

Physical & Chemical Changes: Simulations

1. Logon as Username: Marshall, No Password
2. Go to <http://www.strangematterexhibit.com/>
3. Click on “Crush Stuff”
4. Choose a match & complete the table below.



Match # _____

Name the 2 competitors in the Smackdown: (1) _____ & (2) _____

What are the weaknesses of each competitor?

1. _____
2. _____

Click on the lever to crush them!

Describe the results:

1. _____
2. _____

Did the substance undergo a PHYSICAL change or a CHEMICAL change? _____

Explain:

5. Now click on “Transform Stuff”.
6. Choose ONE raw materials & fill in the data table.



Raw Material	Heat	Beat	Treat	New Product	What is the new product used for?
	X	X			
		X	X		
	X		X		
	X	X	X		

Describe the properties of the raw material:

Did the material undergo a PHYSICAL or a CHEMICAL change? _____

Explain:

Have extra time? Go back & crush some more stuff!!!

Which are physical changes and which are chemical changes?

- a. boil
- b. burn (combustion) -
- c. condense –
- d. corrode -
- e. crumple -
- f. ferment -
- g. melt -
- h. rust -
- i. crush -
- j. freeze -
- k. oxidize -
- l. tarnish -
- m. explode -
- n. grind -
- o. rot -
- p. vaporize -
- q. photosynthesis –

Label each process as a physical change or a chemical change:

- a. perfume evaporating on your skin -
- b. butter melting -
- c. wood rotting -
- e. autumn leaves changing color -
- f. a hot glass cracking when placed in cold water -
- g. melting copper metal -
- h. burning sugar -
- i. mixing sugar in water -
- j. digesting food -

Which of these is not matter?

- a. a cloud
- b. your hair
- c. sunshine
- d. the sun

The mass of an elephant on the moon would be

- a. less than its mass on Mars.
- b. more than its mass on Mars.
- c. the same as its weight on the moon.
- d. None of the above

Which of the following is not a chemical property?

- a. reactivity with oxygen
- b. malleability
- c. flammability
- d. reactivity with acid

Your weight could be expressed in which of the following units?

- a. pounds
- b. newtons
- c. kilograms
- d. Both (a) and (b)

You accidentally break your pencil in half. This is an example of

- a. a physical change.
- b. a chemical change.
- c. density.
- d. volume.

An amount of vinegar would be measured in _____ for scientific experiments.

- a. centimeters or meters
- b. grams or milligrams
- c. liters or milliliters
- d. ounces or gallons

Which of the following is not a physical property of matter?

- a. ductility
- b. color
- c. heat conductivity
- d. reactivity to water

A _____ object has more inertia than a 20 kg object.

- a. 2 mg
- b. 5 kg
- c. 2,000 g
- d. 30,000 g

During physical changes, matter always retains its

- a. size.
- b. identity.
- c. state.
- d. texture.

One way to compare the densities of oil and water is to pour them into a glass container and observe whether they

- a. change color.
- b. evaporate quickly.
- c. separate into layers.
- d. create an odor.