*How do they get all the food to come out at the same time, especially with a big group like ours?*
Our server took our orders in her head instead of writing them down.	*Why would the restaurant have this system? Doesn't it lead to mistakes or forgetting things?*
It was freezing cold when we sat down.	*Who makes decisions about things like temperature? What if a customer complains?*

EXAMPLE 3: Secondary ELA

A middle school English teacher has adapted the tool to serve as a close-reading technique. She finds it especially useful when she wants students to notice how authors achieve certain effects. She instructs students to read the text closely and to pay attention to (OBSERVE) any word choices, techniques, or descriptions that stand out for them. After reading, students review their observations and DESCRIBE what they noticed and how it affected them as readers. Finally, students raise and discuss QUESTIONS based on their observations (e.g., Why did the author use such "cool" language to describe such a gruesome crime scene? What effect was the author going for by only showing the aftermath of the crime and not the crime itself?).

Teacher Talk

➔ In *Make Just One Change*, Rothstein and Santana (2011) note the generations-old tradition of "rephrasing student questions. . . to make the question fit better for teaching and learning purposes" (p. 48). When using Observe, Describe, Question, remember that this tool is about students' interests and students' questions, not yours. Be sure to keep the focus on the questions that students formulate, and remind students that they are free to ask questions without judgment.

➔ Although the tool highlights three distinct phases (observe, describe, question), the truth is that observations and questions sometimes occur simultaneously. Allow students to record questions as they occur, but don't encourage the conflation of observation and question generating, as the larger goal is to give students focused time for careful observation before generating questions.

➔ During the sharing of student questions, you may want to guide the discussion to help students generate a larger pool of questions. Use language like this to elicit more questions:

- Can anyone generate a question about something that you observed but that we don't yet have a question about?
- These are all great questions. But can you see how they can all be answered with one or two words? Let's try to get some questions that would require more developed responses. How about some *why* and *how* questions? Can we come up with some of those?
- What about the advantages and disadvantages that having quills might pose for the porcupine? Can anyone come up with any questions about advantages or disadvantages?
- Now let's really challenge ourselves and go for some truly "outside the box" questions. See if you can generate a question that's totally unique and creative. Any takers?

➔ Prepare students for success by modeling the different kinds of questions that they can ask. Help them see the difference between closed-ended questions that can be answered with a *yes*, *no*, or a single word/phrase versus open-ended questions that require explanation or elaboration. Encourage them to generate different kinds of questions by familiarizing them with the four question types described below and the associated "starter words": *who*, *what*, *when*, *where*, *why*, *how*, and *what if*. Note that the sample questions for each question type are taken directly from the classroom lessons in Examples 1, 2, and 3.

- *Who*, *what*, and *when* questions ask for specific information. For example, "Who makes decisions about things like temperature?" or "What determines where a customer gets seated?"
- *How* questions ask for explanations of processes or phenomena. For example, "How do fish breathe?" or "How does the restaruant decide how much food to buy (risk of running out vs. spoiling)?"
- *Why* questions ask for causes or reasons. For example, "Why does one fish swim more?" or "Why did the author use such 'cool' language to describe such a gruesome crime scene?"
- *What if* questions ask for speculation. For example, "What if large groups were seated at round tables instead?"