

Richmond Public Schools
Department of Curriculum and Instruction
Curriculum Pacing And Resource Guide – Unit Plan



Course Title/ Course #: Fifth

Unit Title/ Marking Period # (MP): Matter

Start day:55

Meetings (Length of Unit): 10 days

Desired Results ~ What will students be learning?

Standards of Learning/ Standards

5.4

The student will investigate and understand that matter is anything that has mass and takes up space; and occurs as a solid, liquid, or gas. Key concepts include:

- a) distinguishing properties of each phase of matter
- b) the effect of temperature on the phases of matter
- c) atoms and elements
- d) molecules and compounds
- e) mixtures including solutions

Essential Understandings/ Big Ideas

Matter is anything that has mass, takes up space and occurs as a solid, liquid or gas.

- Heat affects the state of matter of a substance.
- Chemical and physical changes occur around you and impact your daily life.
- The discovery of new elements impacts our lives.
- Mixtures and solutions have similarities and differences.

Key Essential Skills and Knowledge

Students will:

- Construct and interpret a sequence of models (diagrams) showing the activity of molecules in all three basic phases of matter.
- Construct and interpret models of atoms and molecules.
- Identify substances as being an element or a compound.
- Design an investigation to determine how a change in temperature affects the phases of matter (e.g., water). Include in the design ways information will be recorded, what measures will be made, what instruments will be used, and ways the data will be graphed.
- Compare and contrast mixtures and solutions.

Vocabulary

Atoms, elements, molecules, compounds, mixtures, solutions, suspensions, dissolve, solid, liquid, gas, phase of matter, matter, mass, volume, density, periodic table, protons, neutrons, electrons, substance, condensation, evaporation, freezing point, and melting point.

Assessment Evidence ~ What is evidence of mastery? What did the students master & what are they missing?

Assessment/ Evidence

Test/assessment

Compare water as a solid, liquid, and gas through hands on experimentation.

Record data on matter experiments performed.

Bingo with related vocabulary

Matching – matter vocabulary words with their definitions and/or pictures

Learning Plan ~ What are the strategies and activities you plan to use

Learning Experiences/ Best Practice

Students will take a walk outdoors to find examples of chemical and physical changes in living things. Students will capture their observations with a camera and then create a documentary of their findings?

Students make observations about an ice cube by illustrating and journaling describing changes in physical properties.

Students will create a solution and will illustrate and journal changes.

Technology Integrations

Website:

www.brainpop.com

www.rockingham.k12.va.us

www.doe.virginia.gov/testing/sol

Resources

Discovery Education:

- Matter and Its Properties: Observing the Properties of Matter. (Gr. 3-5). Run time: 19:41. United Learning
- Matter and Its Properties: Changes in Matter. (Gr. 3-5). Run time: 17:06. United Learning
- Matter and Its Properties: Measuring Matter. (Gr. 3-5). Run time: 17:21. United Learning.

Cross Curricular Connection

Students will record and illustrate how objects in the different states of matter vary in weight.

Students will create songs/raps/poems on the three states of matter.