



Portland Public Schools
Middle Level
Syllabus Template

School Year 2011-2012

Teacher: GROOM		School: Mt Tabor
Subject: Science	Course Title: Physical Science	Grade Level: 7
Course description: <i>Issues and Physical Science is an engaging hands-on physical science course based on the educational approach of scientific inquiry. As such, it uses several kinds of activities to teach science. For example, students design and conduct an experiment to investigate the effects of speed and mass on vehicle collisions, explore molecular models of water and other chemicals, play the roles of scientists investigating water quality, and read about alternative energy sources. A combination of experiments, readings, models, debates, role-plays, and projects help students discover the nature of science, learn science content, and experience the relevance of science in today's world.</i> See also attached State Standards for Content and for Inquiry		
Course outline: 1st quarter – Energy Home energy use, types of energy, energy conversion/transformation, quantifying energy, batteries, solar energy, efficiency Waves, Electromagnetics 2nd quarter – Studying Materials Scientifically Safety, solids, liquids, gases, science skills (measuring, density) Chemistry of Materials Physical and chemical properties, elements, Periodic Table, conservation of mass, use of materials 3rd quarter – Chemistry of Materials continued Water Pollution, universal solvent, water quality, purification, wastewater		

Force and Motion

4th quarter -

Force and Motion

Speed, momentum, force, acceleration, mass, inertia

Academic Vocabulary:

List includes, but is not limited to:

Acceleration	absorption
Acid	atom, atomic mass, atomic number
Base/basic	battery
Biodegradable	biomass
Bonding	calorie/calorimeter
Chemical bond	chemical change
Chemical equation/formula	chemical properties
Chemical reactions/reactivity	circuit/circuit board
Closed system	combustion
Composting	compound
Concentration	condensation
Conduction	conservation of mass
Conservation of energy	contaminate
Control/control group	corrosion
Current	deceleration
Decomposers	dilute/dilution
Dissolve	efficiency
Elastic energy	electron
Element	endothermic
Energy	energy transfer
Equilibrium	evaporation
Evidence	exothermic
Filtration	force
Fossil fuel	freeze
Friction	generator
Gravitational potential energy	heat
Indicator	inertia
Inference	insoluble
Insulation/insulator	ionic bond
Kinetic energy	light
Materials	matter
Mixture	neutralization
Non-renewable energy/resources	nuclear energy

Open system Parallel circuit Periodic table Physical change Potential energy Products Radiant energy Reflection Saturate Series/series circuit Solute Speed Thermal energy Trade-off Variable Waste Water vapor Weight	oxidation passive energy pH physical property precipitate/precipitation proteins reactants renewable energy/resources sediment soluble/solubility solvent temperature toxic/toxicity turbine viscosity water contamination watt wind energy
District adopted materials:	
Science Education for Public Understanding Program (SEPUP) Issues and Physical Science	
Supplemental resources:	
Lab materials, field trips, speakers, inquiry activities, computer programs and websites, videos	
Differentiation/ accessibility strategies and support (TAG, ELL, SpEd):	
<ul style="list-style-type: none"> • <u>Tiered assignments</u> are designed to instruct students on essential skills that are provided at different levels of complexity, abstractness, and open-endedness. The curricular content and objective(s) are the same, but the process and/or product are varied according to the student's level of readiness. • Students work as part of many <u>different groups</u> depending on the task and/or content. • Use of science notebook and supplementary materials, i.e. online textbook and Spanish version available. • TAG students to test more levels of independent variable during inquiries. • Use of computer programs. • Use of rubrics that outline the steps needed to meet and exceed benchmark expectations. • Use of several instructional formats: whole class, small group, partners, individuals • Emphasize the use of critical and creative thinking and the application of learning. • Use of a variety of instructional strategies: lectures, manipulatives, role play or simulations, labs, inquiries, and readings. 	

- Extensive use of formative assessment to direct instruction.
- High use of visuals and demonstrations
- Tiered levels of concepts to be used in large-scale assessment projects
- Multiple versions of tests to reach different abilities of learners
- Revisions/retakes of assessments
- Due dates flexible and extendable
- Use of previous student examples for guidance on projects
- Student involved classroom assessment and rubric creation

Final proficiencies:

Students will recognize how matter and energy are connected. They will understand how matter is organized by its physical and chemical properties. They will understand how energy flows through systems and changes form constantly, and how forces also constantly interact. They will also show increased science skills through performing frequent science laboratory experiments.

Students will do at least on Inquiry Work Sample to be scored on State Inquiry Scoring Guide: <http://www.ode.state.or.us/search/page/?id=1414>

Behavioral expectations:

Students follow my six main rules:

- Be respectful, be responsible, be safe, be positive, be honest, be your best. Safety in laboratory exercises is of utmost importance - all students and parents/guardians sign a PPS Science Safety Agreement.
- Also emphasized are for students to be in class on time, ready to learn, with supplies. Students should honor differences, and be willing to compromise often, especially in groupwork tasks.

For more specific policies, please see attached JMP Policies concerning the following:

ATTENDANCE:

TARDINESS:

RULES:

CONSEQUENCES:

CONTACT INFORMATION: If you need to contact me my email address is

rgroom@pps.net. You can contact me by phone at 503-916-5646 during school hours.