# Identifying and Reading Lab Equipment Teacher Information

#### Background

Students may be testing the spacecraft's water supply to make sure that it is safe for use. Testing the water requires using several pieces of basic lab equipment.

### Skills

- Students will practice reading basic laboratory equipment that will be used during their mission at the Challenger Learning Center.
- Students will practice recording data on a data log similar to one used at the Challenger Learning Center.

### Materials

6 graduated cylinders 6 beakers electronic balance rulers 3 classroom thermometers 3 plastic cups 6 general items to be massed (pencil, paper clip, scissors, etc...)

#### Procedure

Prior to students arrival, set up stations according to the list below:

Station	Items
1	graduated cylinders
2	electronic balance
3	beakers
4	rulers
5	thermometer

- 1. Fill graduated cylinders and beakers with varying levels of water and label them A-F. (You can use food coloring to color the water to make it easier to see.)
- 2. Fill the 3 plastic cups with cold, lukewarm and hot water and place a thermometer in each. Label them A, B and C.
- 3. Place 5 items at Station 2 and label them A-E.
- 4. Create an answer key. (Keep in mind that thermometer readings will vary throughout the day.)
- 5. Divide students into pairs or have them work individually.
- 6. Students should rotate through the stations recording their findings and data.

## Station 1

1. Draw a picture of a graduated cylinder.

2. Read the volume of the following graduated cylinders. Label your answers with a (ml) for milliliters.

D.
E.
F

## Station 2

1. Draw a picture of an electronic balance.

2. Find the mass of the items. Label answers with a (g) for grams.

Α.	D.
В.	Ε.
С.	F.

# Station 3

1. Draw a picture of a beaker.

2. Read the volume of the following beakers. Label answers with a (ml) for milliliters.

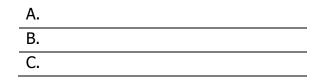
Α.	D.
В.	E.
С.	F.

- 1. Draw a picture of a ruler.
- 2. Measure the following items in both inches and centimeters. Label answers (``) inches and (cm) centimeters.

floor tile	
brick	
notebook	
file cabinet	

### **Station 5**

- 1. Draw a picture of a thermometer.
- 2. Find the temperature of each of the cups. Label answers (°F) degrees Fahrenheit.



- 3. Convert the following Celsius temperatures to Fahrenheit. To find the answers follow these steps:
  - Multiply the Celsius temperature by 9/5.
  - Add 32.

24°C	
54°C	
20°C	

- 4. Convert the following Fahrenheit temperatures to Celsius. To find the answers follow these steps:
  - Subtract 32
  - Multiply of 5/9

78°F	
18°F	
42°F	