

6th Grade Science Writing Prompts & Daily Warm Ups 2015-16

www.middleschoolscience.com

These are the slides I start my classes with. Please note that many of them are from ScienceSpot.net and you can download her ppts and answers from her site. I do not have answer keys for any of the prompts.

www.middleschoolscience.com

What does each scientist study?

1. Weather

2. Atoms, elements, and compounds

3. Rocks & minerals

4. Animals & plants

A. Meteorologist

D. Chemist

E. Geologist

F. Zoologist

G. Botanist



3

What does each scientist study?

1. Fungi

2. Birds

3. Reptiles & amphibians

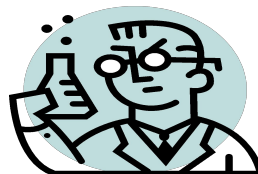
4. Classification of organisms

C. Microbiologist

D. Ornithologist

E. Parasitologist

F. Taxonomist



4

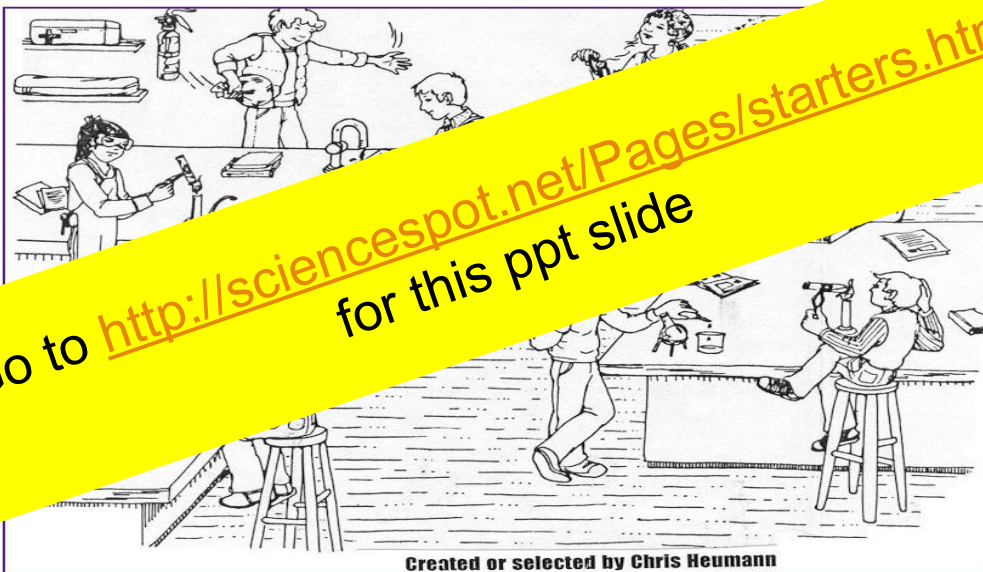
What does each scientist study?

1. Viruses
 2. Water & the water cycle
 3. Motion, force
 4. Microorganisms
- Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide
- D. Seismologist
E. Virologist
F. Physicist



5

What's wrong? Using complete sentences, identify 6 different safety concerns shown in the picture below.



Created or selected by Chris Heumann

Image: http://morrisonlabs.com/lab_safety.htm

6

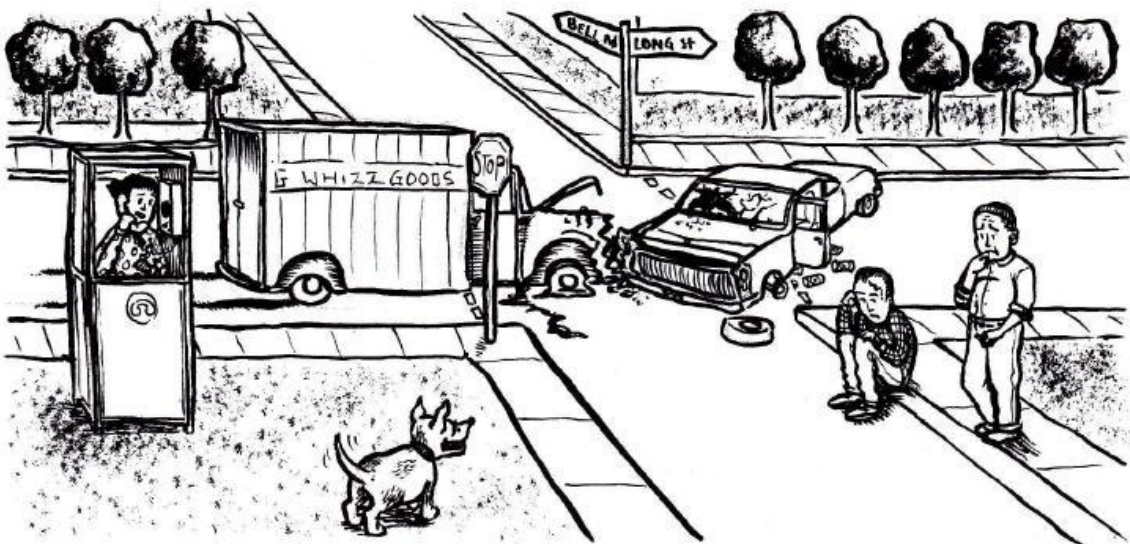
WHAT DOES EACH SAFETY SYMBOL STAND FOR?

SKETCH THE SYMBOLS IN YOUR NOTEBOOK



7

Using the image below, describe in complete sentences 3 observations and 3 inferences.



8

What is it? Sketch & name what you think the object is, number



Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

What does each of these scientists study?

1. Remains of human life & civilization
 2. Fish
 3. Oceans and seas
 4. Insects
 5. Planets, stars, and solar system
 6. Fossils & energy
- A. Archeologist
 - B. Oceanographer
 - C. Entomologist
 - D. Oceanographer
 - E. Entomologist
 - F. Ichthyologist
 - G. Archeologist

Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

What is it? Sketch & name what you think the object is, number



1



3



4



5

11

Go to <http://sciencespot.net/Pages/starters.html>
for this ppt slide

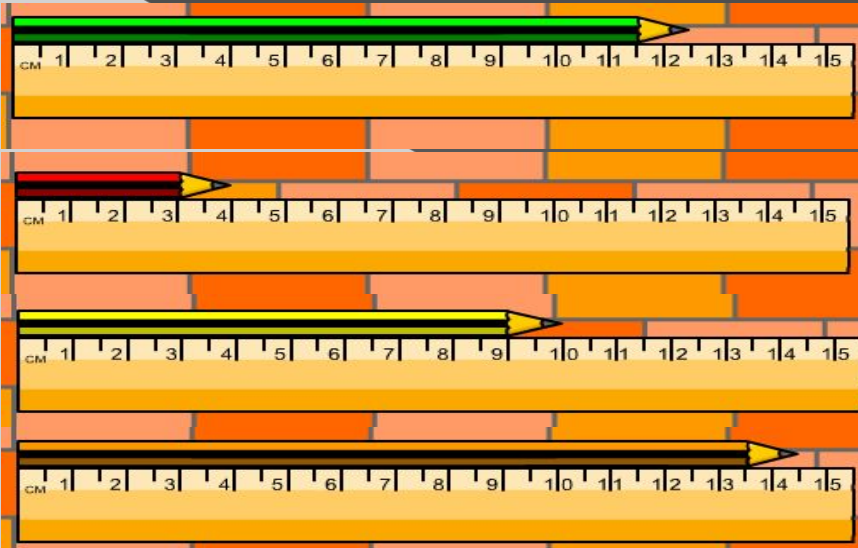
What does each of these scientists study?

1. Volcanoes
 2. Sound and its properties
 3. Butterflies & Moths
 4. Earth's forces that change and shape the Earth
- A. Geophysicist
B. Lepidopterist
C. Biologist
D. Geophysicist
E. Geophysicist
F. Volcanologist

Go to <http://sciencespot.net/Pages/starters.html>
for this ppt slide

12

Draw lines in your prompt notebook the same length as the pencils shown below. Write the length in cm & mm



_____ cm

_____ mm

_____ cm

_____ mm

_____ cm

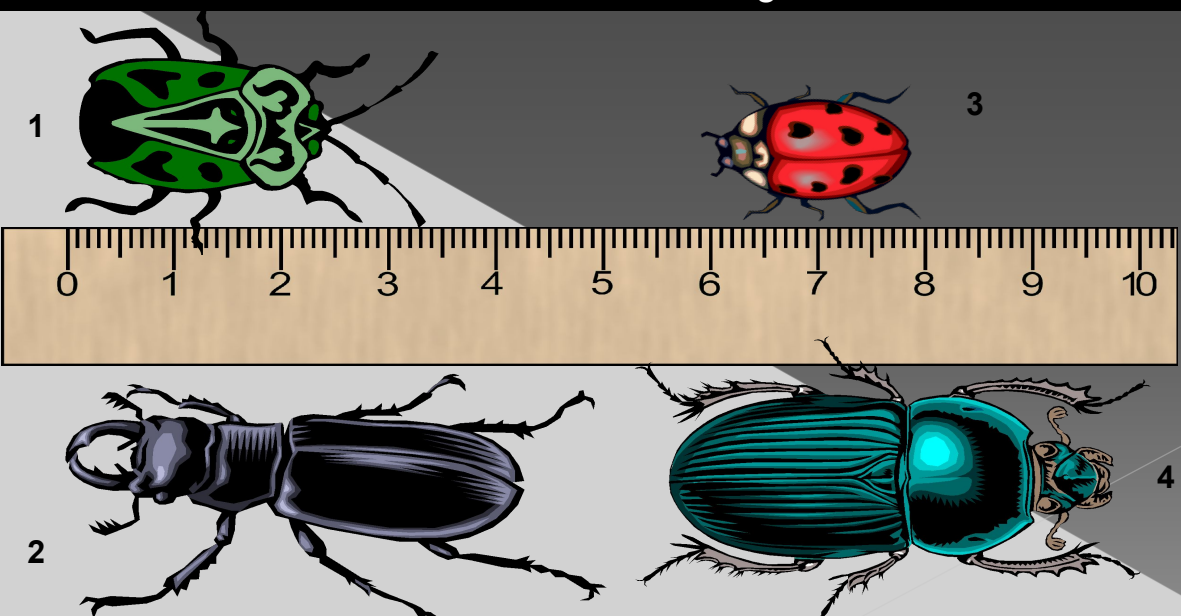
_____ mm

_____ cm

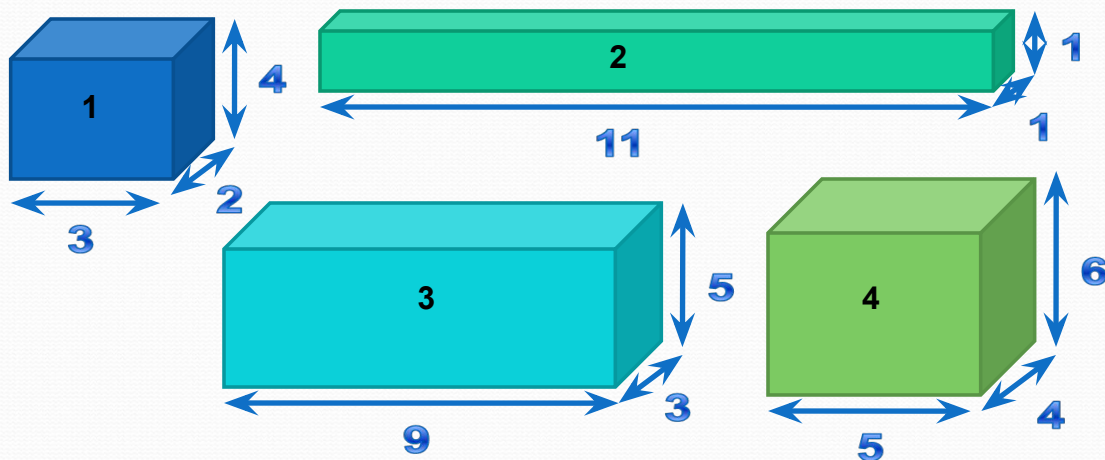
_____ mm

Images from http://www.bgfl.org/bgfl/custom/resources_frp/client_frp/ks2/maths/measures/index.htm

Draw lines in your prompt notebook the same length as the bugs, antennae to feet, shown below. Write the length in cm & mm



Calculate the volume for each shape below. Show your work (using the formula) in your notebook. The unit for each measurement is cm.

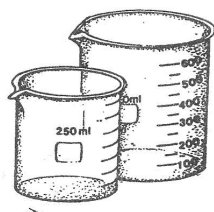


The formula for the volume of a rectangular prism is: $\text{Length} \times \text{Width} \times \text{Height} = \text{cm}^3$

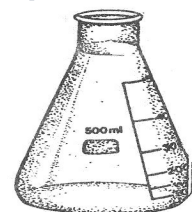
Sketch & Identify the following lab equipment:



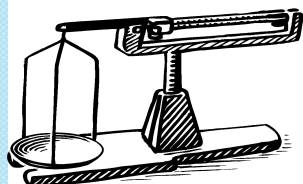
A



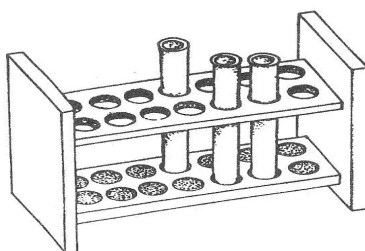
B



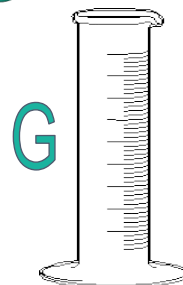
C



D



E & F

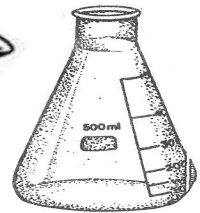


G

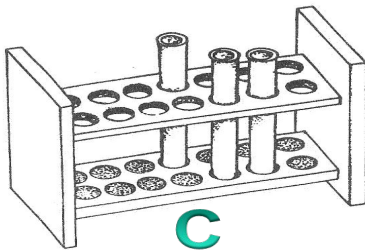
Identify & sketch the pieces of lab equipment: 1) Used to measure exactly 25 mL of water & 2) Used to measure about 200 mL of water



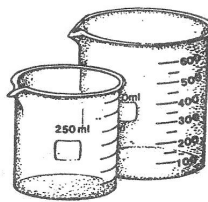
A



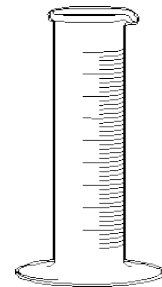
B



C



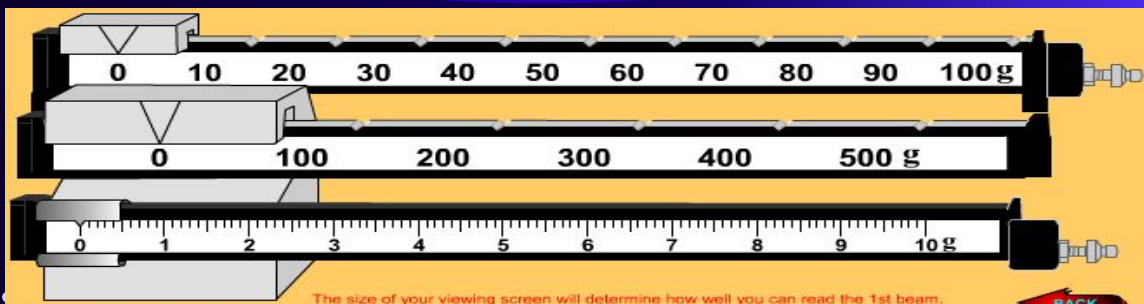
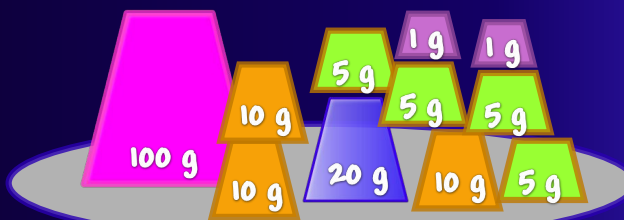
D



E

17

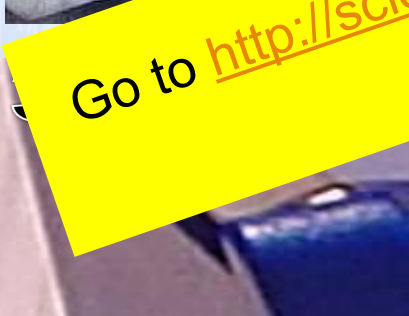
In your notebook, sketch where the riders would be on the TBB and write the total mass.



The size of your viewing screen will determine how well you can read the 1st beam.

BACK

What is it? Sketch & name what you think the object is, number



Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

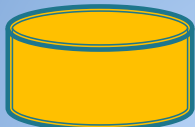
Draw the tank in your notebook. Place the shapes into the tank of water according to their densities. Which will float? Sink?



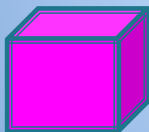
Density
 2.5 g/cm^3



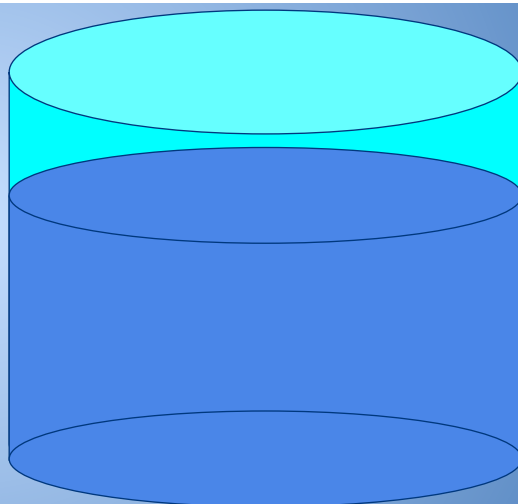
Density
 0.89 g/cm^3



Density
 0.45 g/cm^3



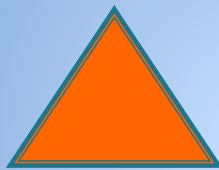
Density
 13.75 g/cm^3



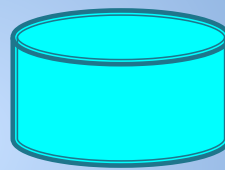
Draw the following shapes into your notebook. Which shapes will float in water? Write “Sink” or “Float” next to each shape and explain why.



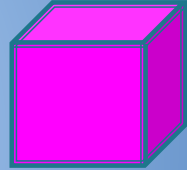
Mass: 15.9 g
Volume: 20 mL



Mass: 1,400 g
Volume: 50 mL



Mass: 2,257.5 g
Volume: 5,000 mL



Mass: 8.5 g
Volume: 200 mL

Look carefully at the photos below. In your notebook create a T Chart describing 4 differences in Photo A vs B. (more than 4 answers are acceptable)

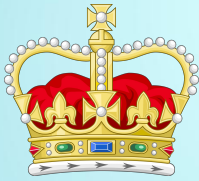


Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

A

B

Help the King find a new gold crown for his Queen. All the crowns have the same mass, but he wants one made of gold. Identify the metals used for each crown, be sure to show your work!



A = 44.09 cm³



B = 56.18 cm³



C = 25.91 cm³



D = 23.36 cm³

Densities of Metals

Lead – 11.34 g/cm³

Gold -19.3 g/cm³

Silver -10.5 g/cm³

Platinum - 21.4 g/cm³

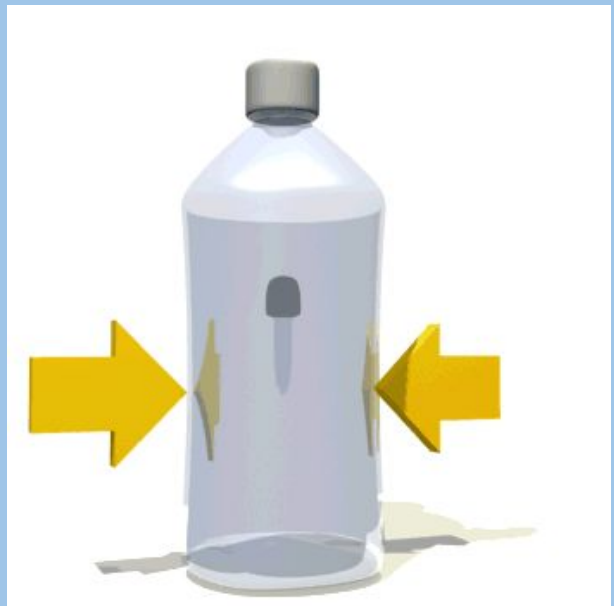
Copper - 8.9 g/cm³

The of mass of each crown is 500 g

Draw the Cartesian Diver into your notebook.

Use the following terms to describe why the diver floats and sinks (3-5 sentences):

1. air
2. density
3. water
4. volume
5. mass
6. float
7. sink



Can you unscramble all the words below?
Write the questions and the answers next to them.

Hint: They all start with the letter A.

IDAC

1. I

RAI

2. Any of

3. An atom is made of protons, neutrons, and electrons.

N O S A

4. I like my space.

M N S I A L A

5. Zoologists study us.

Can you unscramble all the words below?
Write the questions and the answers next to them.

Hint: They all start with the letter B.

CAERTBIA

1. B

LOBOD

2. A body.

3. Ready living things.

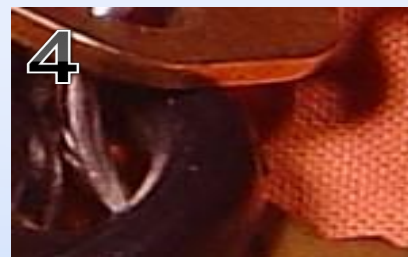
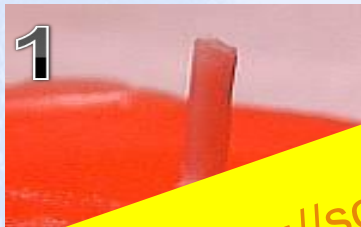
S

4. I have a pH over 7.

N O B E S

5. We support your body.

What is it? Sketch & name what you think the object is, number



Go to <http://sciencespot.net/Pages/starters.html>
for this ppt slide

Can you unscramble all the words below?
Write the questions and the answers next to them.

Hint: They all start with the letter C.

R A B C N O

1. I

O M A S P C

2. You're lost.

L

3. I am not like other animals.

I L C A I

4. You'll have to look up to see me.

5. I help things move.

Go to <http://sciencespot.net/Pages/starters.html>
for this ppt slide

**Can you unscramble all the words below?
Write the questions and the answers next to them.**

Hint: They all start with the letter D.

EDCMOPSEOR 1 P

A T D A

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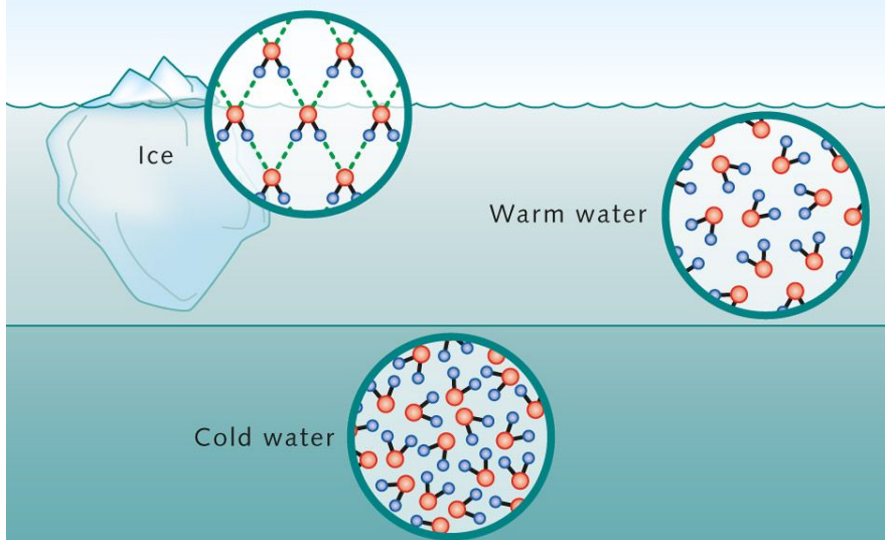
C O M M U N I T Y

4. You might label me.

E D C B E I S L

5. How loud can you be?

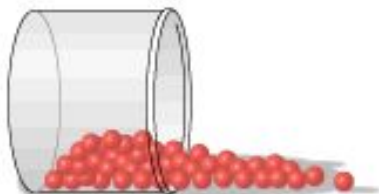
Sketch the image below into your notebook. Use circles to represent the water molecules shown. Write 2-3 sentences describing the densities of each layer of water and why is the iceberg floating?



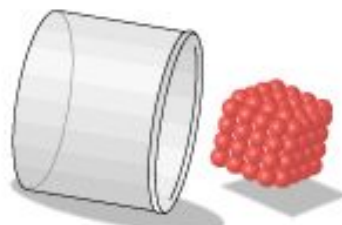
Sketch the images below into your notebook. *Name the phase shown for each and describe how the atoms are moving (3 total sentences).*



(a)



(b)



(c)

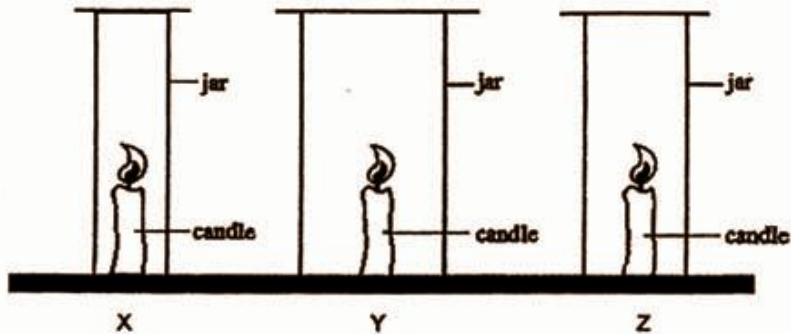
31

**Sketch the image below into your notebook.
*Describe two chemical reactions or changes that took place.***



Making S'mores...yummy!

Sketch the images below into your notebook.
In which order will the candles burn out? Explain why.



All three candles are the same size, and were lit then covered by an upside down jar at the same time.

Sketch, label, and color both images of the candles.

Make a T-Chart listing 3 comparisons between a candle burning on Earth vs. a candle burning in Space during an experiment on a Space Mission.

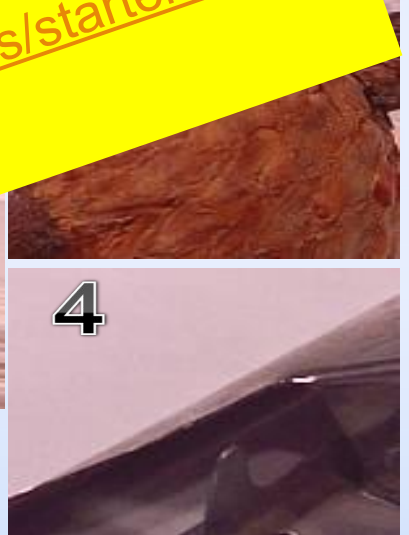
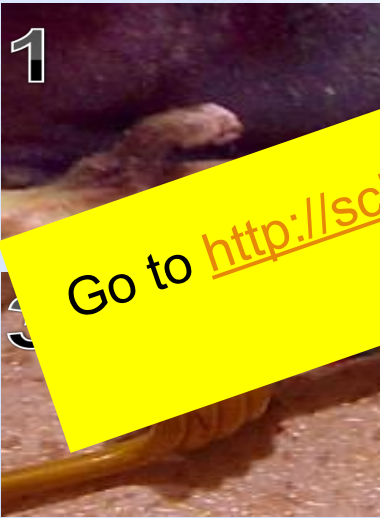
Image from NASA

NASA
C-98-485



National Aeronautics and Space Administration
Lewis Research Center

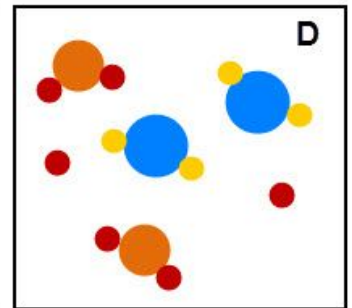
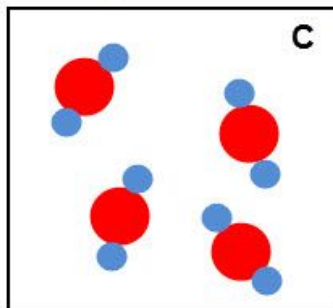
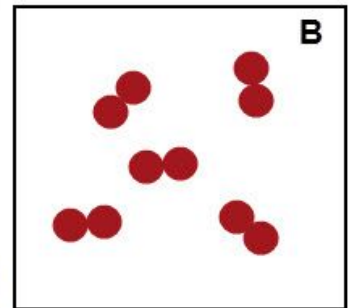
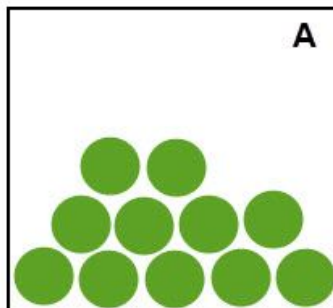
What is it? Sketch & name what you think the object is, number



Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

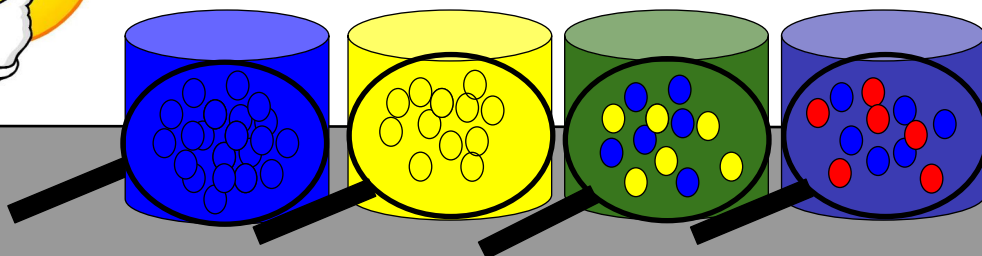
Sketch & Identify the images of E, C, M's and write the answer next to each image:

A _____
B _____
C _____
D _____



Sketch the images below into your notebook.
It shows a zoomed in view of the molecules inside each color.

Why aren't there any **green** or **purple** molecules? *Explain in 3-5 sentences.*



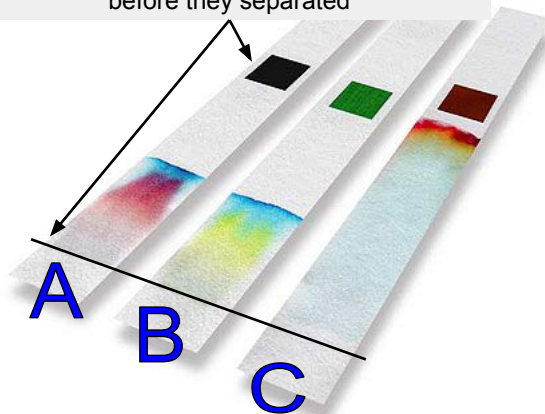
37

Look at the Chromatography photo to answer the questions below.

Write and answer each question in complete sentences.

1. Did any of the strips begin with a primary color? Explain.
2. Name some similarities between strips A & B.
3. In which strip did the colors travel the farthest? Explain.
4. Was this a physical or chemical change? Why?

These colors were originally at the bottom - the squares show you what they looked like before they separated







38

Create the chart shown on the right into your notebook.

Use a ruler for the columns to keep it neat.

Place an "X" into each box that is true for each row. (See example)

	atoms	molecules	element	Compound
	X		X	
				
				
				
Zn				
CuSO ₄				
P ₄				

39

Look carefully at the photos below. In your notebook create a T-Chart describing 3-4 differences in Photo A vs B

Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

A

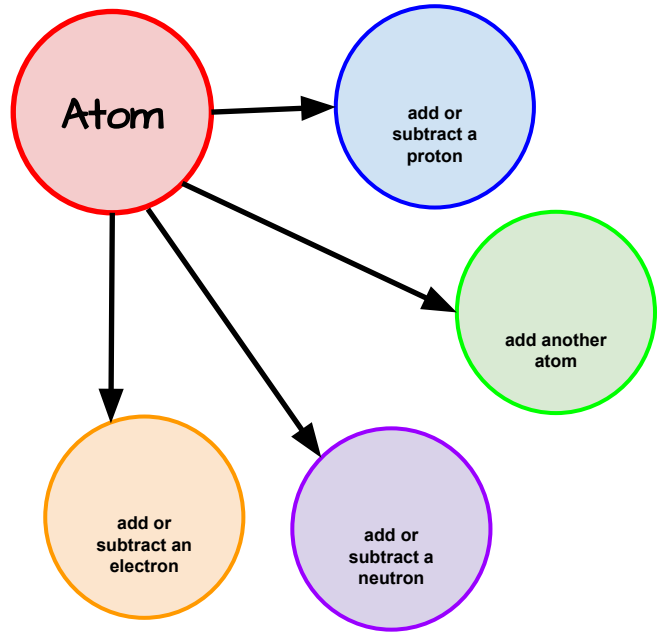
B

Draw the diagram on the right into your notebook.

Fill in each circle with the matching vocab word(s):

- New element
- Ion
- Isotope
- Molecule

Use a dictionary if you need one



41

Rewrite the following sentences (in your notebook) in the correct order (# 1-5) and write the name of the scientist who developed the model.

?

Atoms are made of empty space with electrons around a positive nucleus. The terms nucleus and proton (+) are introduced.

?

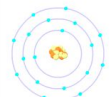
Negatively charged particles called electrons scatter off the positive nucleus.

?

Electrons are arranged in a cloud, instead of in a fixed orbit.

?

Electrons are arranged in energy levels. Lower energy levels are close to the nucleus and higher energy levels are farther away from the nucleus.



42

Can you unscramble all the words below?
Write the questions and the answers next to them.

Hint: They all start with the letter E.

K E S O E T X E O N L

T O E C E L

Go to <http://sciencespot.net/Pages/starters.html>
for this ppt slide

Have all the

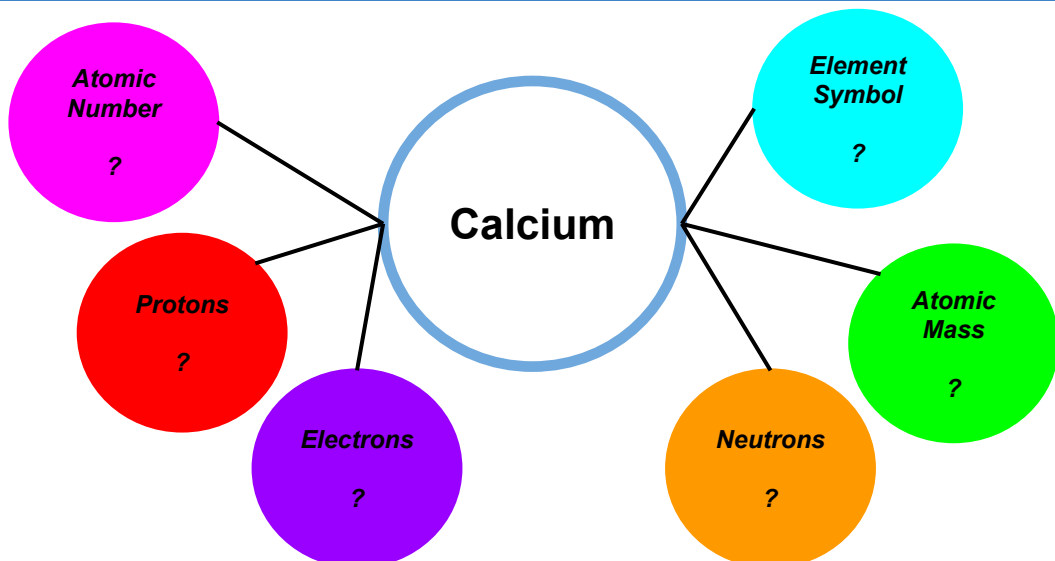
Don't let it wash away.

4. I'm the center of the world in
a way.

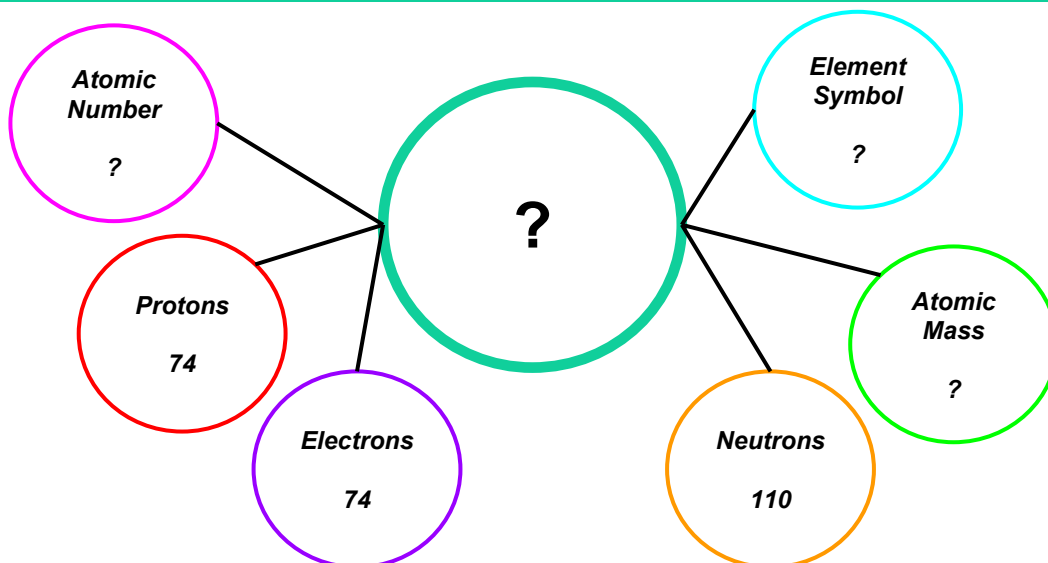
H Q K A E T R U A E

5. I might make you shake,
rattle, and roll!

Draw the following diagram into your notebook.
Write the category and answer inside each circle.



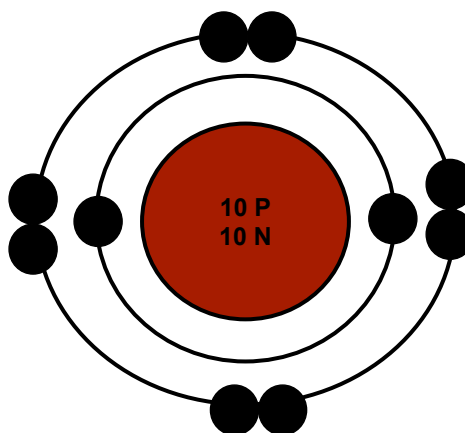
Draw the following diagram into your notebook.
Write the category and answer inside each circle.



45

Draw the following diagram into your notebook.
Answer the questions using complete sentences.

1. What element is shown in the diagram?
2. How many electrons does it have?
3. What is the atomic mass of this element?
4. How many electrons are in the 2nd energy level?
5. Can any more electrons be added to the 1st or 2nd energy level? Explain.



46

Write each question and answer neatly into your notebook.

2
He
Helium
4.003

5
B
Boron
10.81

11

1. What is the atomic number of Na? _____
2. How many protons are in an atom of Na? _____
3. How many electrons are in an atom of Na? _____
4. How many neutrons are in an atom of He? _____
5. How many electrons are in an atom of Cl? _____
6. How many neutrons are in an atom of Na? _____

Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

Write each question and answer neatly into your notebook.

1
H
Hydrogen
1.01

3
Li
Lithium
6.94

14

1. What is the atomic number of Si? _____
2. How many protons are in an atom of Si? _____
3. How many electrons are in an atom of Argon? _____
4. How many neutrons are in an atom of H? _____
5. How many neutrons are in an atom of Li? _____
6. How many electrons would be in the second energy level of an atom of Si? _____

Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

Draw the following chart into your notebook
 Write the answer for each category inside the chart

Element	Atomic #	Atomic	Period	Groups	
Li			B	C	
			E	8	F
	G	27	H	I	13

Go to <http://sciencespot.net/Pages/starters.html>
 for this ppt slide

Draw the following chart into your notebook
 Write the answer for each category inside the chart

Element	Atomic #	Atomic Mass	Period	Groups	
Ma			B	C	
			E	16	F
	G	39	H	I	19

Go to <http://sciencespot.net/Pages/starters.html>
 for this ppt slide

Write each sentence and answer into your notebook.
Identify each element by name

1. I am a member of the Carbon family and a solid at room temperature.
2. I am a member of the Halogen family and I would have 6 energy levels.
3. I am a member of the Alkali Metal family and I would have 4 energy levels.
4. I am a transition metal with 79 protons.
5. I am a member of the Alkali Metal family with 20 neutrons.

Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

Write each sentence and answer into your notebook.
Identify each element by name

1. I am a member of the Halide family and a solid at room temperature.
2. I am a member of the Alkali Metal family and I would have 4 energy levels.
3. I am a member of the Halogen family that is gas at room temperature.
4. I am a transition metal with 110 neutrons.
5. I am a member of the Oxygen family with 16 protons and 16 neutrons.

Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

Write each sentence and answer into your notebook.
Identify each element by name

1. I am a Noble Gas that is found as a liquid at room temperature.
2. I am a member of the Carbon family that is found in the 5th period.
3. I am a Halide that is a gas at room temperature and have 3 energy levels.

Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

Draw a Bohr Diagram for
each of the following elements:

F

Li

C

N

Na

B

Draw a Lewis Structure for
each of the following elements:

Be

O

Ne

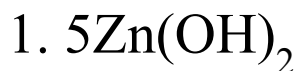
K

Cl

N

Counting Atoms Challenge

How many atoms are in each formula?

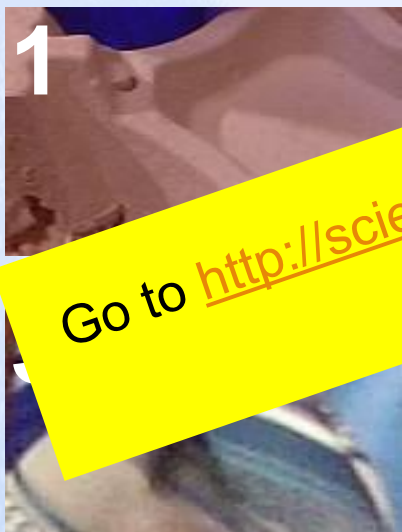


3.

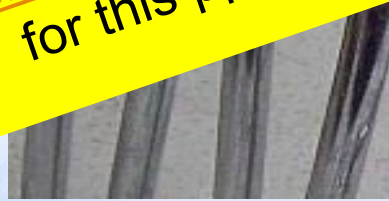


What is it? Sketch & name what you think the object is, p...

1



Go to <http://sciencespot.net/Pages/starters.html>
for this ppt slide



4



Can you unscramble all the words below?
Write the questions and the answers next to them.

Hint: They all start with the letter F.

E F C R O

1. I

R C I F T N I C

2. I

I

3. I

U

4. I

A M L F R O U

5. I

Go to <http://sciencespot.net/Pages/starters.html>
for this ppt slide

down.

can tell you about the past.

4. I can make your job easier or harder depending on where I am.

5. I can help you solve a problem.

Bonding: Draw the Lewis Structure, formula, and write the name for each compound formed:

Be + F

Ca + O

Are these compounds Ionic or Covalent?

59

Bonding: Draw the Lewis Structure and formula for each compound formed:

H + S

C + F

Are these compounds Ionic or Covalent?

60

What is it? Rearrange the symbols for the elements and use the clues provided to figure out the answers. Show your work.

Example: Something to follow: The

1. You'll want

Radium + Oxygen

3. Hydrogen + Boron + Dysprosium + Nitrogen + Oxygen

4. Bone of this snake! Oxygen + Carbon + Boron + Radium

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Write these questions into your prompt notebook. Watch the video to answer the questions below.

1. How does Glucose form?
2. What does Methane turn into?
3. What does Propane turn into?
4. Where did all the atoms come from?
5. What is the Law of Conservation of Mass?



You can press "CC" to see the words as you watch the video



62

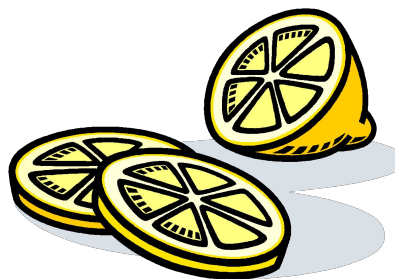
A Look carefully at the photos below. *In your notebook create a T-Chart describing 3-4 differences in Photo A*



63

Write each question below. Classify each as either an Acid or Base.

- a) $\text{pH} = 2.3$
- b) $\text{pH} = 6.5$
- c) $\text{pH} = 8.5$
- d) $\text{pH} = 11.7$
- e) $\text{pH} = 13.4$
- f) $\text{pH} = 4.1$



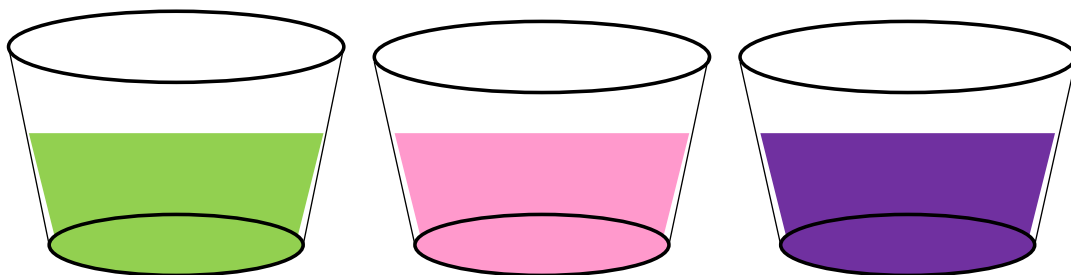
64

Write each question below. *Circle* the stronger pH in each pair of pH values:

- | | |
|-----------------------|-------------------------|
| a) pH 2.2 or pH 3.9 | f) pH 8.5 or pH 9.9 |
| b) pH 5.55 or pH 2.3 | g) pH 10.05 or pH 14.89 |
| c) pH 13.2 or pH 1.7 | h) pH 3.67 or pH 1.4 |
| d) pH 6.4 or pH 4.8 | i) pH 12.036 or pH 9.45 |
| e) pH 8.02 or pH 14.8 | j) pH 1.28 or pH 1.39 |

65

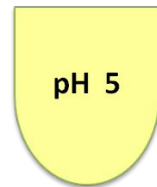
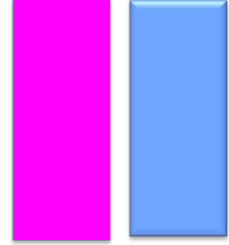
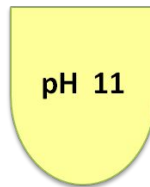
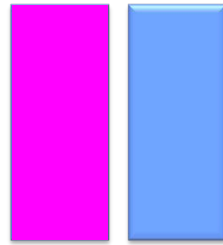
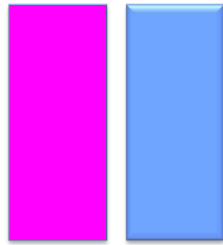
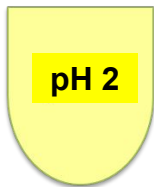
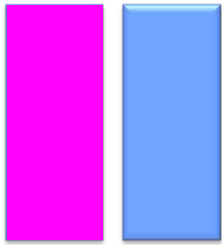
Draw the following in your notebook. Cabbage Juice Indicator was added to the following solutions:



Determine if each solution above is an acid, base, or neutral.

66

Color the answers in your notebook: What will happen when you test the liquids with Litmus?



67

**Can you unscramble all the words below?
Write the questions and the answers next to them.**

Hint: They all start with the letter G.

EMOENG

1. I can

RPAHG

VRAC

2. I'm making things warmer.
(2 words)

GAEL

5. I'm found in DNA.

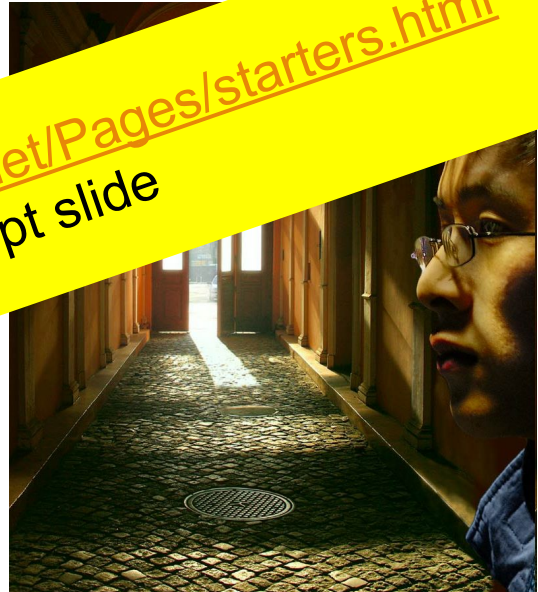
Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

68

A

Look carefully at the photos below. *In your notebook create a T-Chart describing 3-4 differences in Photo A*

B



Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

**Can you unscramble all the words below?
Write the questions and the answers next to them.**

Hint: They all start with the letter H.

REIBHTANONI 1 H

IEROP

MEAMHR

Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

4. I'm a possible answer to a question or problem.

5. I'm a little bone in your ear.

What is it? Sketch & name what you think the object is, p...



71

Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

Which word(s) best describe each mineral's luster?
Write the mineral and answers in your notebook.



A: Quartz



B: Pyrite



C: Talc



D: Garnet

1. Metallic
2. Submetallic
3. Vitreous/Glassy
4. Adamantine/Diamond-like
5. Resinous
6. Silky
7. Pearly
8. Greasy/Oily
9. Pitchy
10. Waxy
11. Dull/Earthy

72

Mohs Scale: Write the questions and answers into your notebook

MINERAL HARDNESS

Moh's Hardness Scale		Approximate Hardness of Common Objects
Talc	1	
Gypsum	2	Fingernail (2.5)
Calcite	3	Copper penny (3.5)
Fluorite	4	Iron nail (4.5)
Apatite	5	Glass (5.5)
Feldspar	6	Steel file (6.5)
Quartz	7	Streak plate (7.0)
Topaz	8	
Corundum	9	
Diamond	10	

1. If your fingernail can easily scratch the mineral, what is the hardness of this mineral?
2. A student notices that their unknown mineral will scratch a penny but it will not scratch an iron nail. What mineral might this unknown be?
3. What if the unknown mineral scratches all the common objects listed in the chart?

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Mohs Scale: Write the questions and answers into your notebook

MINERAL HARDNESS

Moh's Hardness Scale		Approximate Hardness of Common Objects
Talc	1	
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Fluorite	4	Iron nail (4.5)
Apatite	5	Glass (5.5)
Feldspar	6	Steel file (6.5)
Quartz	7	Streak plate (7.0)
Topaz	8	
Corundum	9	
Diamond	10	

1. Which mineral will scratch glass, Quartz or Fluorite?
2. Which mineral(s) won't scratch anything?
3. Can feldspar scratch a streak plate?

74

Can you identify these minerals? Write the properties in your notebook.



Mineral Properties (A)

- Color: Black/Grey
- Hardness: 1.0 – 2.0
- Luster: Dull, metallic
- Streak: Black/Gray



Mineral Properties (B)

- Color: Greens/Blues
- Hardness: 5.0 – 6.0
- Luster: Waxy
- Streak: White/Greenish

75

CATEGORIZE

Write the directions and answers into your notebook

Categorize the following as either renewable (R) or nonrenewable (N) natural resources. Write your answers in your notebook before any that are not natural resources at all. Note that not all of these are natural resources.
movie.

..... air

..... animals

..... coal

..... trees

..... oil

..... the sun

..... wind

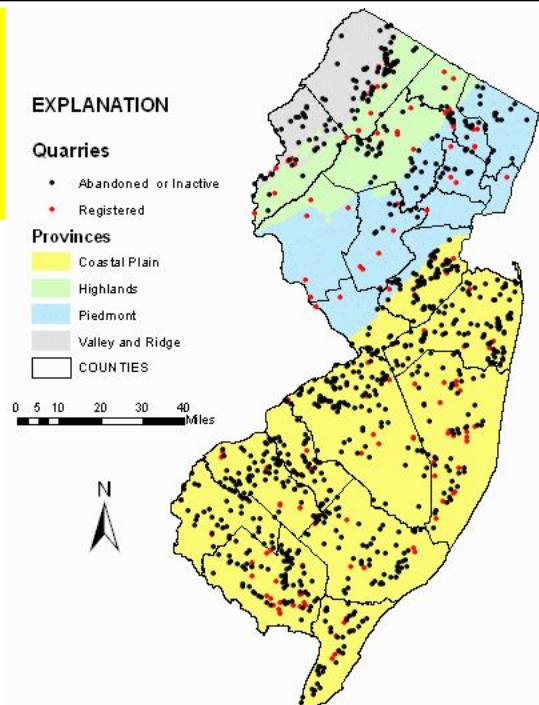
Go to www.brainpop.com for this activity sheet

You can watch a short BrainPOP video to help you if get stuck: [BrainPOP](https://www.brainpop.com)

76

Use the map of New Jersey to answer the following questions. *Write the questions and answers neatly in your notebook.* Presentation mode will allow you to see the image better.

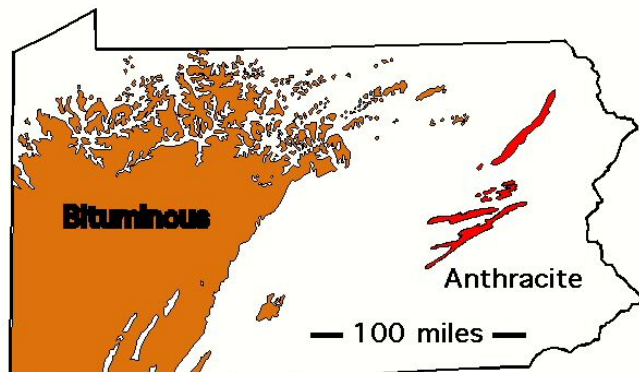
1. What is the largest Province in NJ according to the map?
2. What is the smallest Province?
3. Which Provinces are found in Morris County?
4. Are there more active/registered mines or abandoned/inactive mines according to this map?
5. Name one county that does not have any currently operating quarry mines.



Write the following questions and answers in your notebook:

Distribution of Pennsylvania Coals

1. Can you find the border of PA and NJ? Where is it?
2. What type of coal is found in Eastern PA?
3. What type of coal is found in Western PA?
4. Which deposit is larger?
5. About how many miles separate the deposits?



After Map 11, PA Department of Conservation and Natural Resources

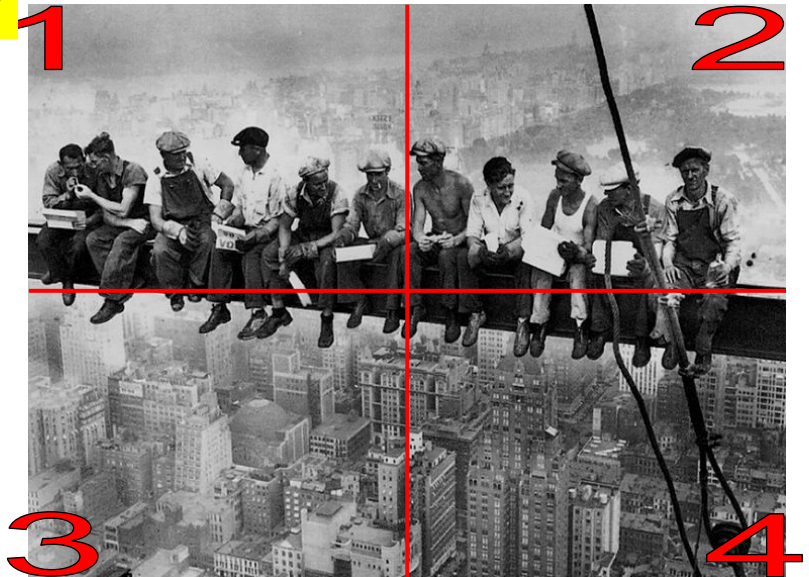
View image in PRESENTATION MODE, then click for quadrants to appear.

Study the photograph for **2 minutes**. Form an overall impression of the photograph and then examine individual items.

Next, divide the photo into quadrants and study each section to see what new details become visible.

List 3 observations for each quadrant:

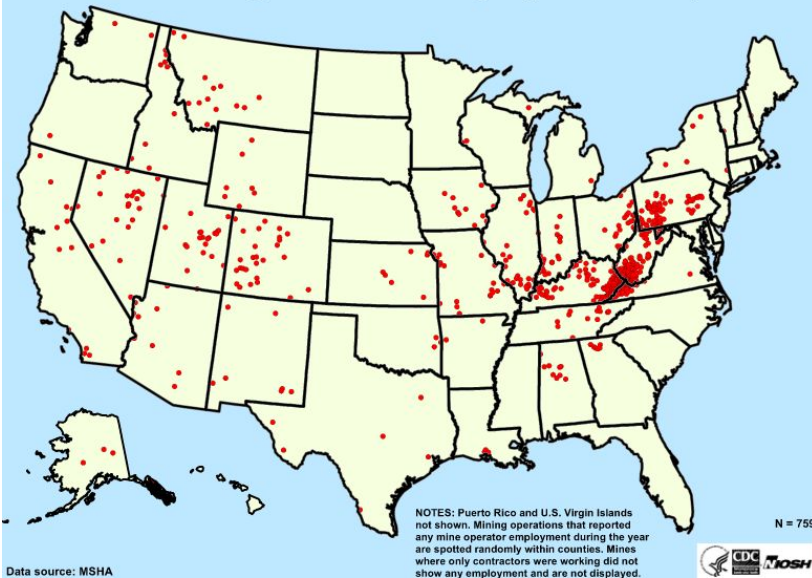
- Quad 1
- Quad 2
- Quad 3
- Quad 4



Rockefeller Center Construction, NYC 1932 - "Lunch atop a skyscraper" - Photo Credit Unknown

79

Active Underground Mining Operations, 2013



Write the following questions and answers into your notebook:

1. Name 5 states that have **5** or more underground mines.
2. Name 5 states that do not have sub-surface mining.
3. Which states have a high concentration of underground mines?
 - a. What do you think they mine?

To view a larger image of this map, click on [this link](#)

80

A

Look carefully at the photos below. *In your notebook create a T-Chart describing 3-4 differences in Photo A*

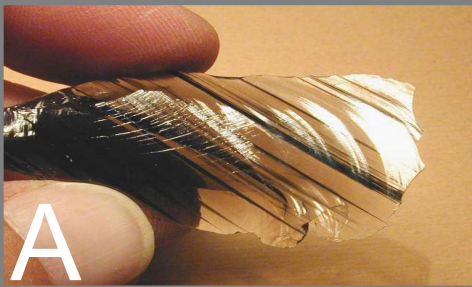
B



Go to <http://sciencespot.net/Pages/starters.html> for this ppt slide

81

Look at the rock samples below, identify the following questions and answers in your notebook:
Which **sample** has large mineral crystals? What type of rock is it? What is the name of the rock?



A



B

There is only 1 rock for the answers to the questions above - it says **SAMPLE** not Samples



C



D

82

Write the following statements into your notebook.
Write your answers on the line: I, S, or M.

CATEGORIZE IT

Write "I" if the statement describes an igneous rock
and "S" if it describes a sedimentary rock.

..... Found on the beach

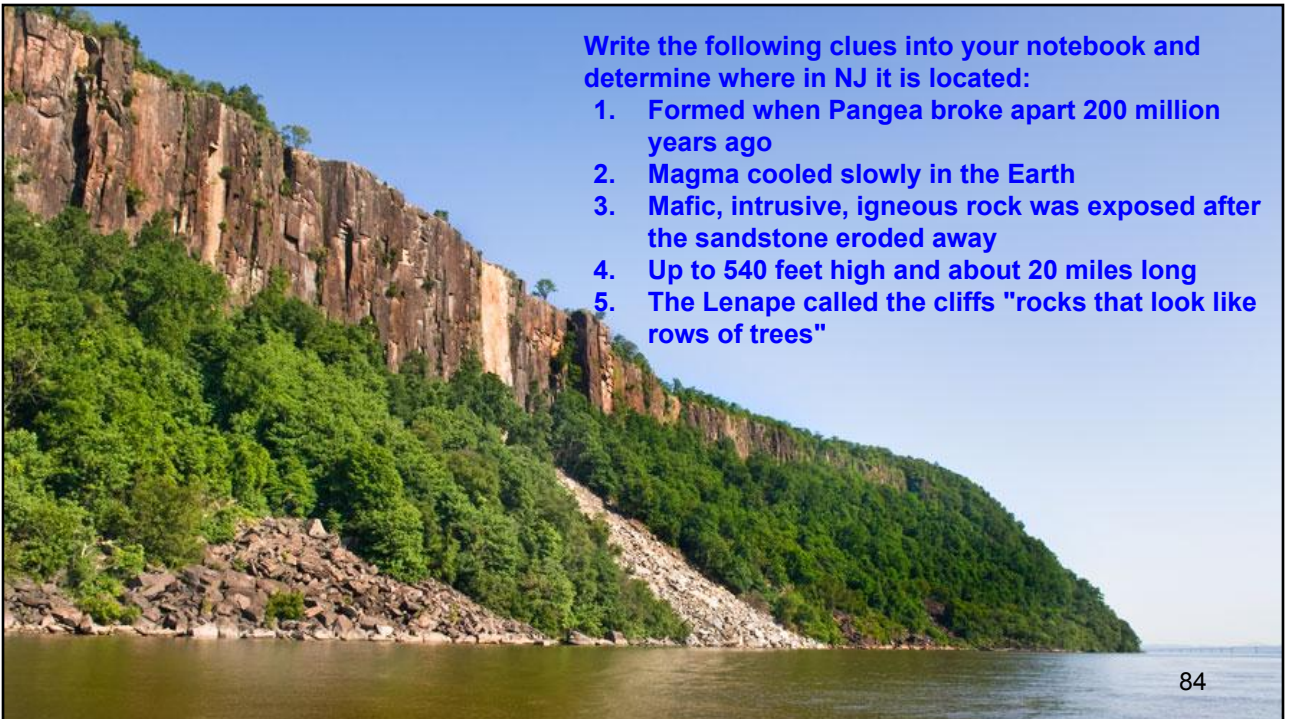
..... Has been transformed

..... Heat and pressure can turn the other two types into this

..... Bits and pieces of the other two types can be found in this

Go to www.brainpop.com for this activity sheet

83



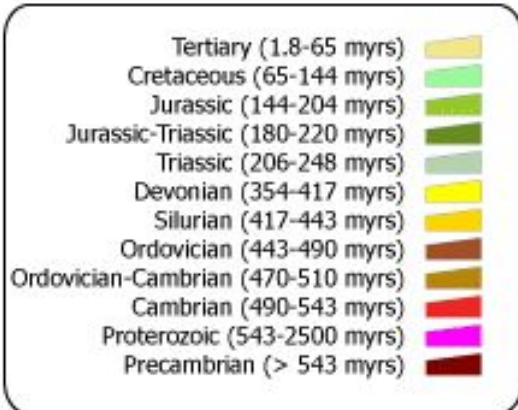
Write the following clues into your notebook and determine where in NJ it is located:

1. Formed when Pangea broke apart 200 million years ago
2. Magma cooled slowly in the Earth
3. Mafic, intrusive, igneous rock was exposed after the sandstone eroded away
4. Up to 540 feet high and about 20 miles long
5. The Lenape called the cliffs "rocks that look like rows of trees"

84

Using the map and key to answer the questions below. The blue star represents where Peck is located. Write the Q & A's into your notebook:

1. Where are the oldest rocks in New Jersey?
 - a. Name the era and time span.
2. Where are the youngest rocks?
 - a. Name the era and time span.
3. What is special about where Morristown is located?
4. Where are the abandoned Iron Mines located?



Using the diagram, determine the correct sequence for the tracks and prints shown.

Write the sentences in the correct order in your notebook.

- The Butler walks to work
- The Handyman rides a bike
- The Cook rides a motorcycle
- The Maid drives a car
- The Nephew has a seeing-eye dog

