

Grade 8 PRIME Math & Science Learning Opportunities
Week of May 11th

MATH ENGLISH - WEEK OF MAY 11TH

MANGAHIGH CHALLENGES

I will be changing our challenges this week to focus on **data management**. Please let me know if you need your mangahigh password and I will send to you.

Don't forget you can always message me through mangahigh if you have any questions. Always try each challenge at least three times. Good luck!

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MATH AT WORK MATH MEETS HOMEBUILDING

<https://www.youtube.com/watch?v=mFIU1hfCGI4>

SMALL	MEDIUM	LARGE	XTRA-LARGE
10 OZ. SODA MEDIUM POPCORN	14 OZ. SODA MEDIUM POPCORN	20 OZ. SODA LARGE POPCORN	24 OZ. SODA LARGE POPCORN
\$8.25	\$9.00	\$10.75	\$11.50

I think...

I notice...

I wonder...

Create a 6-digit mystery number.
Make up at least five clues that would allow a student or family member to solve your mystery number.

SCIENCE

Floating and Sinking – Density Layers

Density Layering (density tower) video: https://www.youtube.com/watch?v=-CDkJuo_LYs

Purpose of the assignment

To determine the floatability of materials using density.

Information

Imagine all of the materials listed below are thrown into a beaker. They will, because of their individual densities, eventually settle into certain positions.

Procedure

1. Determine the density of each fluid (liquid). Draw each fluid in its proper place in the beaker drawing on the previous page. Divide them equally within the beaker.
2. Colour the diagram neatly – use a different colour for each fluid.
3. Next, using the densities of each object, place them in their proper place in the beaker with the fluids. Use the symbol drawings for each of the solids.

Solids do not float on top of fluids, but somewhat within the fluids

Objects with lower densities float in fluids with higher densities and fluids with lower densities will float on fluids with higher densities.

FLUIDS to place in your beaker:

Cooking Oil
Mercury
Water

Carbon tetrachloride
Alcohol
Salt Water

SOLIDS can be represented as:

Ice



Egg



Cork



Gold Ring



Moth Ball



Ebony Wood



Pinewood



Steel Ball



Platinum



Paraffin Wax



Densities of Various Common Substances

Substance	Density g/cm ³ (g/mL)
Hydrogen	0.000089
Air (average)	0.00129
Oxygen	0.00143
Carbon Dioxide	0.00198
Balsam wood	0.13
Cork	0.12
Pine wood	0.44
Birch wood	0.64
Oak wood	0.7
Rubbing Alcohol	0.79
Baby oil	0.83
Paraffin wax	0.85
Vegetable oil	0.92
Ice	0.92
Water	1.0
Egg	1.02
Milk	1.03
Sea water	1.03
Dish Soap	1.06
Ebony wood	1.2
Mothballs	1.2
Glycerol (liquid)	1.26
Corn Syrup	1.33
Sugar	1.59
Carbon tetrachloride	1.6
Plastic	2.0
Salt	2.1
Concrete	2.3
Aluminum	2.7
Glass	2.7
Limestone	3.2
Diamond	3.5
Iron	7.5
Steel	7.8
Brass	8.4
Nickel	8.9
Copper	8.93
Silver	10.5
Lead	11.4
Mercury	13.6
Gold	19.3
Platinum	21.5

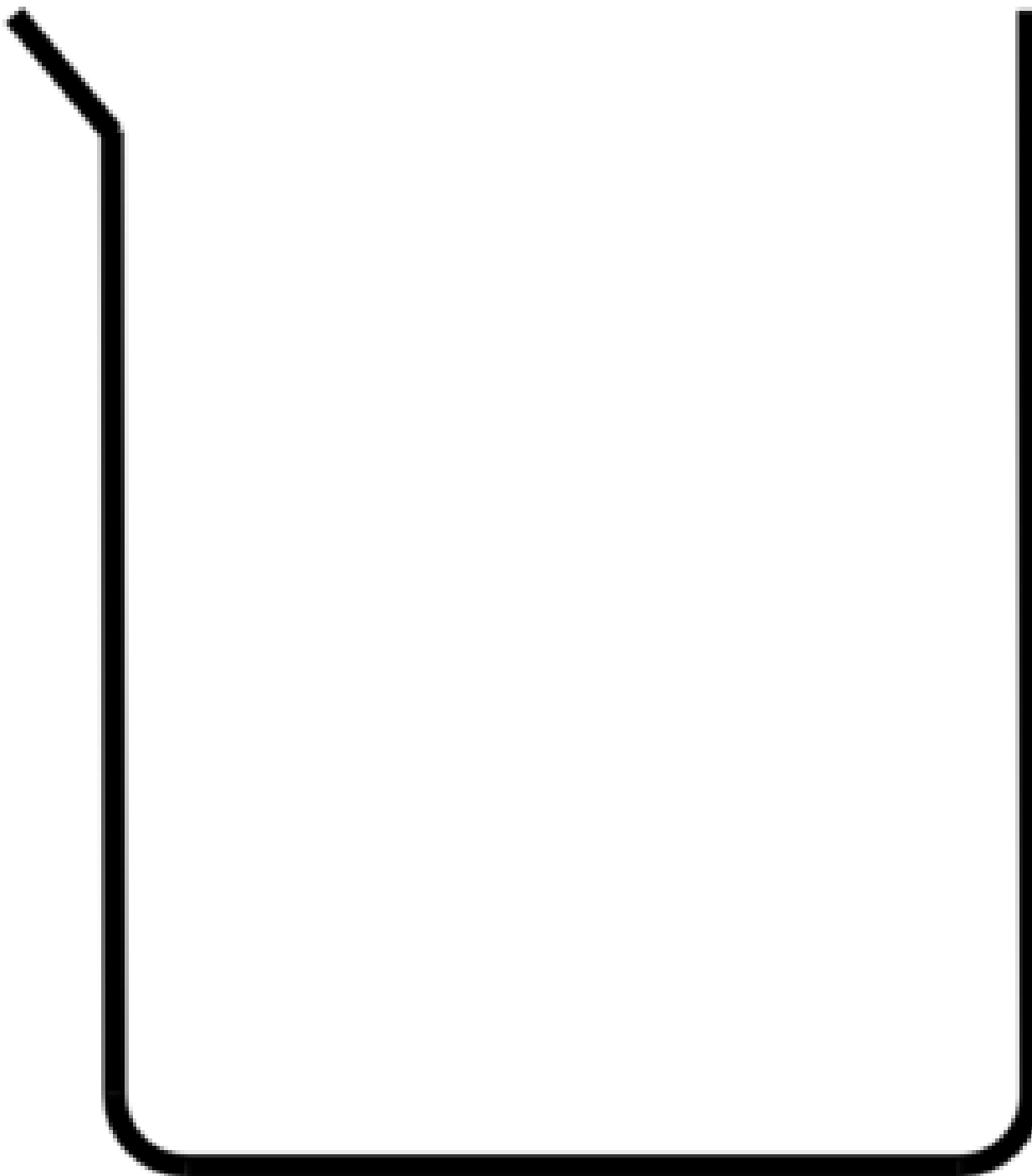
Assignment: Floating and Sinking

Draw all the liquids in layers in the beaker. Draw where the solids would fit in.

Name:

Date:

Class:



MATH-SCIENCE LINKS

Visualizing in 3D

Being able to “see in 3D” is important to grasp many concepts in Math and Sciences. Try some “Skyscrapers” puzzles.

Online: <https://www.puzzle-skyscrapers.com/>

App.:



Skyscrapers
Number Puzzle
Six By Nine Apps

Probability

Probability is a Mathematical concept which is often applied in the world of Science. Here is a Bill Nye video which should be a great review of the basics of Probability.

https://www.youtube.com/watch?v=aX7n_nfKYNy