Sharon Darlow – 2023-2024

7th grade curriculum – Physical Science

This curriculum does not show that every Friday is reading day in science class.

We use Current Science, Science World and various books that we read in class. Most Fridays, students get to choose what they want to read, but there is always a literary technique involved that I teach the students that will help them become better readers. Some examples would be text based questions, using sticky notes to highlight parts of the articles that they know/don't know, doing a web with their classmates, modeling of reading by myself, pair reading, mainstream vocabulary words etc. They write down what they do in their science journals and they are left in the class.

I. Introduction to Matter – opening day demonstrations
II. Safety and Scientific method units
III. Graphing lab to practice graphing and assessment of students
    a. Describing matter
        i. Properties of matter
        ii. Kinds of matter
        iii. Compounds and mixtures
        iv. Changes in matter- physical and chemical changes
    b. Measuring matter
        i. Mass
        ii. Volume
        iii. Density
        iv. Density lab
        v. Density worksheet
    c. Particles of matter
        i. Atoms, past and present
IV. Solids, Liquids and Gases
        a. States of matter
        b. Gas behavior
            i. Relating pressure and volume
            ii. Relating pressure and temperature
            iii. Relating volume and temperature
            iv. Demonstrations of these
            v. Vinegar baking soda lab
        c. Graphing gas behavior
        d. Changes in state
            i. Melting
            ii. Freezing

iii. Vaporization
iv. Condensation
v. Sublimation
vi. Video demo of sublimation
vii. Changes of state lab

e. review game

f. Test on chapter 2/review packet due

V. Atoms and the periodic table
a. Inside an atom
b. Organizing the elements
i. Electron dot diagrams
ii. Handing out periodic tables
iii. Coloring periodic table lab
iv. Reading the periodic table
c. Metals
i. metals in the periodic table
ii. alloys
d. Nonmetals and metalloids
i. Properties of nonmetals
ii. Properties of metalloids
e. Review game
f. Test on chapter 3/review packet due

VI. Chemical reactions
a. Evidence for chemical reactions
i. Chemical reaction lab
b. Writing chemical equations
i. Worksheet on balancing chemical equations
ii. Classifying chemical reactions
c. Controlling chemical reactions
i. Concentration
ii. Temperature
iii. Surface area
iv. Catalysts and inhibitors
v. Penny demonstrations
d. Fire and fire safety
e. Review game
f. Test

VII. Motion
a. Describing and measuring motion
b. Distance and the metric system

i. 2 metric review sheets
ii. Metric mania review game
iii. Speed calculations worksheet
iv. Review slope of a line
v. Graphing motion

c. Slow motion on planet earth
i. Plate tectonics

d. Acceleration
e. Motion lab
f. Chapter 9 review game
g. Chapter 9 test

VIII. Forces

a. The nature of force
i. Unbalanced forces
ii. Balanced forces
iii. Newton's first law of motion (inertia and mass)

b. Force, mass and acceleration
i. Calculating force worksheet
ii. Changes in force and mass
iii. Newton's second law of motion

c. Friction and gravity
i. Sliding friction
ii. Fluid friction
iii. Rolling friction
iv. Gravity/air resistance
v. Weight vs mass
vi. Friction 500 lab

d. Action and reaction
i. Newton's third law of motion
ii. Momentum
iii. Conservation of momentum

e. Chapter 10 review game
f. Chapter 10 test

IX. Sound Unit

a. Video describing sound/laser demo
b. Lab on creating sound
c. Slow motion videos on different instruments

X. Chapter 13- Energy

a. Types of energy
b. Conserving energy
c. Energy quiz

XI. Earth Science Unit
    a. Weather
        i. Weather notes
        ii. Weather map lab
XII. Latitude and Longitude graphing activities
    a. Graphing volcanos on a plate tectonic map
    b. Graphing cities