Density Destiny
Data Analysis Worksheet

Name:_____ Teacher:_____ Date:_____

Background Review

1. Density means: _____

2. To find the density of an object, you need to calculate the object's mass(g) and divide it by the object's volume(mL):

   Density = Mass (g) ÷ Volume (ml)

3. Practice Problems!

   a. Mass of can of regular soda = _____g

   Volume of can of regular soda = _____mL
   (written on the can!)

   Density = _____g ÷ _____mL

   Density of can of regular soda = _____g/mL

   b. Mass of can of diet soda _____g

   Volume of can of diet soda _____mL
   (written on the can!)

   Density = _____g ÷ _____mL

   Density of can of diet soda = _____g/mL

   c. Mass of rock = _____g

   Volume of rock = _____mL
   (use water displacement method!)

   Density = _____g ÷ _____mL

   Density of rock = _____g/mL

d. Mass of dry-erase board eraser = _____g

Volume of dry-erase board eraser = _____mL
(use equation: length x width x height)

Density = _____g ÷ _____mL

Density of dry-erase board eraser = _____g/mL

Investigation!

Find the masses and volumes of the following items below. Then calculate their densities. **Use the practice problems above to help remind you how to measure volume!**

	Mass (g)	**Volume (mL)**	**Density (g/mL)**
Wood Block #1			
Wood Block #2			
3 x 3 Styrofoam Block			
"C" Battery			
Glass marble			

Follow up questions:

1. Analyze all of the density values above. What do you notice about the densities of the two blocks of wood? _____

2. Compare the densities of the blocks of wood to the Styrofoam block:
   _____
   _____

3. The two blocks of wood are different sizes. Why are they similar in density?
   _____

4. Which item was most dense?_____

5. Two spoons are the same exact size and shape, one is sterling silver and one plastic. Which one is more dense? _____

6. Is warm air more or less dense than cold air? _____

7. a. The density of water is 1g/mL. Knowing this, would the density of wood be more or less than this value? _____

   b. Would the density of a marble be more or less than this value? _____

   c. Do your measurements support these answers? _____

8. Discuss one example of how the concept of density affects our everyday lives?
   _____
   _____
   _____

Density Destiny
Data Analysis Worksheet

(ANSWER KEY)

Name:_____ Teacher:_____ Date:_____

Background Review

1. Density means: *The amount of mass in a given volume of an object*

2. To find the density of an object, you need to calculate the object's mass(g) and divide it by the object's volume(mL):

   Density = Mass (g) ÷ Volume (ml)

3. Practice Problems! *(Answers may vary)*

   a. Mass of can of regular soda = _____g

   Volume of can of regular soda = _____mL
   (written on the can!)

   Density = _____g ÷ _____mL

   Density of can of regular soda = _____g/mL

   b. Mass of can of diet soda _____g

   Volume of can of diet soda _____mL
   (written on the can!)

   Density = _____g ÷ _____mL

   Density of can of diet soda = _____g/mL

   c. Mass of rock = _____g

   Volume of rock = _____mL
   (use the water displacement method)

   Density = _____g ÷ _____mL

   Density of rock = _____g/mL

   d. Mass of dry-erase board eraser = _____g

Volume of dry-erase board eraser = _____mL
(use equation: length x width x height)

Density = _____g ÷ _____mL

Density of dry-erase board eraser = _____g/mL

Investigation! *(Students' answers will vary)*

Find the masses and volumes of the following items below. Then calculate their densities.

	Mass (g)	**Volume (mL)**	**Density (g/mL)**
Wood Block 1			
Wood Block 2			
3 x 3 Styrofoam Block			
"C" Battery			
Glass marble			

Follow up questions:

1. Analyze all of the density values above. What do you notice about the densities of the two blocks of wood?

   They are very similar in density (should be close to equal in value).

2. Compare the densities of the blocks of wood to the Styrofoam block:

   The Styrofoam block is less dense than either of the two blocks of wood.

3. The two blocks of wood are different sizes. Why are they similar in density?

   They are made of the same material.

4. Which item was most dense? *Battery*

5. Two spoons are the same exact size and shape, one is sterling silver and one plastic. Which one is more dense? *The sterling silver spoon*

6. Is warm air more or less dense than cold air? *Less Dense*

7. a. The density of water is 1g/mL. Knowing this, would the density of wood be more or less than this value? *Less*

   b. Would the density of a marble be more or less than this value? *More*

   c. Do your measurements support these answers? *Answers will vary*

8. Discuss one example of how the concept of density affects our everyday lives?

   (Answers will vary)