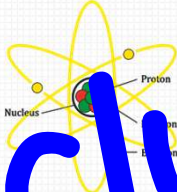

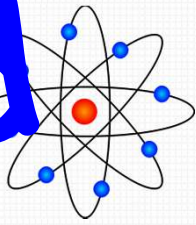

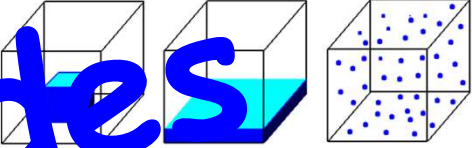


Lesson - SPS02A

Atoms and Matter

Use the



Get Ready to Learn!

included
slides

Why is this important?

- Atoms are the basic building blocks of everything
- Helps us understand our Universe
- We can predict outcome of combining materials
- Explains why systems form and patterns happen

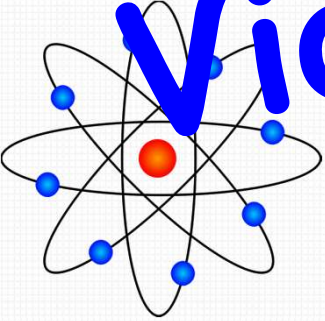




Google
PowerPoints
and
Video
from the

What is important to know about Atoms and Matter?

Democritus

- Ancient Greek was one of first to have idea about atoms
- Called the smallest part atomos

What is important to know about Atoms and Matter?

John Dalton

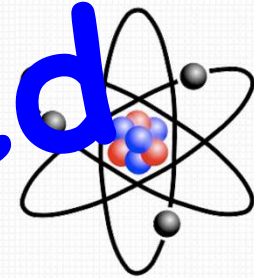


- Early 1800s
- All matter is made of tiny particles called atoms.
- Atoms are indivisible
- Atoms do not break apart, neither created nor destroyed.
- Atoms of different elements have different masses and chemical properties.
- In a given compound, the combinations of different types of atoms are always present in the same ratio.

What is important to know about Atoms and Matter?

Atomic Particles

- Protons - Located in the nucleus
- Neutrons - Located in the nucleus
- Electrons - Orbit the nucleus



- Nucleus describes a place where Protons and Neutrons are found
- Nucleus is in center of an atom
- Electrons orbit the Nucleus like planets orbit the Sun



What is important to know about Atoms and Matter?

Mass Distribution

- If the nucleus of an atom equaled the mass of a bowling ball



- The mass of an electron would be then the same as a penny



What is important to know about Atoms and Matter?

The Size of Atomic Particles

- If the nucleus of an atom was the size of an orange...
- And the orange was on the 50 yard line of a football stadium...
- The first Electron would be the size of this dot
- On the last row of seats

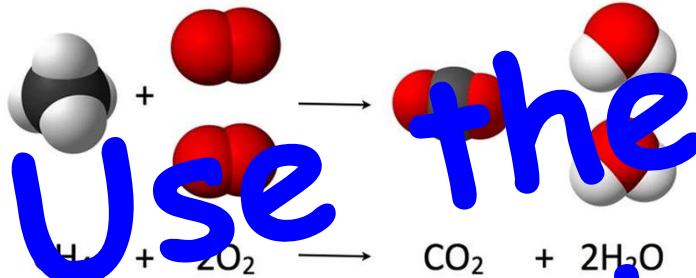


Use the included slides from the Google PowerPoint and Video.

What is important to know about Atoms and Matter?

Conservation of Mass

- ❑ In a reaction, no new atoms are made or destroyed
- ❑ Chemical bonds break
- ❑ Atoms recombine in a new way
- ❑ New bonds are made



What is important to know about Atoms and Matter?

Matter and Energy

- ❑ Matter can change from Solid to Liquid to Gas - gaining energy
- ❑ Matter can change from Gas to Liquid to Solid - losing energy
- ❑ Said to change "State" and many times the process is reversible
- ❑ Matter is neither created nor destroyed - just changed



Why is this important?

- ❑ Atoms are the basic building blocks of everything
- ❑ Helps us understand our Universe
- ❑ We can predict outcome of combining materials
- ❑ Explains why systems form and patterns happen



Atoms and Matter

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