



Portland Public Schools  
Middle Level  
Syllabus Template

School Year 2011-2012

Teacher: <b>GROOM</b>		School: <b>Mt Tabor</b>	
Subject: <b>Science</b>	Course Title: <b>Earth/Space</b>	Grade Level: <b>8</b>	
<b>Course description:</b> <ul style="list-style-type: none"><li>• Plate Tectonics as a way to explain Earth's changing surface, including processes of earthquakes and volcanoes, and erosional effects of weather and climate</li><li>• Meteorology and climate and what affects weather patterns and 'makes' weather, including causes and effects of climate change</li><li>• Genetics, Mendelian and advanced DNA studies, and how genetics affects long-term evolution</li><li>• Earth/Moon/Sun relationships</li></ul> <p>See also attached State Standards for Content and for Inquiry</p>			
<b>Course outline:</b>  <b>1<sup>st</sup> quarter –</b>  Geology – Earth's Interior, continental drift, sea-floor spreading, boundaries, Plate Tectonics, GPS, earthquakes, tsunamis, volcanoes and volcanic landforms  <b>2<sup>nd</sup> quarter –</b>  Geology – Continuation of above if necessary, minerals and rocks, Earth surface changes, erosional concerns and inquiry work sample  <b>3<sup>rd</sup> quarter –</b>  Geology – Continuation of above if necessary  Genetics and Evolution – Mendelian genetics, modern genetics, heredity factors, Punnett squares, development of theory of evolution  <b>4<sup>th</sup> quarter -</b>			

Meteorology -

Factors affecting weather, factors affecting climate, climate change

Astronomy -

Earth-moon-sun relationships including day/night, year, seasons, eclipses, tides

### Academic Vocabulary:

List includes, but is not limited to:

Astronomy

Revolution

Orbit

Vernal Equinox

June Solstice

Latitude

Moon phases

Crescent Moon

Full Moon

Solar Eclipse

Umbra

Partial Eclipses

Gravity

Neap Tide

Crater

Mendel

Sexual reproduction

Mitosis

Zygote

Karyotype

X and Y Chromosomes

DNA

Nucleus

Punnett Square

Heterozygous

Dominant

Phenotype

Allele

Incomplete Dominance

Adaptation

Watson and Crick

Atmosphere

Front (cold, warm, stationary)

Tornado

Rotation

Axis

Tilt

Autumnal Equinox

December Solstice

23.5°

Waning or Waxing

Gibbous Moon

New Moon

Lunar Eclipse

Penumbra

Tides

Spring Tide

Satellite

Darwin

Lamarck

Asexual reproduction

Gametes

Meiosis

Chromosomes

Genes

Bases/Base pairs

Cells

Homozygous

Hybrid

Recessive

Genotype

Codominance

Mutation

Sutton

Air mass

Hurricane

Evaporation

Precipitation

Density Clouds (cirrus, cumulus, stratus) Air pressure Condensation Orographic Effect Coriolis Effect Isobars Geology/Geologist J. Tuzo Wilson Constructive and Destructive Forces Continental Drift Temperature, Pressure, and Density Seismic Waves Crust/Mantle/Outer Core/Inner Core Mid-ocean Ridges Lithosphere and Asthenosphere Rift Zones and Valleys Convection and Convection Currents Volcanic mountains Transform, Divergent and Convergent Boundaries Subduction Plate Tectonics Sea-floor Spreading Erosion Fault Sills/Dikes/Plateaus/Laccoliths/Batholiths Glaciers/U-shaped valleys	Barometer Humidity Water cycle Altitude Wind Convection Radiation Alfred Wegener  Tectonic Plates Pangaea  Harry Hess Non-volcanic mountains  Island Arcs  Tsunami Accretion Deep Ocean Trenches Landslide Deposition
<b>District adopted materials:</b>  Prentice Hall textbooks	
<b>Supplemental resources:</b>  Lab materials, field trips, speakers, inquiry activities, geology workshop materials, computer programs	
<b>Differentiation/ accessibility strategies and support (TAG, ELL, SpEd):</b>  <ul style="list-style-type: none"> <li>• <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.</li> <li>• Students work as part of many <u>different groups</u> depending on the task and/or content.</li> <li>• Use of multiple texts and supplementary materials.</li> </ul>	

- 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 be able to describe the position of the earth in the universe, point to the clues that show us plate tectonics in action, label the major layers of the earth, discuss how environmental factors influence the water cycle, describe the causes of the changes between the types of rocks, describe the interrelationship between the climate zones and geography, and explain how the seasons, length of day, angle of the sun and the tilt of the earth are related.

Students also complete the Oregon State Science Test in spring which covers all Science content from 6<sup>th</sup> – 8<sup>th</sup> grade. See attached State Standards for content.

#### 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 regarding:

*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.