



Portland Public Schools
Middle Level
Syllabus Template

School Year 2011-2012

Teacher: Anna Durocher		School: Mt. Tabor Middle School	
Subject: Science	Course Title: Physical Science	Grade Level: 7th	
Course description: Students learn the basic content principles of physics, chemistry, magnetism, and electricity. Students learn and use science skills such as collecting data, analyzing data, measuring, observing scientific phenomena, etc....			
Course outline: 1 st quarter – Science Inquiry and Physics Unit includes: <ul style="list-style-type: none">□ Observing, Identifying Variables, making hypotheses, creating data tables and graphs, writing procedures, analyzing and concluding.□ Motion, Speed, Velocity and Acceleration□ Newton’s Laws of Motion 2 nd quarter – Physics Unit Continued <ul style="list-style-type: none">□ Comparing and Contrasting forms and behaviors of different types of energy□ Describing and explaining a variety of energy transfers and transformations□ Pressure and Bouyancy 3 rd quarter – Chemistry Unit includes: <ul style="list-style-type: none">✚ Describing matter, measuring matter, and introduction to atoms✚ Changes in matter, which includes behavior of solids, liquids and gases✚ Elements and the Periodic Table 4 th quarter – Magnetism and Electricity Unit <ul style="list-style-type: none">□ Basic properties of magnetism including magnetic fields and electromagnetism□ Basic properties of electricity such as static electricity versus			

current electricity, and series and parallel circuits.

Academic Vocabulary:

- characteristic property
- boiling point
- melting point
- physical change
- chemical change
- chemical activity
- mixture
- solution
- pure substance
- element
- compound
- weight
- mass
- International System of Units
- volume
- density
- atom
- molecule
- chemical bond
- solid
- crystalline solid
- amorphous solid
- liquid
- fluid
- viscosity
- gas
- temperature
- pressure
- Boyle's Law
- Charles's Law
- thermal energy
- chemical energy
- law of conservation of energy
- melting
- freezing
- vaporization
- evaporation
- boiling
- condensation
- sublimation
- chemical reaction

- atomic mass
- periodic table
- nucleus
- proton
- neutron
- electron
- atomic mass unit
- atomic number
- chemical symbol
- group
- family
- period
- diatomic molecule
- valence electron
- malleable
- ductile
- conductor
- magnetic
- reactivity
- electron shell
- corrosion
- alloy
- alkali metal
- alkaline earth metal
- transition metal
- lanthanide
- halogen family
- actinide
- nonmetal
- noble gas
- metalloid
- force
- net force
- unbalanced force
- balanced forces
- inertia
- mass
- friction
- Newton
- friction
- sliding friction
- rolling friction
- fluid friction
- gravity
- free fall

- projectile
- air resistance
- terminal velocity
- weight
- momentum
- law of conservation of momentum
- motion
- reference point
- speed
- velocity
- acceleration
- energy
- kinetic energy
- potential energy
- elastic potential energy
- gravitational potential energy
- mechanical energy
- thermal energy (includes heat)
- chemical energy
- electrical energy
- electromagnetic energy (includes light, solar, and radiant)
- nuclear energy
- sound energy
- energy conversion
- energy conservation
- Temperature
- Fahrenheit scale
- Celcius scale
- Kelvin scale
- Absolute zero
- Heat
- Conduction
- Convection
- Convection current
- Radiation
- Insulator
- Specific heat
- magnetism
- magnetic poles
- protons
- electrons
- magnetic domain
- ferromagnetic material
- electric charge
- electric current

- ❑ electric circuit
- ❑ conductor
- ❑ insulator
- ❑ resistor
- ❑ resistance
- ❑ Electric field
- ❑ Static electricity
- ❑ Conduction
- ❑ Induction
- ❑ Conservation of charge
- ❑ Static discharge
- ❑ Electroscope
- ❑ Electrical potential
- ❑ Potential difference
- ❑ Voltage
- ❑ Voltmeter
- ❑ Ammeter
- ❑ Ohm's law
- ❑ Series circuit
- ❑ Parallel circuit
- ❑ Grounded
- ❑ Short circuit
- ❑ Lightning Rod
- ❑ Fuse
- ❑ Circuit Breaker
- ❑ Third Prong
- ❑ Power
- ❑ Transformer

District adopted materials:

- Prentice Hall Science Explorer series. 3 texts "Forces, Motion, and Energy," "Chemical Building Blocks," and "Electricity and Magnetism."

Supplemental resources: Countless personal sources such as Project Learning Tree, Students and Research, Eyewitness books, Practical Activities, Foundations of Science Inquiry, Science Process Skills, Inquiry Skills Handbook, Invitations to Science Inquiry, internet sites, etc...

Differentiation/ accessibility strategies and support (TAG, ELL, SpEd):

- Sped students are served according to their IEP's. Modifications and accommodations are made for these students to support their specific needs.
- ELL students are served based on conversations between the ELL teacher and myself. Many strategies are used such as graphic organizers, text on tape, sheltered instruction, etc...
- TAG students are given opportunities to extend their learning to a higher level. Projects have been structured so that TAG students probe deeper into a concept. They also receive a more challenging topic when I have a menu selection of projects for a concept. TAG students must experiment with more levels of the independent variable on inquiry tasks.

Final proficiencies:

- Students take the statewide science assessment in their 8th grade year. They are expected to meet or exceed (be proficient) in the physical science content.
- Students are also responsible for a statewide science inquiry work sample. These are due by May 20th each school year.

Behavioral expectations: One word sums it all up: RESPECT

Students actually spend the second day of school working in small groups to create the class expectations. Every period came up with the same general expectations, and all included RESPECT in its varying forms.

CONTACT INFORMATION: If you need to contact me my email address is aduroche@pps.net. You can contact me by phone at 503-916-5646 during school hours.