

8th grade Lab Book Table of Contents

2020

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①

Science
EAMS Ms. Toal

ABCDE's of 8th Grade SCIENCE

Period

Date

Name

Mr. Toal's 8th Grade Science Class

The date you will finish this year will be Monday, September 11, 2018

ABCDE'S

②

Create a Bitmoji Classroom

Watch the video (linked below), pausing it at each step so you can create your page.

You can begin the video at 2:30 if you already have your avatar (the little cartoon image of yourself, like mine below) or if you do not want to include your avatar.

There are lots of other videos on Youtube that show how to make these scenes - if you have another one in mind or if you find one, you may use that. This one I have given you includes instructions for each of the required components and it does not take a long time to watch.

The list of required components and the grading rubric are shown below (scroll down).

To submit your final product, take a screenshot and upload it as shown in the Video instructions for uploading an Assignment to Schoology (new)

How to make a Bitmoji Classroom - step-by-step Video Instructions

My avatar



Bitmoji
assignment

9/10
or
9/11

Distance Learning 2020 Scavenger Hunt
EAMS Science

In this activity, you will search for items in your house that meet the following criteria: (let's hope you

Scavenger Hunt

9/17/20
9/18/20

Based on
S.I. stan
The me
It is use
(J Carter

Metric Notes

Based on "10" so it's EASY

S.I. stands for "Systeme Internationale

The metric system is used to measure everything

It is used universally, except in the US
(J Carter)

```
graph TD; MS[Metric System] --> SM[Scientists Measure]; SM --> V[Volume]; SM --> M[Mass]; SM --> L[Length]; V --> Lit[Liter]; Lit --> GC[Graduated Cylinder]; M --> Gram[Gram]; Gram --> TBS[Triple Beam Balance Scale]; L --> Meter[Meter]; Meter --> MSick[Meterstick];
```

Click each box for more info

⑤ Practice Measuring

A) $7.0\text{ cm} = 70\text{ mm}$

B) $3.8\text{ cm} = 38\text{ mm}$

C) $4.6\text{ cm} = 46\text{ mm}$

D) $5.5\text{ cm} = 55\text{ mm}$

⑥

⑥ How long is it?

⑥

Science
EAMS

How long is it?

Date

Name

Ms Total

Period

Background: the METER is the SI unit of measurement when measuring the length of an object or the distance between two objects.

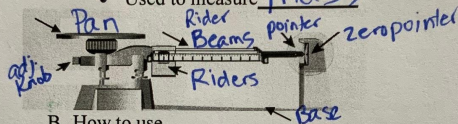
due 10/8
14/9

⑦ TBB + grad. cyl. notes

Triple Beam Balance and Graduated Cylinder Notes

A. Triple beam balance

- Used to measure mass



B. How to use

- Pan needs to be empty
- All riders are all the way to the LEFT
- Check if Pointer is at zero mark
If not- turn adjustment Knob

Too much will slowly break it

- Place object on pan

- Move 100g rider first
by notches until pointer dips
below zero mark

- Move 100 g rider back one
notch

- Now move the 10g rider
following same steps as 100 g rider

- Lastly move the 1g rider until
pointer is at zero

C. Record Mass

- Add the numbers on the three riders

example: + + =

D. Graduated Cylinder

- Used to measure Volume
- Read the meniscus
 - bottom of curve
 - At eye level

Draw
example:

M

Gizmo TBB

paper clip - 542 g

light bulb - 245.62 g

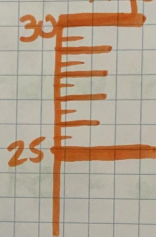
cone - 541.98 g

cube - 429.3 g

⑨ Gizmo Measuring Volume

* Remember how to figure out what each tick mark is?

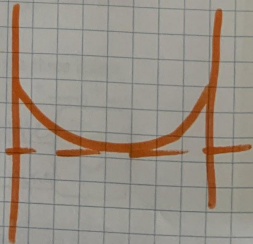
$$\text{---} = 1 \text{ mL}$$
$$\text{---} = .5 \text{ mL}$$



* Unit for grad. Cyl = mL

* Read bottom of

MENISCUS



Property of Matter

⑩

Notes on Matter

2020 EAMS Science

Matter

- What is matter?
- Anything that has mass and takes up space

- Some matter is easy to see, like _____
- Some matter is not easy to see, like _____

- Pencil, tree
- Air, gases

• What are the four properties of matter?

- Mass
- Weight
- Volume
- Density

• MASS:

- mass is the amount of matter in an object.
- Everything in the Universe that has mass is affected by gravity.

• WEIGHT

- is the measure of the gravitational pull on an object.
- $\text{Weight} = \text{MASS} \times \text{GRAVITY}$

• VOLUME

- is the amount of space that an object takes up or occupies.

There are two ways to find volume:

- Directly - use a ruler to find $(L \times W \times H)$ cm^3
- Indirectly - use a graduated cylinder and measure how much water is displaced ml

• DENSITY

- is the amount of matter (mass) in a given space (volume).
- Can you think of two things that have two different densities?

(also known as specific gravity)

(11)

Warm up

Date

10/15

10/16

Q: What are 2 ways to find Volume + what are the (2) units

Questions

A:

① Directly - use a ruler

$$L \times W \times H = \underline{\underline{cm^3}}$$

② INDIRECTLY =

use a Grad Cyl (mL)

Measuring Volume Part 2

(12)

Key Concepts -

* Volume of cube = $L \times W \times H$
units cm^3

* Volume of a SPHERE

$$* \text{directly} = \frac{4\pi r^3}{3}$$

Indirectly = grad cyl

$$\text{Sphere} = 26.5 \text{ cm}^3$$

← Same # →
= 26.5 mL

* Used overflow cup to show water displacement

* found volume w/ grad cyl of marble, rock, sphere, rectangular prism

13

Notes on Density



$$\frac{\text{mass}}{\text{Volume}} = \text{Density} \quad \heartsuit = \frac{\text{mass}}{\text{Volume}}$$

Object with a mass of 10g + volume of 2

$$\frac{10g}{2ml} = 5 g/ml$$

Object has a mass of 8g, + volume is 4cm³

$$\frac{8g}{4cm^3} = 2 g/cm^3$$

$$1ml = 1cm^3$$

Density of water = 1.0 g/mL

Density worksheet Gizmo 14

KEY Concepts:

Density of water = 1.0 g/ml

anything that has a density less than 1.0 g/ml } Floats on water

anything with a density that is greater than 1.0 g/ml } Sinks in water

You can predict whether an object will float or sink in water if you can measure the objects density

Gold density = 19.3 g/mL

If an object has a density of 19.3 g/mL it is Gold

↓ Different liquids have different densities

(15)

Density Part 2 (Gizmo) LAB

* mass = the amount of matter

* volume = the amount of space

* density = mass per unit volume

Dense objects feel heavy for
their size (lead ball)

Low density objects feel light
for their size (styrofoam)

+ Buoyancy - the tendency to float.

* Items with a lower density tend
to float above matter with
a higher density



Density Review for Quiz (16)

Water density = 1.0 g/mL

object density $<$ 1.0 g/mL = float in water

object density $>$ 1.0 g/mL = sink in water

* Liquids have different densities
ex: (gas $<$ water $<$ corn syrup)

Know how to calculate Density

✓ Know how to read grad. cyl *

* Know that the amount of water
displaced is equal to the
volume of the object

✓ Know how to read a TBB

