Friday, September 21, 2018

Your Learning Goal:

To practice reading a graduated cylinder and to understand how to find the volume of an irregular solid object.

Table of Contents: Volume of Irregular Objects – 7R

Catayst: How might we be able to measure the volume of a human? (7L)

Homework:

Word Wall #1

(Due Monday)

Agenda:

1. Catalyst
2. Lab
3. Clean-up
4. LEAF

Table of Contents

Date	Assignment	Pg #
8/24/18	Marshmallow Challenge *	1R & L
8/30/18	Observation vs. Inference *	2R & L
9/4/18	Rules of the Ruler *	3R & L
9/11/18	Mass Mania *	4R & L
9/13/18	Volume of Regular Objects *	5R & L
9/17/18	Sort It Out	6R + L
9/20/18	Volume of Irregular Objects	7R & L

9/20/18

Catalyst:

How might we be able to measure the volume of a human?

LEAF

7L

9/20/18

Volume of Irregular Objects

Displacement Method: the amount of water that is pushed out of the way is equal to the **volume** of the object.

7R

9/20/18

Catalyst:

How might we be able to measure the volume of a human?

LEAF

7L

9/20/18

Volume of Irregular Objects

Displacement Method: the amount of water that is pushed out of the way is equal to the volume of the object.

Objects	Volume of liquid in graduated cylinder (A)	Volume of liquid + irregular object in graduated cylinder (B)	Volume of irregular object (C)

7R

Volume of Irregular Objects

9/20/18

Objects	Volume of liquid in graduated cylinder (A)	Volume of liquid + irregular object in graduated cylinder (B)	Volume of irregular object (C)

7R

What do you think?

- Assume the bucket is filled to the very brim

- Every time a drop of water is ***added*** to the bucket, how much water ***leaves*** the bucket?

What do you think?

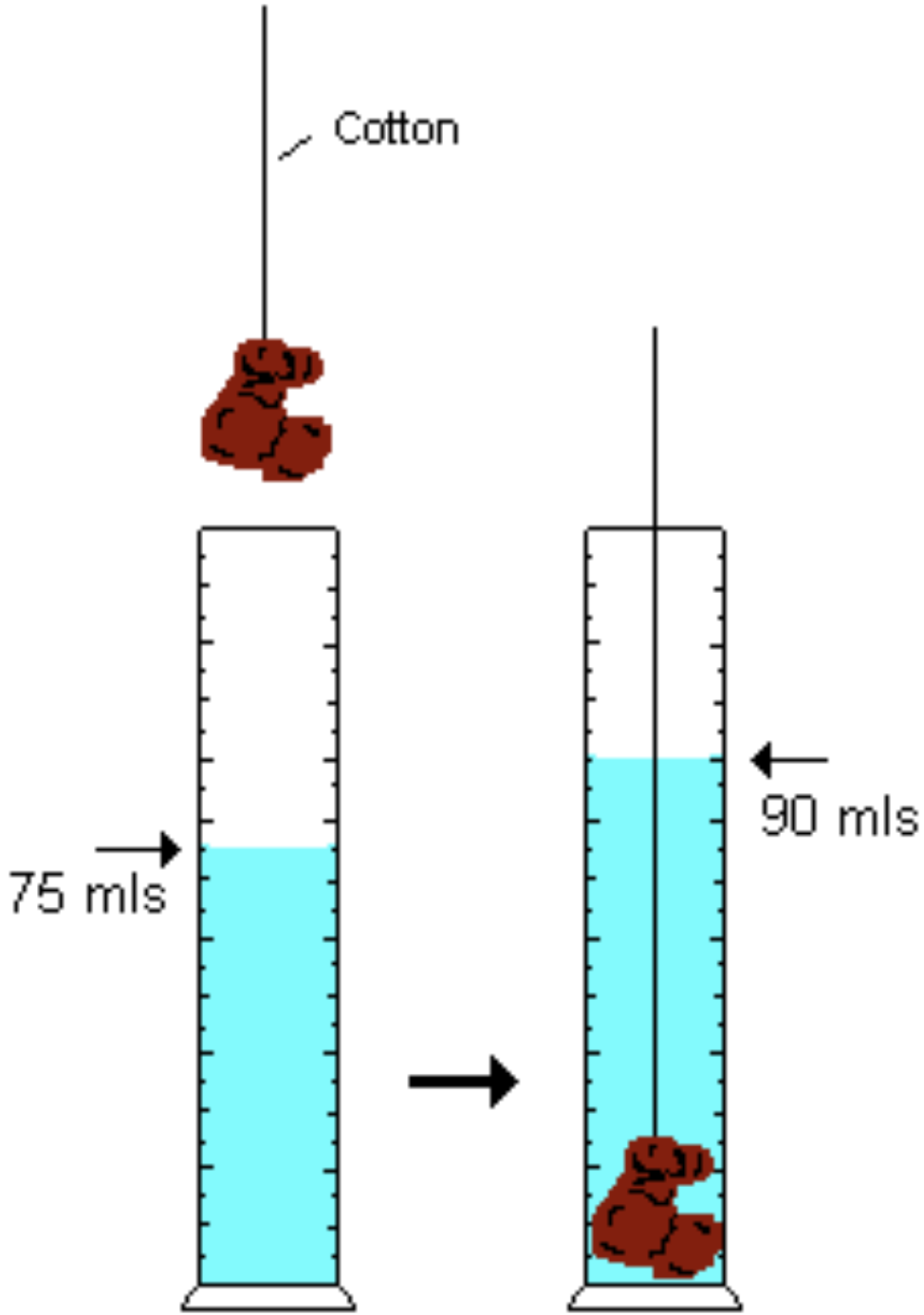
- So, the VOLUME of water added to the bucket equals the VOLUME of water that overflows

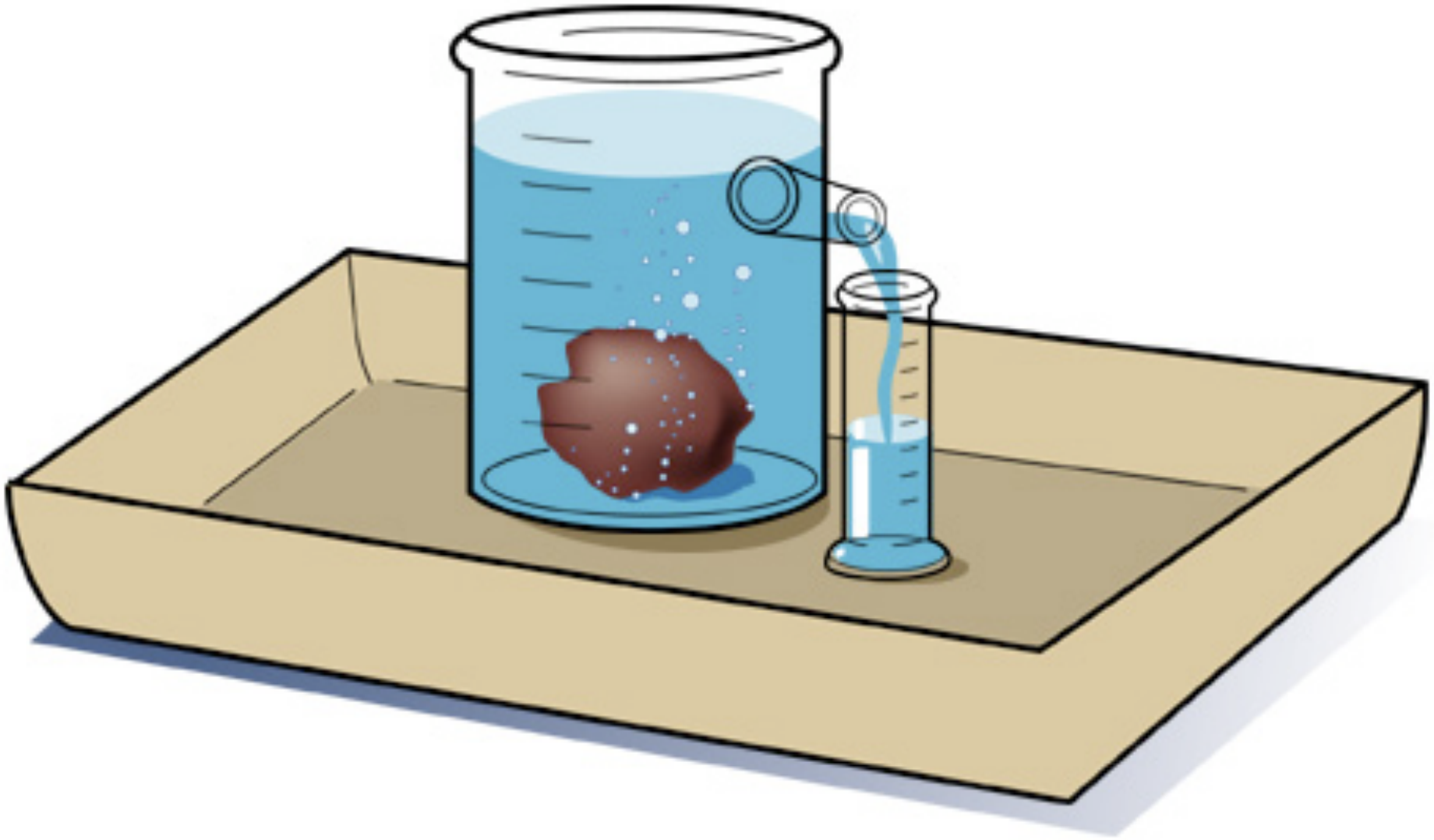
- The drop of water coming in DISPLACES (kicks out) a drop of water of equal size.

- We can use this information to find the volume of irregularly shaped objects.

Volume of an Irregular Object

So, knowing that a graduated cylinder measures the volume of liquids, develop a plan on how you could use the graduated cylinder to measure the volume of a solid.


Cotton
75 mls
90 mls



Directions

- Fill a graduated cylinder with a chosen volume of water. Be sure that is enough to cover the object.
- Record the initial amount of water on your table (A).
- Slowly place the irregular object into the graduated cylinder.
- Measure the new volume of water (B). Record the amount in your table.
- Measurement B – Measurement A = Volume of object (C).
- Remember: **1 cm^3 (solid volume units) = 1 mL (liquid volume units)**

LEAF 7L

Lead Using your data, *explain* which object had the greatest volume. *The object that has the greatest volume is _____ because _____*

Evidence: Observable and quantifiable data that a writer uses to support a claim. (When measuring irregular objects with the displacement method, _____ had_____ volume compared to _____ that had_____ volume. What is volume and how do different objects compare?

Analysis/Warrant: Certain rules that connect evidence back to claims—how the evidence supports the claim. (What procedures can make the calculation of volume challenging or inaccurate?)

Finisher: Restating your claim in a new way to provide closure for your argument. (How is the calculation of liquid volume done what are some applications and challenges?)

9/18/18

Catalyst:

How might we be able to measure the volume of a human?

LEAF

The object that has greatest volume is _____ because _____.

6L

9/18/18

Volume of Irregular Objects

Displacement Method: the amount of water that is pushed out of the way is equal to the volume of the object.

Objects	Volume of liquid in graduated cylinder (A)	Volume of liquid + irregular object in graduated cylinder (B)	Volume of irregular object (C)

6R