EDUCATOR GUIDE

STEP 4: COMMUNICATION

INTRODUCTION: 10-15 MIN

TEACHER NOTE: You can complete over 2 days.

Day 1: Intro (10-15 minutes) and See it: Show and discuss episode (10-15 minutes).

Day 2: Be it! Complete hands on activity (15-20 minutes).

1. **Use the anchor chart to review the first three steps of the scientific method:** observation, asking questions/problem-solving, and data collection.

2. **Say "Last time we had to take data on an object and fit it into a box.** If our friend had the same problem we would want to share our findings to help them out. Sharing information with someone else is known as communication. Today we are going to talk about our final step of the scientific method. It is called communication."

3. **Ask students, "Why do you think it is important for scientists to communicate to others and share what they find out from their experiments?"** Accept all answers. We want students to start thinking about why communicating is important. Explain the importance of communication in science. When a scientist can communicate effectively, science can thrive. It allows scientists to share their findings and can provide explanations about what occurs in the natural world. Without communicating their results it is as if all of the experimentings never occurred.

4. **Provide each student with a *Communication: Student Activity Sheet*.** Read together "It is important for scientists to share the results of their experiments. They can write, create pictures, or speak to others." Show examples of writing (Scientific Journals), creating pictures (Graphs and Photos), and speaking (Presenting).

Writing	https://www.flickr.com/photos/49268016@N04/5406459295 "writing in the journal" by erink_photography is licensed under CC BY 2.0
Creating Pictures	https://www.flickr.com/photos/121935927@N06/15197641004 "Bar graph" by Siyavula Education is licensed under CC BY 2.0 https://www.flickr.com/photos/93085601@N00/21994957 "Pen and Ink Drawing" by Dave Kleinschmidt is licensed under CC BY-SA 2.0
Speaking	https://www.flickr.com/photos/24662369@N07/3468651131 "Earth Day Presentation" by NASA Goddard Photo and Video is licensed under CC BY 2.0

5

Ask students to answer the question in their activity sheets: "What is your favorite way to share your thoughts and ideas or to communicate?" Have students write out their answers or share their answers verbally.

SEE IT!

WATCH & DISCUSS EPISODE: 10-15 MIN

6

Explain to students that in this episode: “Fin-tastic Fabio”, Reese and Caily go through the different steps of the scientific method to help with Caily’s fish, Fabio. After their exploration, Reese and Caily use their knowledge to help Kami and Dev in Confetti. Students will follow along, explore the scientific method with Reese and Caily, and answer questions about it. Read questions as a class prior to watching the episode.

7

Have students watch <u>Episode 10:</u> Fin-tastic Fabio. Watch the video as a class or individually. It is ok to pause or rewatch the video if students need help answering the questions.

8

After students have answered the questions, **talk about the answers together.** Some options to differentiate include reading and answering each question as a class after watching the video or placing students in small groups to work together.

BE IT!

HANDS-ON ACTIVITY: 15-20 MIN

9 **Review with students the four different steps of the scientific method.** Remind students that they will not taste anything when they visit a safe place.

10 **Take students to a safe place to practice the four different steps of the scientific method.** You may take your students to a completely different place or if it is not feasible have them observe a different part of the same place. For example, if a student looked out windows that face the back of the building, have them look out windows that face the front of the building. If you are not physically with the student, have them go with an adult to a safe place. This could be their home, backyard, front steps, park, etc.

11 **Have the students work through making observations with the four senses:** seeing, hearing, smelling, and touching (if it is safe). Some options to differentiate include reading and answering each question as a class or placing students in small groups to work together.

12 After they have completed their initial observations, **have students complete asking questions and solving problems.** Have students share their questions about their space.

13 **Have students collect data points on their space and answer their data questions.** Have them collect data points on plants, animals, and people. Remind the students that it is ok if you do not see plants, animals, or people. Not seeing something is just as important as seeing something to scientists. Discuss answers as a class.

14

Have students complete their communication questions. Have student share their answers with the class. This can lead to a discussion about the way that students prefer to communicate.

15

Inform students that they have successfully worked their way through the scientific method. Say “Now that we have learned about and practiced the steps of the scientific method we will put our skills to the test. Next time, we are going to become real scientists and explore the plastic pollution problem around us!”

HERE IS AN EXAMPLE OF A CLASS OUTLINE:

Introduction: 20 minutes

See it: 20 minutes

Be It: 45-60 minutes

Observations – 15-20 minutes

Questions/Problem Solving - 15 minutes,

Collecting Data - 10-15 minutes,

Communication - 5-10 minutes)