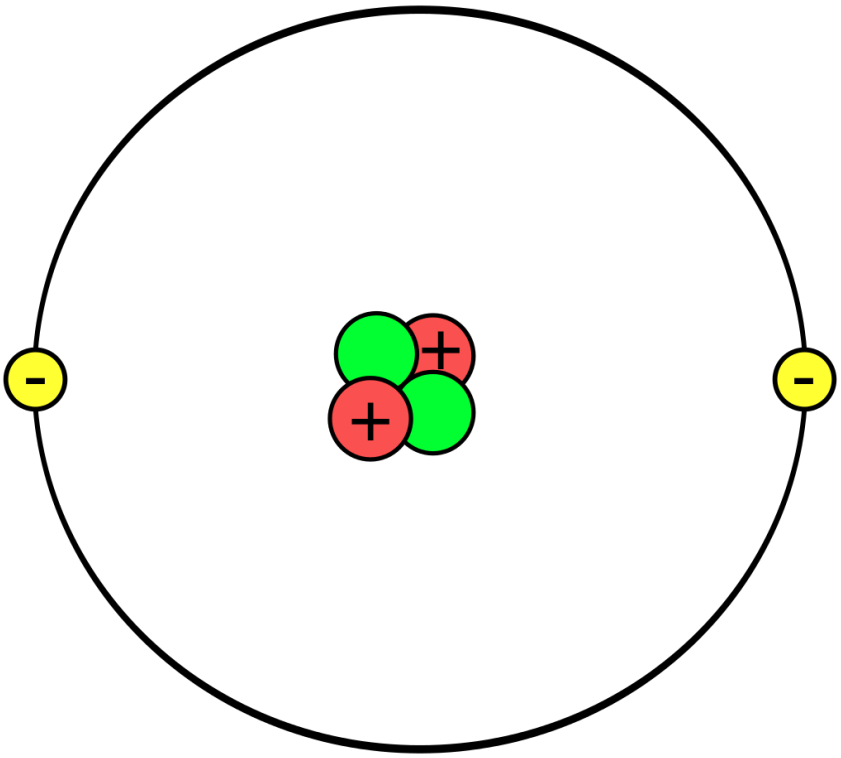
What's the Matter?

Eagle STEM Scrimmage

Team Name	
Team Number	
Student(s) Name	

Station 1: Atoms & Particles of Matter



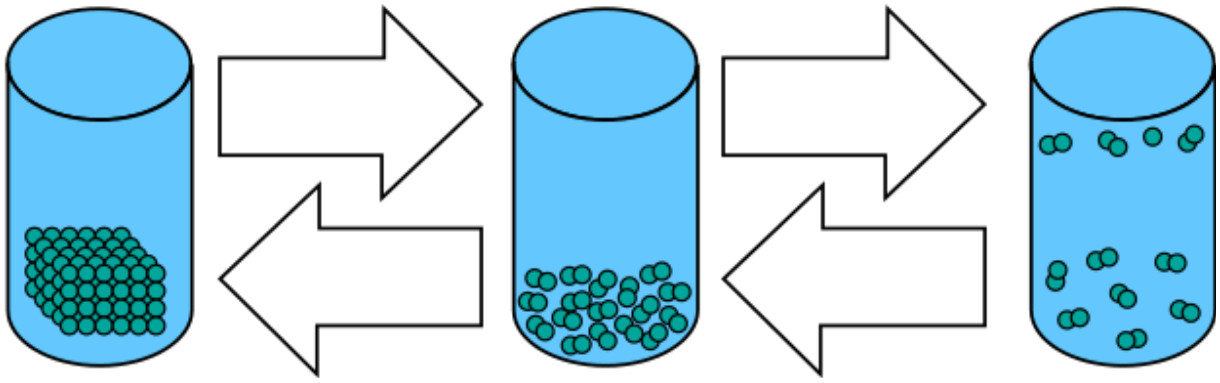
Label the parts of the atom shown above.

Name These Below

- **Center of atom:** _____
- **Positive particles:** _____
- **Negative particles:** _____

2. Circle the correct answer:
   - Protons have a **positive / negative / no** charge.
   - Electrons have a **positive / negative / no** charge.

Station 2: States of Matter



3. Match each state of matter to its description:

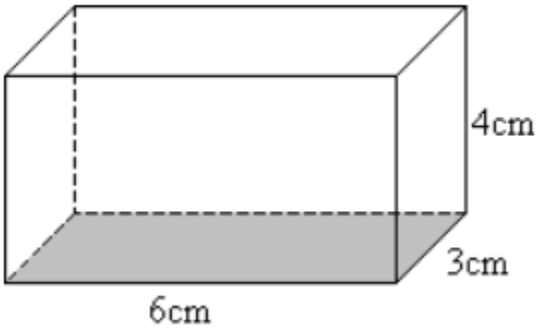
State	Description
Solid	_____
Liquid	_____
Gas	_____

Descriptions (use each once):

- Particles move freely and fill the container
- Particles vibrate in place
- Particles slide past each other

4. Which state of matter has the **fastest-moving particles?**

Station 3: Volume



Calculate the volume of the rectangular prism.
Show your work.

Volume = _____ cm^3

Station 4: Mass & Density

6. An object has a mass of **20 g** and a volume of **4 cm³**.

7. Calculate the density using the formula:
Density = Mass ÷ Volume

Density = _____ g/cm³

8. If another object has the same volume but more mass, its density is:
   ☐ Greater
   ☐ Smaller
   ☐ The same

Station 5: Solutions vs. Mixtures

9. Circle the correct answer:

- Salt completely mixed into water is a **solution / mixture**
- Sand mixed with water is a **solution / mixture**

10. Name **one way** a mixture can be separated.

Station 6: Physical vs. Chemical Changes

11. Write P for physical change or C for chemical change.

- Ice melting → _____
- Paper burning → _____
- Sugar dissolving in water → _____
- Rust forming on metal → _____

12. Circle one sign of a chemical change:
    Color change New substance formed Change in shape only

Station 7: Properties of Matter

13. Match each property to the correct description and image:

Property	Description	Image
Magnetism		
Opacity		
Viscosity		
Buoyancy		

Descriptions:

- How runny a liquid is
- Ability to float
- Ability to be seen through
- Attraction to magnets