

## SCIENTIFIC TOOLS

### Performance Standard 13B.A

Students will apply the uses of scientists' tools in scientific inquiry and technological design investigations accordingly:

- *Knowledge:* Identify which tool a scientist would use to do six different tasks.
- *Application:* Demonstrate how a scientist uses a ruler, beaker, thermometer, balance scale, computer, and magnifying glass.
- *Communication:* Explain the uses of a ruler, beaker, thermometer, balance scale, computer, and magnifying glass in science.

### Procedures

1. ***In order to know and apply the concepts that describe the interaction between science, technology, and society (13B)***, students should experience sufficient learning opportunities to develop the following:
  - List different uses for common scientific instruments.
  - Identify appropriate instrument to measure length, temperature, and mass.
  - Use appropriate instruments to measure length, temperature, and mass.

Note to teacher: In the suggested classroom assessments that are provided for standards 11A-B and 12A-F for stage A, numerous experiences are provided during which students may be introduced to and develop experience with using scientists' tools.
2. Have students review and discuss the assessment task and how the rubric will be used to evaluate their work.
3. Part 1: Provide each student a copy of the "Science Tools" task sheet as instructor reads the list aloud. Ask students to place the correct number (as sequenced below) of the science tool for each of the following tasks:
  - (1) Find very small objects.
  - (2) Find information about animals.
  - (3) Measure the length of a table.
  - (4) Measure the temperature of the air.
  - (5) Compare how much two things weigh.
  - (6) Measure the amount of water to use.
4. Part 2: Ask each student to select the correct tool and perform the following tasks, and explain what they are doing: (Note: Students may pretend to be performing the task as long as they explain what they are doing.)
  - (1) Compare the temperature of the room near the window and near the opposite side of the room.
  - (2) Find pictures of birds and other animals (computer).
  - (3) Measure a pencil.
  - (4) Weigh a book.
  - (5) Measure an amount of water.
  - (6) Get a close look at what your skin looks like.
5. Evaluate each student's work using the Science Rubric as follows and add the scores to determine the performance level:
  - *Knowledge:* Identification of which tool a scientist would use to do 6 different tasks was complete and correct.
  - *Application:* The selection of use of science tools was complete and correct.
  - *Communication:* The explanations were thorough, well-reasoned, and well-detailed.

### Examples of Student Work not available

### Resources

- Copies of the "Science Tools" task sheet
- Science Rubric

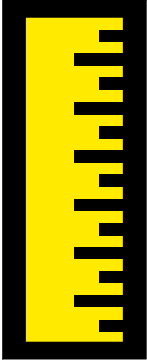
### Time Requirements

- 10 minutes for task sheet
- 3 – 5 minutes for each student's demonstration

NAME \_\_\_\_\_ DATE \_\_\_\_\_

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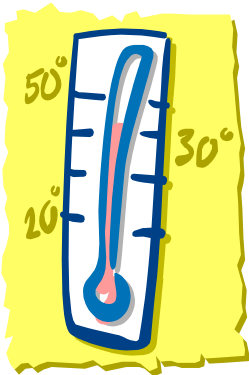
RULER



BEAKER



THERMOMETER



SCALES



COMPUTER



MAGNIFYING GLASS

