Comparing Densities

BLM 3-13

Goal • Use this page to compare the densities of different substances

Use the information in the table to answer the following questions.

What to Do

mercury	glycerol	seawater	water	machine oil	ethyl alcohol	carbon dioxide	oxygen	air	helium	hydrogen	FIND TO
13.55	1.26	1.03	1.00	0.90	0.79	0.002	0.0014	0.0013	0.0002	0.000 09	"Density (g/mL)
gold	lead	copper	nickel	iron	aluminum	salt	sugár	oak	cork .	Styrofoam <sup>TM</sup>	Solid
19.32	11.34	8.92	8.90	7.87	2.70	2.16	1.59	0.70	0.24	0.005	⊟ensity (g/cm³)

1. You drop three things into a glass of water: a piece of Styrofoam<sup>TM</sup>, a piece of oak, and

a gold ring.
(a) Which will float? Styroform will float in wester

Which is denser:
 (a) Garbon dioxide or air?
 (b) <u>oxygen</u> or air?
 (c) <u>ny</u>drogen of air?

(b) Which will sink?

Dale + gold my will sink.

DATE: NAME:

You find a white granular substance in a jar in your cupboard. You suspect that it may be either sugar or salt. How could you find out without tasting the substance?

Masure Massy Volume TO BE CONTY 4

4. Why is it easier to swim in seawater than it is to swim in fresh water?

Sea rater is more deare man tresh water

5. A student comes to the conclusion that solids are denser than liquids. Is this true?

are solids that are less dense But stryotom, Cork, some woods than many liquids (like water) with the exception of water One it is the same substance

BLM 3-12

CLASS:

DATE: NAME:

онаривки Density Calculations

Goal • Use this page to calculate the mass and volume of different substances.

Use the table and the following formula to solve the following problems.

density = mass volume

mercury 13.55 gold	glycerol 1.26 lead	seawater 1.03 copper	water 1.00 nickel	machine oil 0.90 iron	ethyl alcohol 0.79 aluminum	carbon dioxide 0.002 salt.	oxygen 0.0014 sugar	air 0.0013 oak	helium 0.0002 cork	hydrogen 0.000 09 Styrofoam™	Tellow (1111)
id 19.32	ad 11.34	per 8.92	kel 8.90	7.87	inum 2.70	alt. 2.16	gar 1.59	ak 0.70	ork 0.24	oam <sup>™</sup> 0.005	Jilu - Lensity (g/cm²)

1. Calculate the mass of 550 mL of air.

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2. Calculate the mass of 50 cm<sup>3</sup> of copper.

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volume of a 2 g piece of gold?	
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19.325/cm	202
	J. 10Hallow

4. How much space would 1 kg of air occupy?

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In an experiment, two str			V= M =	
In an experiment, two students find that 500 g of water occupies a space of 50 ml -15 ml			" 88	
ater occupies a space of	N N	. \	- 769	
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space of 50 mL. is

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(	2005	this accurate? Explain.
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6. In the same class, two students find that a piece of wood with a mass of 70 g has a volume of 103 cm $^{3}$ . They conclude that the wood is oak. Is this accurate? Explain.

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