

## My Little Book on Matter Chp 2

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Sci Number: \_\_\_\_\_

# What's the Matter with Matter?

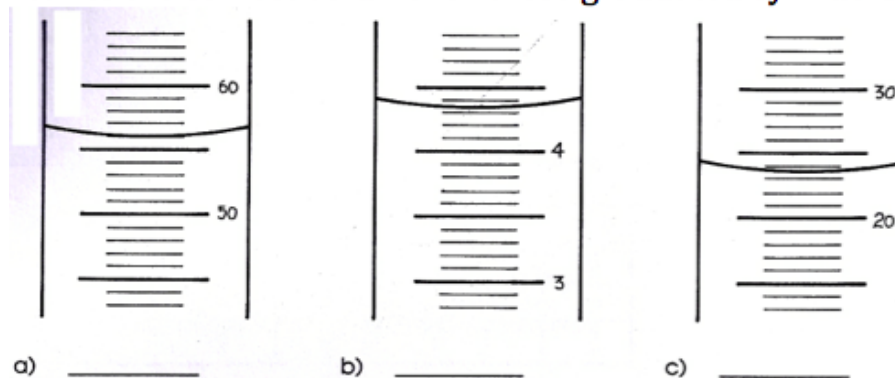
Draw or paste some examples of matter on your cover!

## Pg 2: What is Matter:

Word: Pg found	Section 1 definitions: Read this section, then fill in your definitions.
Matter Page 36	Matter is anything that has _____ and _____.
Volume Page 36	The amount of _____ taken up, or occupied, by an object is known as the object's volume.
Meniscus Page 37	The _____ that you see at the liquid's _____ has a special name - the meniscus.
Mass Page 38	Mass is the amount of _____ in a given _____.
Gravity Page 39	Gravity is a force of _____ between objects to experience a " _____ " toward other objects.
Weight Page 40	Weight is simply a measure of the _____ force of an object.
newton Page 41	Weight is a measure of gravitational force and must be _____ in _____ of force.
inertia 42	Inertia is the tendency of all objects to _____ any change in motion.

## Measuring Volume

Write the correct volume for these graduated cylinders



**Section 1: What is Matter? (pages 36 – 42)**

1. Explain how you would find/calculate the volume of each type of matter in the chart at the top of the next column.

Liquid	Solid	Gas

2. Matter has volume: pg 36 Mark each of these statements *True* or *False*

- \_\_\_ An object's volume is the amount of space the object takes up
- \_\_\_ Things with volume can't share the same space at the same time
- \_\_\_ When measuring a volume of water in a graduated cylinder, you should look at the bottom of the meniscus.
- \_\_\_ A liquid's volume is usually expressed in grams or milligrams

3. Copy figure 6 on page 39 in the box below. SUMMARIZE the sentences.

Drawing A	Sentence for A
Drawing B	Sentence for B
Drawing C	Sentence for C

4. Complete the boxes below:

Mass is	Weight is
<ul style="list-style-type: none"> <li>• A measure of the amount of _____ in an object</li> <li>• _____ constant for an object no matter where the object is in the universe</li> <li>• measured with a _____ expressed in _____, _____, and _____</li> </ul>	<ul style="list-style-type: none"> <li>• a measure of the _____ on an object</li> <li>• _____ depending on where the object is in relation to the Earth</li> <li>• measured with a _____ expressed in _____</li> </ul>

**Any additional notes YOU WANT for section 1**

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**Teach a parent: Today's concept is: What is Matter?**

Please use this format for the Teach It Master It (TIMI) assignments.. This should be fun!! If dancing around the table helps to teach a concept, do it! The better **YOU the student** can teach the concept, the better YOU the student will understand the concept. AND you might just have some fun too! To teach the assignment/concept, you may use ANY or ALL of these techniques to help. You may also use the book as a guide. PLEASE HAVE FUN!!

**Parent Response**

1. \_\_\_\_\_ I'm not sure my child really understands. Please work with him/her and let's try again.
2. \_\_\_\_\_ The concept was explained thoroughly with examples he/she created.  
"By golly, I think they've got it!"
3. \_\_\_\_\_ WOW! My child did an exceptional job! It was logically explained,

Parent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Mom or Dad Comments: Please explain how your student taught you this concept and what you learned in 2 sentences!

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**Pg5: Section 2: Describing Matter (pages 43-51)**

Word: Pg found	Section 2 definitions: Read this section, then fill in your definitions.
Physical property Page 43	A physical property of matter can be _____ or _____ without _____ the identity of the matter.
Density Page 44	Density is the amount of _____ in a given _____. The formula is:
Chemical property Page 47	Chemical properties describe a substance based on its ability to _____ into a new substance with different properties.
Physical change	A physical change is a change that _____ one or more _____ properties of a substance.
Chemical change	A chemical change occurs when one or more substances are changed into _____ substances.

**Describing Density: pg 44-46**

- Look on page 45. Skim "Spotlight on Density" and "Using Density to Identify Substances"
  - What is the formula for calculating density? \_\_\_\_\_
  - What is the density of water? \_\_\_\_\_
  - Why does a golf ball feel heavier than a ping-pong ball?

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- Look on page 46. What does figure 12 tell you about the density of the liquids in the jar?

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- What are 2 reasons why density is a useful property for identifying substances

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**Pg46 Draw the Density Jar** Color/Label the different layers:most/least dense Top-bottom

**Pg6: 2. Match each physical property in Column B to the correct phrase in Column A, then write the correct letter . Use the table on pg 44 to help you!**

Column A	Column B
____ 1. Sand does not dissolve in water	a. state
____ 2. Gold can be made into gold foil	b. thermal conductivity
____ 3. Ice is the solid form of water	c. solubility
____ 4. Copper can be drawn out into wire	d. density
____ 5. A foam cup protects your hand from being burned by the hot chocolate in it	e. ductility
____ 6. Ice cubes float in a glass of water because of their mass per unit volume.	f. malleability

**Physical & Chemical Properties**

State whether each is an example of a Physical (P) or Chemical (C) property.

- \_\_\_\_ 1. A rock's density
- \_\_\_\_ 2. boiling point of Gatorade
- \_\_\_\_ 3. ability of an old car to rust
- \_\_\_\_ 4. red color of a ripe apple
- \_\_\_\_ 5. ability of wood to ignite
- \_\_\_\_ 6. bitter taste of a lemon
- \_\_\_\_ 7. melting point of wax
- \_\_\_\_ 8. hardness of marble
- \_\_\_\_ 9. Luster (shininess) of gold
- \_\_\_\_ 10. Reacts with an acid to form hydrogen
- \_\_\_\_ 11. Smell of sulfur
- \_\_\_\_ 12. Reacts with a water to form a gas
- \_\_\_\_ 13. luster of aluminum foil
- \_\_\_\_ 14. texture of a nail file
- \_\_\_\_ 15. Supports combustion
- \_\_\_\_ 16. Can neutralize a strong acid
- \_\_\_\_ 17. Freezing point of water
- \_\_\_\_ 18. Temperature of hot chocolate
- \_\_\_\_ 19. Smoothness of our desks
- \_\_\_\_ 20. Mass of a textbook
- \_\_\_\_ 21. Smell of an orange
- \_\_\_\_ 22. Whistle of a tea kettle
- \_\_\_\_ 23. Reacts with oxygen to form carbon dioxide



**What is the difference between a physical and a chemical property?**

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## Physical & Chemical CHanges:

State whether each is an example of a Physical (P) or Chemical (C) change.

- \_\_\_ 1. Glass breaking
- \_\_\_ 2. Hammering wood together to build a playhouse
- \_\_\_ 3. A rusting bicycle
- \_\_\_ 4. Melting butter for popcorn
- \_\_\_ 5. Glassblower creating sculptures
- \_\_\_ 6. Freezing a chocolate-covered banana
- \_\_\_ 7. Separating sand from gravel
- \_\_\_ 8. Spoiling milk
- \_\_\_ 9. Burning toast
- \_\_\_ 10. Making salt water to gargle for a sore throat
- \_\_\_ 11. Mixing lemonade powder into water
- \_\_\_ 12. Cream being whipped
- \_\_\_ 13. Water evaporating from a pond
- \_\_\_ 14. Cutting grass
- \_\_\_ 15. Burning leaves to clear a field
- \_\_\_ 16. Humidifier putting moisture into the air
- \_\_\_ 17. Corroding metal
- \_\_\_ 18. Bleaching your hair
- \_\_\_ 19. Fireworks exploding
- \_\_\_ 20. Squeezing oranges to make orange juice
- \_\_\_ 21. Frying an egg
- \_\_\_ 22. Pouring milk on your oatmeal
- \_\_\_ 23. Food rotting in the refrigerator
- \_\_\_ 24. Trimming a rose bush
- \_\_\_ 25. Making a chopped salad
- \_\_\_ 26. Rotting wood



## Teach a parent: Today's concept is: Explain the differences between: Physical/Chemical Properties vs Physical/Chemical Changes?

Students: help your parent become an expert !

### Parent Response

1. \_\_\_ I'm not sure my child really understands. Please work with him/her and let's try again.
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**Mom or Dad Comments: Please explain how your student taught you this concept and what you learned in 1-2 sentences!** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Parent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Teach a parent: Today's concept is: What is Density?

Students: help your parent become an expert !

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\_\_\_\_\_

\_\_\_\_\_

Parent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### DENSITY PROBLEMS:

You can rearrange the formulas: **Density:  $D=m/v$**  (mass/volume) **Mass:  $m=D/V$**  **Volume:  $V=m/D$**

1. Find the density of a substance with a mass of 5kg and a volume of 43 m <sup>3</sup>	2. Suppose you have a lead ball with a mass of 454g. What is its volume? Lead's density: 11.35 g/cm <sup>3</sup>
3. What is the mass of a 15mL sample of mercury?(density of mercury is: 13.55 g/cm <sup>3</sup> )	4. A block of pine wood has a mass of 120g and a volume of 300 cm <sup>3</sup> . What is the density of wood?

### Review Questions:

1. Which of these is not matter? a. a cloud b. your hair c. sunshine d. the sun
2. 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 these
3. Which of the following is not a chemical property? a. reactivity with oxygen b. malleability c. flammability d. reactivity with acid
4. Your weight could be expressed in which of the following units? a. pounds b. newtons c. kilograms d. Both (a) and (b)
5. You accidentally break your pencil in half. This is an example of a. a physical change. b. a chemical change. c. density. d. volume.
5. Which of the following statements about density is true? a. Density depends on mass and volume. b. Density is weight per unit volume c. Density is measured in milliliters d. Density is a chemical property
6. Which of the following pairs of objects would have the greatest attraction toward each other due to gravity? a. a 10 kg object and a 10 kg object, 4 m apart b. a 5 kg object and a 5 kg object, 4 m apart c. a 10 kg object and a 10 kg object, 2 m apart d. a 5 kg object and a 5 kg object, 2 m apart
7. Inertia increases as \_\_\_?\_\_\_ increases. a. time b. length c. mass d. volume