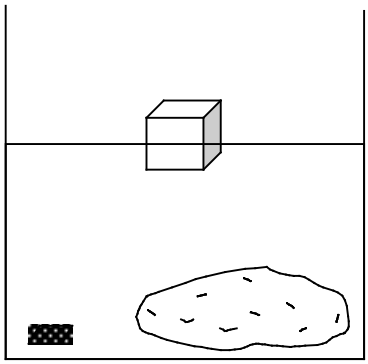
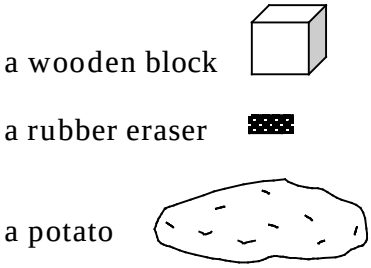
NAME:_____ **DATE**:_____

TEACHER'S NAME:_____

1. Three objects, a rubber eraser, a wooden block and a potato, were put into a tank of water. Here is a side view of the tank of water:





(a) Why do you think the wooden block floats in the water?

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(b) Why do you think the eraser and the potato sink in the water?

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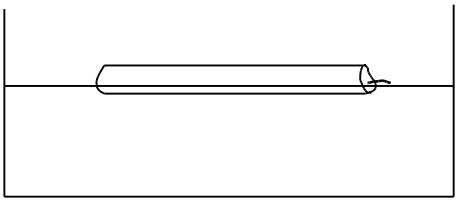
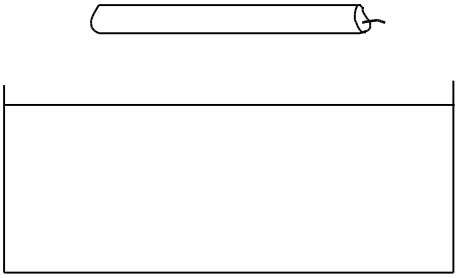
2. Candles float in water. Here is a picture of a candle floating in water.



(a) Please draw a picture of what you think would happen with a very big candle:

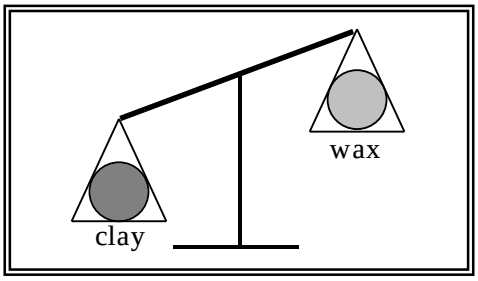
Explain why you think this would happen:

(b) Please draw a picture of what you think the candle would do in a tank with a lot of water:



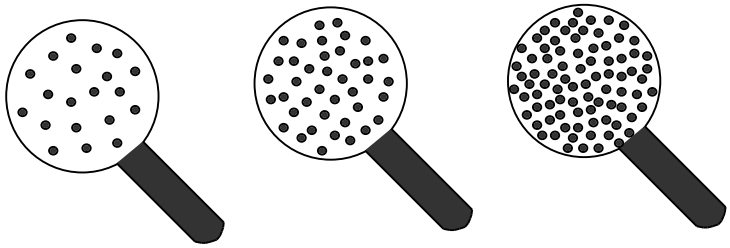
Explain why you think this would happen:

3. Clay is <u>two times heavier</u> than wax. If you put **<u>the same size balls</u>** of clay and wax on a balance scale it would look like this:

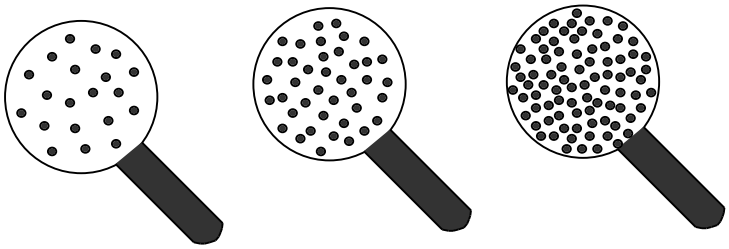


(a) If you could look at balls of wax and clay with a very very VERY powerful magnifying glass, what do you think the wax and clay balls would look like?

Circle the picture you think is like **<u>the wax ball</u>**.



Circle the picture you think is like **<u>the clay ball</u>**.



(b) Please explain how you decided on your answers:

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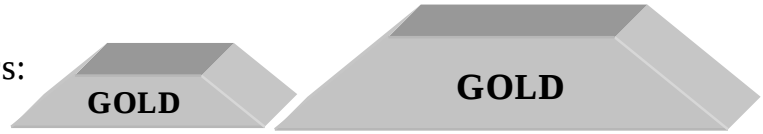
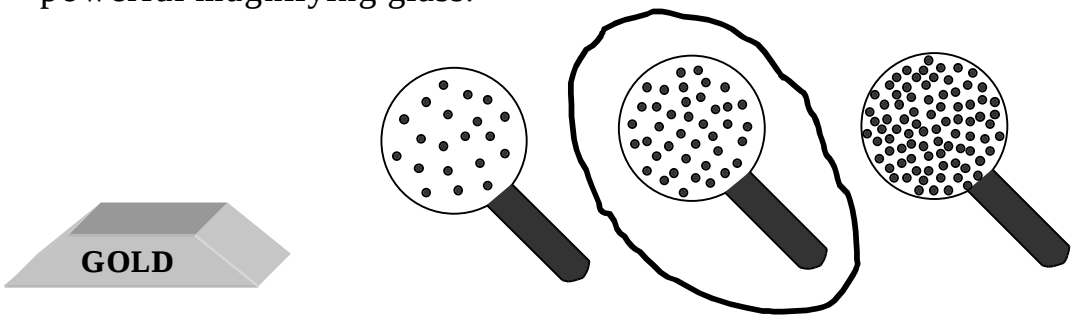
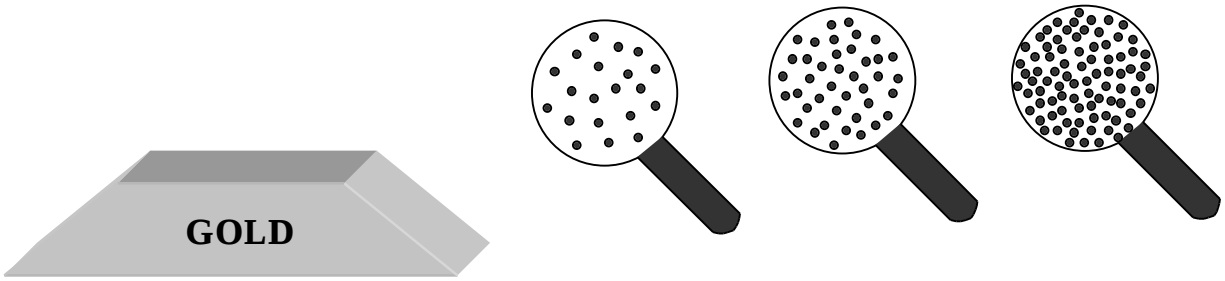
4. Here are two gold bars:



This is what the **<u>smaller gold bar</u>** looks like using a very very VERY powerful magnifying glass:



(a) Circle the picture you think is like **<u>the large gold bar</u>**.



(b) Please explain how you decided on your answer:

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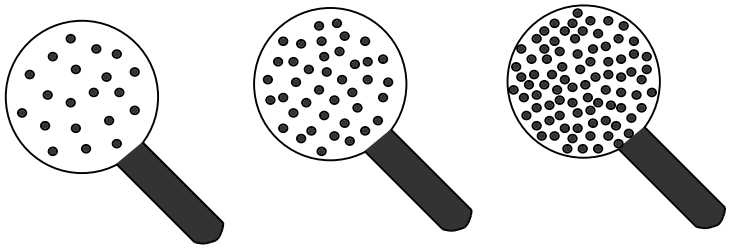
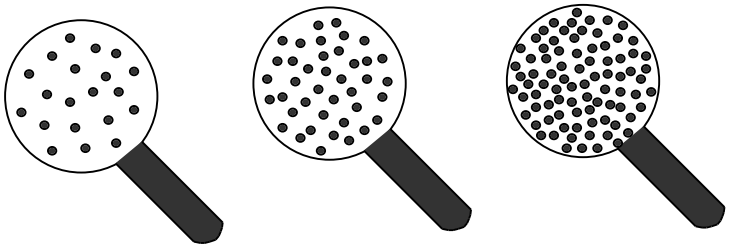
4a. A log of oak wood burns much longer than **the same size** log of pine wood. Explain how this can happen.

4b. If you could look at a slice of oak wood and a slice of pine wood with a very very very VERY powerful magnifying glass, what do you think the oak and pine wood would look like?

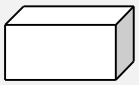
Circle the picture you think is like **the pine wood**.



Circle the picture you think is like **the oak wood**.



6a. Here is a chart that shows several characteristics of a set of blocks. Fill in the chart to show what you think Block C would do in water.

Block	Weight	Size	In water this block…
A. 	4 g	2 cm^3	sinks
B. 	6 g	12 cm^3	floats
C. 	4 g	16 cm^3	**?** _____

6b. How did you decide on your answer?

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6c. Please explain what you think is the main reason an object will sink or float in water.

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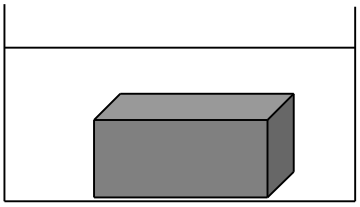
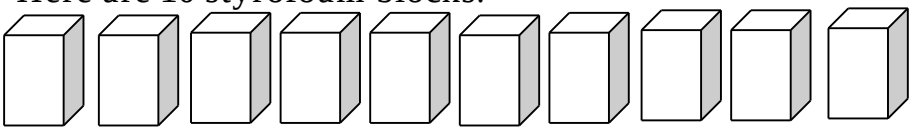
7. This brick is 100cm^3 and weighs 200 grams. It sinks in water.

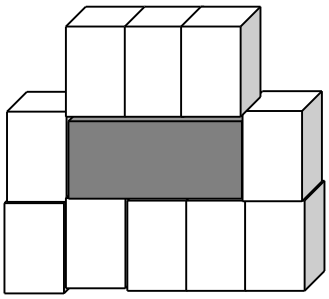


Here are 10 styrofoam blocks:



Each of the blocks is 15 cm^3 and weighs 2 grams.

If all of these styrofoam blocks are attached to the brick, the whole thing is bigger and heavier. It now weighs 220 grams and is 250 cm^3.



If this whole thing is put into a tank of water, it floats! It floats even though it is bigger and heavier. How can this be?