



Inquiry

Introduction

This guide defines inquiry; including minds-on and hands-on inquiry. It focuses on why inquiry is so important to the program and students. This guide also looks at various inquiry opportunities, which include Inquiry Warm-up, Quick Lab, and Lab Investigation. Finally, it introduces the components available for additional inquiry activities and practice.

What is inquiry?

Inquiry is thinking like a scientist. Students should be encouraged to think like scientists. They engage in inquiry when they are asking “why” questions or searching for answers, much like scientists. Do students need test tubes, beakers, and Bunsen burners to engage in inquiry? No. Inquiry can be minds-on as well as hands-on.

Minds-on Inquiry

Minds-on inquiry occurs when students are engaged in and interacting with the content.

Interactivities found in the student edition provide frequent opportunities for minds-on inquiry. Students make meaning of the science concepts by interacting with the content.



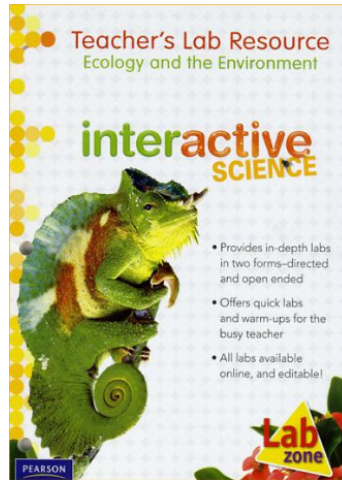
For example, in one minds-on inquiry activity, students interact with the content, by examining a diagram. Students select a familiar ecosystem, and apply what they have learned by drawing a diagram of how that ecosystem is organized.



Hands-on Inquiry

Interactive Science also provides hands-on inquiry opportunities that help students develop a greater understanding of science concepts.

Inquiry starts in Interactive Science with solid instructional content and is further developed with rich lab investigations and hands-on inquiry activities found in the Teacher’s Lab Resource.



How does the program foster inquiry?

Inquiry opportunities are located everywhere in Interactive Science, from the interactivities in the student edition to the hand-on activities in the Teacher’s Lab Resource.

Lesson Planner

Choose the Inquiry Path to plan for an inquiry-rich lesson. At the beginning of each lesson in the Teacher’s Edition and Resource book, find a Lesson Planner. The Lesson Planner includes Blended, Inquiry, and Digital paths.

Inquiry Focus Skills

Next, turn to a lesson and talk about inquiry focus skills. Inquiry focus skills help students think like scientists. For example, lessons ask students to observe, infer, classify, predict, calculate, graph, and communicate. Find the box that includes vocabulary and skills. Here, note a yellow triangle indicating the inquiry focus skill: Make Models.

What inquiry lab activities are available?

There are also two to four inquiry lab activities for each lesson. An easy way to find them is to look for the yellow LabZone triangle icon.

Vocabulary

- Ohm's law
- series circuit
- parallel circuit

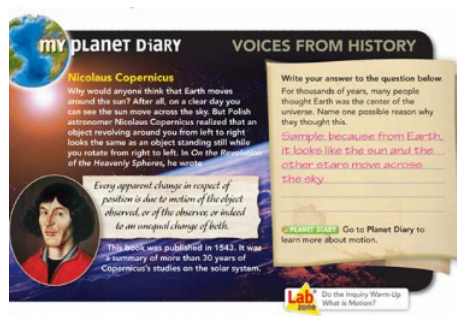
Skills

- 🕒 Reading: Compare and Contrast
- 🔺 Inquiry: Make Models

The teacher notes will list the activity title, and teachers will find the activity in the Teacher's Lab Resource booklet. Next, take a look at the various inquiry activities.

Inquiry Warm-up

Inquiry Warm-up activities help students build background knowledge or relate the lesson topic to their personal lives. These activities occur at the beginning of each lesson. The LabZone icon and Inquiry Warm-up title appear in the student edition after the My Planet Diary feature.



In the Explore section of the teacher notes, the LabZone icon directs teachers to the Inquiry Warm-up activity located in the Teacher's Lab Resource booklet. The My Planet Diary entry for this lesson is about holiday lights. Students think about why one bulb can go out on a string of lights, while the rest of the lights stay lit. Students are directed to the Inquiry Warm-up activity *Do the Lights Keep Shining?*

Quick Lab

Quick Lab activities provide students with hands-on experiences and teacher demonstrations related to the lesson's key concept questions. They accompany many of the LabZone icons that are located before the Assess Your Understanding sections in the student edition, and in the Elaborate section of the Teacher's Edition and Resource.

Assess Your Understanding

1a. Review A **reference point** is a place or object used for comparison to determine if something is in motion.

b. Explain Why is it important to know if your reference point is moving?
If your reference point is moving, you will find it difficult to determine in which direction you are moving or even if you are moving at all.

Locate the Quick Lab activity instruction and print materials in the module's Teacher Lab Resource booklet.

In the example below, students have been learning about Ohm's Law. Ohm's law says that resistance in a circuit is equal to voltage divided by current. For this Quick Lab, students will use a circuit to observe Ohm's law in action.

Lab Investigation	Lab Investigations are another example of inquiry activities found within the program, and occur once per chapter. They offer in-depth, hands-on learning activities. Most Lab Investigations take an entire class period to complete. For every Lab Investigation in The Teacher's Lab Resource booklet, teachers will find a Pre Lab, Directed Inquiry, and Open Inquiry.
Pre Lab	The Pre Lab helps students prepare for a Lab Investigation by reviewing the content that is addressed in the lab activity. It also helps students focus on the inquiry skill they will use in the Lab Investigation.
Directed Inquiry	<p>Now, take a look at the scaffolded inquiry activities available for Lab Investigations.</p> <p>Depending on the instructional focus, teachers may wish to assign the Lab Investigation as a Directed Inquiry or Open Inquiry. Directed Inquiry provides the students with step-by-step guidance for set problems, procedures, and questions.</p>
Open Inquiry	The Open Inquiry version provides students with few guidelines. They are responsible for designing the experiment, including the lab procedure, methods of recording data, and communicating their results.
Online Tools Inquiry	At My Science Online, teachers can edit and print Inquiry Warm-up, Quick Lab, and both versions of the Lab Investigation. Simplify the instructions or insert a state standard; it is as easy as downloading the file and editing it on the desktop. My Science Online also features Virtual Labs, a premium tool that provides online labs and demonstrations.
Other Inquiry Opportunities	<p>There are four additional components that provide more inquiry activities for students. These include Chapter Activities and Projects, Interdisciplinary Activities, Scenario-Based Investigations, and three books of Inquiry Skill Activities.</p> <p>For more information on these resources, read the Interactive Science Program Components guide available on myPearsonTraining.com.</p>
Review	<p>This guide discussed the minds-on and hands-on inquiry opportunities in Interactive Science.</p> <p>It introduced how the program fosters inquiry and how to locate the inquiry activities within the program resources.</p>

The guide also discussed different types of inquiry activities including; Inquiry Warm-up, Quick Lab, and Lab Investigation.

And finally, it discussed additional digital and print inquiry components.

For more information, view the other Interactive Science tutorials on myPearsonTraining.com.