ACTIVITY 4

Observing Everyday Tools

OBJECTIVES

Students observe and describe tools and their functions.

The students

- use the word *tool* in discussing an object that helps us make, move, build, or fix things, or do work
- use descriptive vocabulary

SCHEDULE

About 40 minutes

VOCABULARY

observe
tool

MATERIALS

For each student

1	Activity Sheet 4

For each team of two

6	cards, index
2	crayons, primary*
2	paper clips, large
2	pencils*
2 pr	scissors, blunt-tip*
2	spoons, plastic
1	tray, plastic

For the class

	assorted classroom, kitchen, and workshop tools (optional)*
1	block, wooden*
1	hammer*
1	nail*
	newsprint*

*provided by the teacher

PREPARATION

1. Make a copy of Activity Sheet 4 for each student.
2. Prepare a tray for each team containing 2 primary crayons, 2 pencils, 2 paper clips, 2 plastic spoons, 2 pairs of blunt-tip scissors, and 6 index cards. Have newsprint available at the distribution center. Set aside one of each of the objects on the trays to use during your demonstration and discussion.
3. Cut out a circle from one of the sheets of newsprint.
4. Set the wooden block and the nail on a table for a demonstration. Put the hammer nearby.
5. You may wish to prepare a tool display of everyday classroom, kitchen, and workshop tools for students to observe and discuss. Possibilities include magnets, a stapler, and a hole punch from the classroom; tongs, a wooden spoon, and a spatula from the kitchen; and a paintbrush, pliers, and a tool belt from the workshop, garage, or basement.

BACKGROUND INFORMATION

Tools are devices that help us do work. We use tools to make, move, build, and fix things. Some tools are simple machines, such as

levers, pulleys, screws, and wedges, powered by the force of humans or animals. Other tools are complex machines operated by mechanical, electrical, or some other form of energy, and ranging from miniature to massive in size.

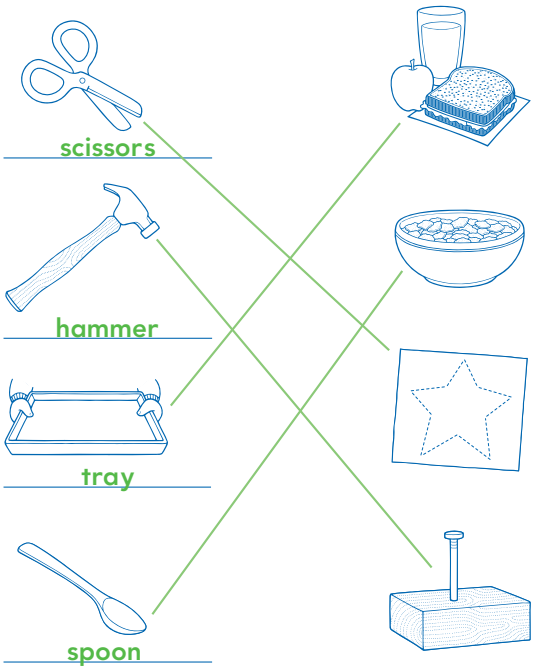
The oldest known tools date from more than 2.5 million years ago! These early tools were basic essentials—fishhooks, axes, and chisels, for example—made from natural materials such as bone and stone. By Roman times, households and workers had many hand tools that would be familiar to us today.

Every profession and craft has specialized tools for unique purposes. In this activity, students explore some everyday tools used in the classroom, workshop, and kitchen. In the process, they operationally define tools as meaning far more than simply hammers and saws.

▼ **Activity Sheet 4**

Observing Everyday Tools

Draw a line from the tool to what it helps you do. Label the tool.



Guiding the Activity

Additional Information

1 Gather students around the demonstration table. Tell students that you need to put the nail through the block of wood. Pick up the nail and try hard to press it through the block. Ask, **Why can't I push the nail through the wood?**

Students may suggest that the wood is too hard or that you need a tool to do the job. It is likely that someone will say that you need to use a hammer.

Use the hammer to pound the nail into the wood. Tell students that the hammer is a kind of tool. A **tool** is an object that helps us make, move, build, or fix something. A tool helps us do a job. Say that you will write the word *tool* on the board. Pretend that you are going to write on the board with the hammer.

Students should correct you and tell you to use chalk instead.

Guiding the Activity

Additional Information

Tell students that chalk is another kind of tool. Chalk helps us do the job of writing on the board. It helps us make words we can see and read. Emphasize that both the hammer and the chalk are tools. We use different tools to do different kinds of work. Write the word *tool* on the board.

Briefly discuss kinds of tools students are familiar with. Hold up the hammer and ask, **What other kinds of tools could we find in a workshop or garage or basement?**

screwdriver, drill, saw, pliers, ladder, paintbrush, and so on

2

Explain that a workshop, garage, or basement is one place to find tools such as the ones they just named. The classroom is another place to find tools. They have already discovered that chalk is a tool.

Write the word *observe* on the board. Tell students that when scientists **observe** an object, they use all their senses to explore the object in order to find out information about it.

Tell students that they will receive a collection of tools. They should observe the tools just as a scientist would. They should think about what the tools do.

Distribute a tray to each team and give them time to examine and handle the tools. After a few minutes ask the students to describe and talk about the objects.

Students may not think of these objects as tools. Remind them that a tool is something that helps us make, move, build, or fix things, or do a job of some kind.

3

Distribute a sheet of newsprint to each student. Show the students the circle you cut out in advance. Ask them to tear their paper into a circle.

After a minute or so, ask, **What tool might make this job easier? What tool could you use to make a paper circle?**

The scissors are a tool they could use to make a paper circle.

Distribute a second set of newsprint sheets, and let students use the scissors to cut the paper into a circle.

Guiding the Activity

Additional Information

4 Ask students what tools they have seen you use and what tools they themselves have used. Begin a Tools and Uses experience chart. List tools in the first column. For each tool named, ask students what the tool is used for. **What job does this tool help us do? What can we make or build or fix with this tool?** List the uses in the second column.

See Figure 4-1 for a sample Tools and Uses experience chart. Encourage students to think of tools they use in the kitchen and outdoors as well as in the workshop and classroom. If students have had little direct experience with tools, ask what tools they have seen adults use.

Tools	Uses
Hammer	To push nails into wood
Chalk	To write on the board
Pencil	To write or draw on paper
Crayon	To color our drawings
Scissors	To cut paper
Paper clip	To hold things together
Masking tape	To put things back together
Spoon	To put food in our mouths

▲ ***Figure 4-1.*** *Sample Tools and Uses experience chart.*

5 Draw students' attention to the index cards on their trays. Ask, **Which tools would help you write and color on the cards?**

Students should answer pencils and crayons. They may also mention markers or paints.

Have each student write and color on his or her three index cards. Then ask which tool will help them keep the three cards together.

the paper clip

Have them use the paper clip to clip the cards together.

Ask, **Which tool on the tray have we not used yet?**

the spoon

What do spoons help us do? What do we use spoons for?

Spoons help us eat foods such as soup, cereal, and yogurt. We use the spoon to put the food in our mouths.

Complete the Tools and Uses experience chart. You may choose to add other tools (and their uses) that students name.

Some students may correctly suggest that the plastic tray is a kind of tool that helps us carry many objects at one time.

Guiding the Activity

Additional Information

6 Distribute a copy of **Activity Sheet 4** to each student. Read the directions out loud, and have students complete this tool match-up, which is a review of tools and their uses.

Students can copy the names of the tools from the experience chart to help them complete their activity sheets.

If you have assembled a display of tools, give students time to investigate the tools and discuss their uses. You may add these tools to the experience chart.

Reinforcement

Challenge students to identify other tools in the classroom and to tell how each tool is useful. Possibilities include a pencil sharpener, stapler, tape, glue, hole punch, and magnets. Add the tools to the Tools and Uses experience chart.

Assessment Opportunity

This Reinforcement also may be used as an ongoing assessment of students' understanding of science concepts and skills.

Science Journals

Have students place their completed activity sheets in their science journals.

Cleanup

Keep the experience chart on display throughout the unit. Collect the tools and return the paper clips, spoons, and plastic trays to the kit. Discard the torn and cut newsprint and the index cards. (Or students may place their paper-clipped index cards in their science journals.)

Connections

Science Extension

Reinforce students' understanding of tools and their uses with this rhyme:

> Scissors, scissors, what do you do?
> I know _____ can tell you.

Fill in the blank with a student's name. The student then answers with a statement of how the tool is used. (Scissors can cut paper.) Continue with other classroom, household, workshop, and backyard tools.

Science and Language Arts

- Share with students the book *Tools* by Ann Morris (HarperTrophy, 1998). This book shows many different tools being used by people all around the world to make work and life easier. A world map shows the locations of the fifteen countries highlighted in the book, making this an excellent connection to social studies as well. Students may also enjoy *Who Uses This?* by Margaret Miller (HarperCollins, 1990). This photo essay book teaches students about simple tools used by workers in nine professions and shows children using the same tools at play.

- Add the science vocabulary introduced in this activity to the class Word Wall. Post a tool or tools beside the word *tool*.

- Use sentence strips to make labels for all the tools students identify in the classroom.

Science and the Arts

- Have students make and decorate "toolboxes" (from shoeboxes) for storing the classroom tools they use when working at their desks.

- Create a class Tool Collage. Have students bring in pictures of tools cut from magazines or catalogs at home. Make labels for all the tool pictures, and paste the labeled pictures onto poster board. Display the Tool Collage next to the Tools and Uses experience chart.

  As an alternative, use the pictures to begin a Tool Dictionary. Create a separate page for each tool that includes a picture, a label, and a short description of how the tool helps us. Later in the unit, students can create pages for measuring tools.

- Play Tool Charades. Let students pantomime using different tools for the rest of the class to guess. Easy tools to pantomime include scissors, hammer, saw, rolling pin, paintbrush, needle and thread, screwdriver, magnifier, wheelbarrow, and shovel.

Science and Careers

Invite classroom guests, such as the school custodian, nurse, nutritionist, or principal (or parents who use tools in their jobs), to share with students the tools he or she uses on the job.