

**Lesson Outline****LESSON 2****Measurement and Scientific Tools****A. Description and Explanation**

1. A spoken or written summary of observations is called a(n) \_\_\_\_\_.
  - a. An observation that uses the senses is called a(n) \_\_\_\_\_ observation.
  - b. An observation that uses numbers is called a(n) \_\_\_\_\_ observation.
2. An interpretation of observations is called a(n) \_\_\_\_\_.

**B. The International System of Units**

1. The internationally accepted system for \_\_\_\_\_ is the International System of Units (SI).
2. The seven \_\_\_\_\_ units are the meter, kilogram, second, ampere, kelvin, mole, and candela.
3. A description of how close a measurement is to an accepted value is called \_\_\_\_\_.
4. A description of how similar or close measurements are to each other is called \_\_\_\_\_.

**C. Measurement and Accuracy**

1. Tools used to measure quantities can limit the \_\_\_\_\_ of a measurement.
2. A thermometer with measurements divided into tenths is more \_\_\_\_\_ than a thermometer with measurements divided into whole numbers.

**D. Significant Digits**

1. When you take any measurement, some digits you know for \_\_\_\_\_ and some digits you estimate.
2. \_\_\_\_\_ are the number of digits in a measurement that are known with a certain degree of reliability.
3. When you use significant \_\_\_\_\_, others can know how certain your \_\_\_\_\_ are.

## Lesson Outline continued

### E. Scientific Tools

1. A science \_\_\_\_\_ is used to record descriptions, explanations, plans, and steps used in a scientific \_\_\_\_\_.
2. A(n) \_\_\_\_\_ can be used to measure the mass of an object.
3. The temperature of substances is measured using a(n) \_\_\_\_\_.
4. The \_\_\_\_\_ is the SI unit for temperature, but in the science classroom, temperature is measured in degrees \_\_\_\_\_.
5. Thermometers should not be used to \_\_\_\_\_ anything.
6. Liquids are held, poured, heated, and measured in laboratory \_\_\_\_\_.
7. A(n) \_\_\_\_\_ is used to observe small objects that cannot be observed with an unaided eye.
8. \_\_\_\_\_ are used to compile, retrieve, and analyze data for reports; to create \_\_\_\_\_ and other documents; to send information to others; and to research \_\_\_\_\_.
  - a. Hardware is made of the \_\_\_\_\_ components of computers, such as monitors and keyboards.
  - b. \_\_\_\_\_ is the term used for programs that run on computers.

### F. Tools Used by Life Scientists

1. A handheld lens that \_\_\_\_\_, or enlarges, the image of the objects observed through it is called a(n) \_\_\_\_\_ lens.
2. To prepare objects or substances for observation under a compound microscope, you would use a thin, rectangular piece of glass called a(n) \_\_\_\_\_.
3. Scalpels and scissors are \_\_\_\_\_ tools that are used to examine \_\_\_\_\_, organs, or prepared organisms.
4. A small glass or plastic tube similar to an eyedropper that is used to draw up liquids and transfer them to another place is called a(n) \_\_\_\_\_.