# What's the

The first slide will ask you for your school, team and team members. 1 person should submit answers for the team. Once the section gets to 0:00, the test moves on but DOES record the answers you have clicked.

# Open Ended Question

Please list your School Name, Team (V, JV1, JV2, JV3), and team member names.  Don't forget to hit submit to record your answers before the timer gets to 0:00.

**Please enter your answer here.**

# Quiz

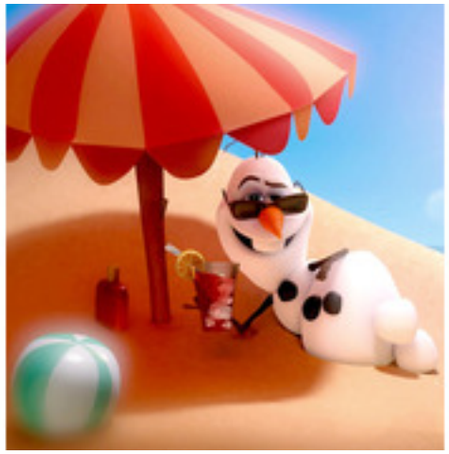
## Section 1

Olaf likes warm hugs!  Olaf is a snowman that wants to find out what solid water does in summer.  The first thing that would happen to a snowman in the summer is that he would _____ into a _____.

- evaporate, gas
- freeze, solid
- melt, liquid
- sublimate, liquid

After his first phase change, what would happen next in the hot sun?  He would _____ into a _____.

- evaporate, gas
- freeze, solid
- melt, liquid
- sublimate, liquid



## Is Olaf absorbing or releasing heat when he goes outside in the summer?

- absorbing
- releasing

What is the phase transition called when a solid becomes a liquid?

- freezing
- melting
- solidifying
- sublimating

**A cold glass of water collects water droplets on the outside on a hot summer day. This is an example of what phase change?**

- condensation
- melting
- sweating
- vaporization

# Quiz

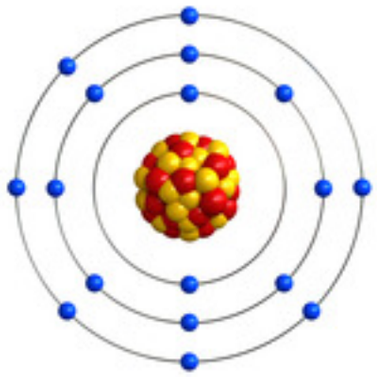
## Section 2

**_____ are tiny particles of matter which make up everything we see or touch on a daily basis; it is the basic unit of a chemical element.**

- atom
- compound
- ion
- molecule

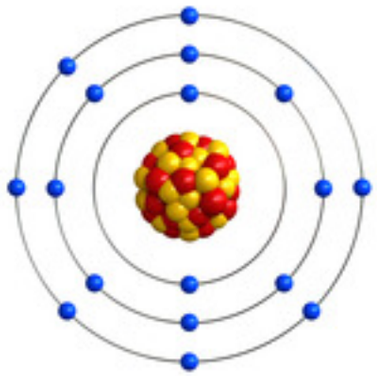
What is the center of an atom called?

- capsule
- cell
- cloud
- nucleus



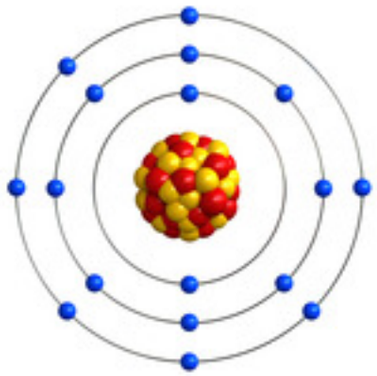
The picture shows the diagram of an atom.  The blue circles around the outside are:

- electrons
- ions
- neutrons
- protons



The picture shows the diagram of an atom.  What 2 subatomic particles are in the center?  You need both for credit.

- electrons
- ions
- neutrons
- protons



The picture shows the diagram of an atom.  Which subatomic particle has a positive charge?

- electrons
- ions
- neutrons
- protons

# Quiz

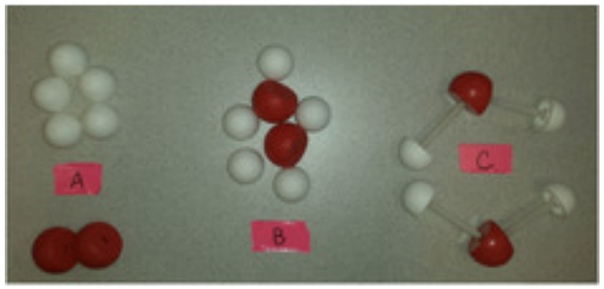
## Section 3

An element can be broken down into a simpler substance.

- True
- False

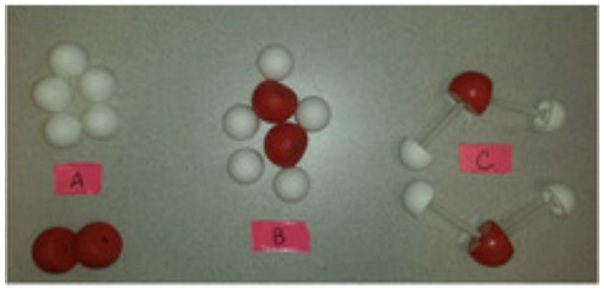
## What is a compound?

- Made up of two or more mixtures
- Made up of two or more elements
- Made up of one kind of atom
- Made up of two or more solutions




Look at the picture.  You can click it to make it bigger.  The white and red pieces represent different atoms.  The sticks show that they are chemically bound together.  Which pile shows 2 separate elements not mixed together?

- A
- B
- C



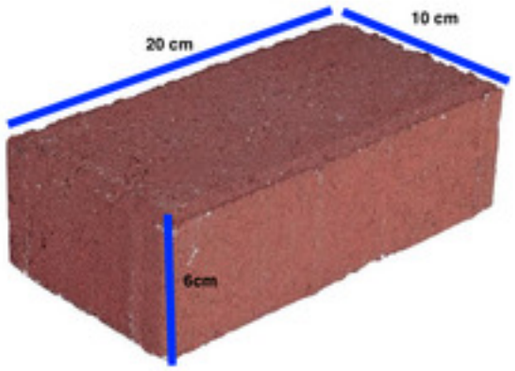

Look at the picture.  You can click it to make it bigger.  The white and red pieces represent different atoms.  The sticks show that they are chemically bound together.  Which pile shows a mixture?

- A
- B
- C

## Which of the following is an example of a mixture?

- Cereal & milk
- gold
- sugar
- water & ice

# Open Ended Question




(2pts) What is the volume of this brick?  Don't forget units!  Don't forget to hit submit to record your answers before the timer gets to 0:00.

**Please enter your answer here.**

# Quiz

## Section 4


**Is baking a cake from a mix a chemical or physical change?**

- chemical
- physical

## Is sand getting wet on the beach a chemical or physical change?

- chemical
- physical

**Is cracking an egg a chemical or physical change?**

- chemical
- physical

## Is boiling water a chemical or physical change?

- chemical
- physical

## Is burning wood a chemical or physical change?

- chemical
- physical

**Inside your body, ____ changes occur.**

- physical
- chemical
- Both physical & chemical
- Neither physical or chemical

# Quiz

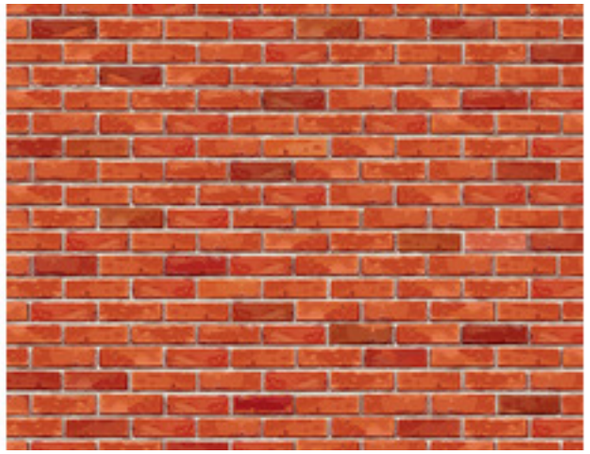
## Section 5

## How can you describe this piece of glass?

- transparent
- translucent
- opaque

**How can you describe this milk jug?**

- transparent
- translucent
- opaque



## How can you describe this brick wall?

- transparent
- translucent
- opaque

## How can you describe these plastic bags?

- transparent
- translucent
- opaque

**These terms all describe how much ____ an object lets through.**

- heat
- light
- water

# Quiz

## Section 6


This picture shows atoms in 3 different states of matter. Which of these atomic arrangements will take the shape of the container that they are in? Click all that apply.

- A
- B
- C


This picture shows atoms in 3 different states of matter.  Which of these atomic arrangements has atoms with the most energy?

- A
- B
- C


This picture shows atoms in 3 different states of matter.  Which of these shows a solid?

- A
- B
- C

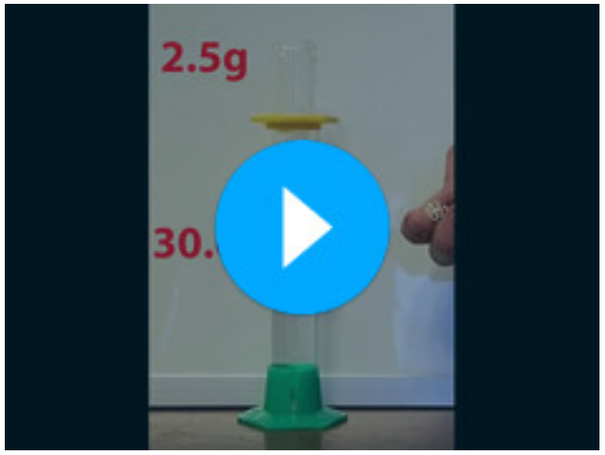

## To describe a solid, you could say: (click all that are true)

- The particles of a solid are attracted to each other
- The particles of a solid can move past one another
- The particles of a solid vibrate but do not move past one another
- A solid has mass and takes up space

## When you heat a sample of gas, what happens to the particles that make up the gas?

- The particles move faster
- The particles break apart
- The particles get smaller
- The particles become more dense

# Open Ended Question




(2pts). Click the play button to watch the video.  Calculate the density of the shell in g/ml.  Don't forget to hit submit to record your answers before the timer gets to 0:00.

**Please enter your answer here.**

# Quiz

## Section 7

**If you put food coloring in room temperature water, the coloring spreads throughout the water. The water causes the color to spread mainly because:**

- Water molecules are warm
- Water molecules are in motion
- Water is more dense than food coloring
- Food coloring molecules are small


Food coloring spreads out faster in hot water than in cold water.  This is mainly because:

- The water molecules in hot water move more quickly
- The molecules in hot water are larger
- The food coloring molecules are small
- Hot water is less dense


These 3 bottles are filled with water and different amounts of food coloring.  Which bottle has the highest concentration of food coloring?

- A
- B
- C


**If you had a bottle of dark colored water, what could you do to make the solution less concentrated?**

- Add more food coloring
- Add more water
- Boil the water
- Freeze the water

Some dishwashing soaps are very concentrated.  Does this mean you need to use more or less of the soap in order to get the same amount of bubbles as regular soap?

- less
- more

# Quiz

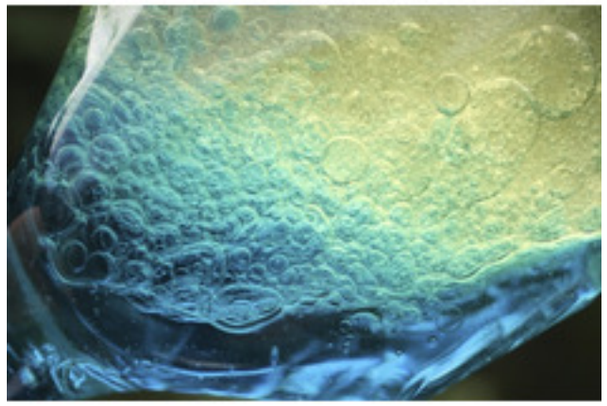
## Section 8

This toy has both clear and colored liquids in it.  Which of following statements do you know is true from this picture?

- All the liquid in the container is falling to the bottom
- The clear liquid is more dense than the colored liquid
- The colored liquid is more dense than the clear liquid
- The colored liquid is warmer than the clear liquid

You can make an "Ocean in a Bottle" by adding oil, water, food coloring and some small toys to a plastic bottle.  Look at this picture, which of the following ranks the things in the bottle from MOST dense to LEAST dense?

- colored water, oil, toys
- oil, toys, colored water
- toys, colored water, oil
- toys, oil, colored water



When you shake the bottle, everything mixes, but settles back out over the next 5 minutes.  Is this a solution or a mixture?

- Solution
- Mixture

Your mom makes sweet tea by pouring lots of sugar into hot tea and stirring it until you can't see the sugar any more.  Is this a solution or a mixture?

- Solution
- Mixture

**What do you call the ability of an object to float?**

- buoyancy
- flexibility
- luster
- viscosity

# Quiz

## Section 9

Determine if each of these materials is flexible or rigid.  A piece of paper.

- Flexible
- Rigid

Determine if each of these materials is flexible or rigid.  A metal nail.

- Flexible
- Rigid

Determine if each of these materials is flexible or rigid.  A metal nail.

- Flexible
- Rigid

Determine if each of these materials is flexible or rigid.  A toothpick.

- Flexible
- Rigid

Determine if each of these materials is flexible or rigid.  Glass.

- Flexible
- Rigid

# Open Ended Question

(2 pts). What is the volume of liquid in this graduated cylinder? Don't forget the units.  Don't forget to hit submit to record your answers before the timer gets to 0:00.

**Please enter your answer here.**

# Quiz

## Section 10

**Identify this picture as a solid, liquid, or gas.**

- Solid
- Liquid
- Gas

**Identify this picture as a solid, liquid, or gas.**

- Solid
- Liquid
- Gas

| Solids | Density |
|---|---|
| Lead | 11.37 |
| Silver | 10.57 |
| Copper | 8.92 |
| Brass | 8.90 |
| Nickel | 8.57 |
| Iron | 7.90 |
| Aluminum | 2.67 |
| Marble | 2.60 – 2.84 |
| Granite | 2.65 |
| Pine | 0.35 – 0.50 |

Density of solid substances. Densities are in g/cm³.

Look at this chart of densities. Which of the following is the most dense?

- Aluminum
- Brass
- Marble
- Silver

| Solids | Density |
|---|---|
| Lead | 11.37 |
| Silver | 10.57 |
| Copper | 8.92 |
| Brass | 8.90 |
| Nickel | 8.57 |
| Iron | 7.90 |
| Aluminum | 2.67 |
| Marble | 2.60 – 2.84 |
| Granite | 2.65 |
| Pine | 0.35 – 0.50 |

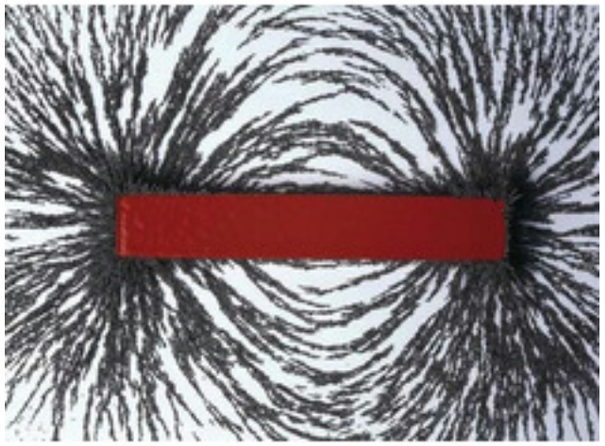
Density of solid substances. Densities are in g/cm³.

Water has a density of 1g/cm^(3). Which of the following would float in water?

- Copper
- Granite
- Marble
- Pine

# Quiz

## Section 11



**What property is this picture showing?**

- hardness
- magnetism
- strength
- viscosity

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## What property is this picture showing?

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## What property is this picture showing?

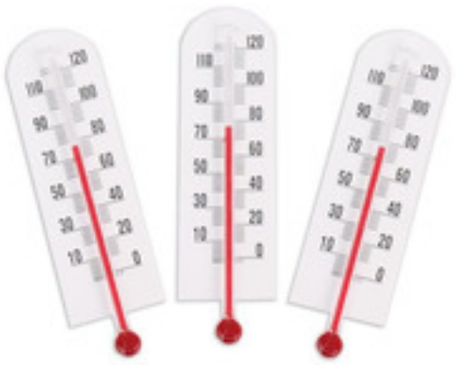
- hardness
- magnetism
- strength
- viscosity

## What could you do to increase the runniness of the syrup and make it pour easier?

- add cereal to it
- cool it
- heat it
- shake it

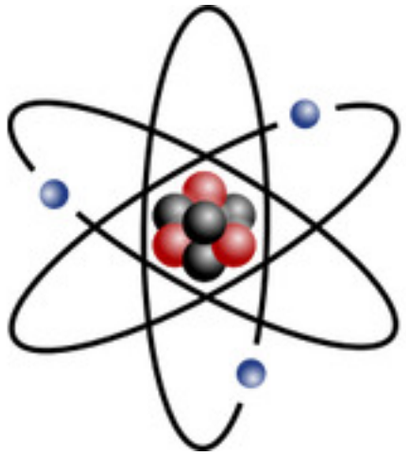
# Quiz

## Section 12



**When a thermometer is cooled, the red liquid inside the thermometer moves down. This is mainly because:**

- Cold liquids sink
- The glass of the thermometer gets cold
- The molecules of the liquid move slower and get a little closer together
- The red liquid is thick



## Which subatomic particle is the smallest?

- proton
- neutron
- electron

You have a container of sand and iron filings mixed together.  Is this a mixture or a solution?

- Mixture
- Solution

**Matter is anything which occupies _____ and has mass.**

- space
- water
- solid

| Bottle | Water added (ml) | Sugar added (g) |
|---|---|---|
| A | 100 | 20 |
| B | 100 | 40 |
| C | 100 | 80 |

I made 3 solutions of water and sugar.  The chart is here.
Which bottle is the most concentrated?

- A
- B
- C

# Open Ended Question

Yes, we are asking again!  Please list your School Name, Team (V, JV1, JV2, JV3), and team member names.  Don't forget to hit submit to record your answers before the timer gets to 0:00.

**Please enter your answer here.**

# You are done!