Earth & Space Science Review 2016

Name _____

Weather/Meteorology

1. Climate – pattern of weather in a _____ area over a long period of time
   http://www.blueplanetbiomes.org/climate.htm
2. Weather – condition of the atmosphere in a smaller area over a _____ period of time
3. Types of heat:
   a. R_____ = how sun's heat travels to us through space
   b. C_____ = heat is transferred by contact (soil in beaker warms from outside in)
   c. Convection = heat rises in one area and sinks in another; the air masses replace each other. (hot air _____, cold air _____)
4. Equatorial zones that receive most d_____ sunlight = hottest.
5. Cloud formation – W_____ evaporates into the air (water vapor) then rises, cools, and c_____ onto dust particles in the upper atmosphere. Clouds are millions of tiny w_____ droplets combined together.
6. Rain Shadow - More precipitation on top of mountains b/c it is colder, so more condensation.
   http://animals.about.com/od/alpinemontaine/f/rainshadow.htm
   http://www.usatoday.com/weather/tg/wrnshdw/wrnshdw.htm
7. Convection current – air moving in a c_____ p_____ caused by u_____ h_____ of Earth.
8. Weather front – boundary between two _____ masses (where changes in weather occur)
   types: stationary, cold, warm, etc.
   (comp.) http://www.classzone.com/books/earth_science/terc/content/visualizations/
9. Water cycle – Ev_____, Tr_____, Co_____, Pr_____, R__- O__, Fi_____, Ac_____, S_____
10. (comp.) http://earthguide.ucsd.edu/earthguide/diagrams/watercycle/index.html
    http://www.enchantedlearning.com/subjects/astronomy/planets/earth/Watercycle.shtml
    a. Evaporation = water moves from _____ to _____ state; heat _____
    b. Condensation = water moves from _____ to _____ state; heat _____
    c. Sublimation = water moves from _____ to _____ state; heat _____

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Astronomy/Space Science – Earth-Moon-Sun System

1. Seasons – summer = axis tilts t_____ sun, winter = axis tilted a_____ from sun.
2. Moon Phases – new/can't see, full/see whole side, waxing = getting bigger, waning =getting smaller, gibbous, crescent http://www.moonconnection.com/moon_phases.phtml
3. Eclipses
   a. Solar = S___ blocked out (caused by shadow of m_____ on E_____), only seen from certain places on Earth http://www.mreclipse.com/Special/SEprimer.html
   b. Lunar = m_____ blocked out (caused by shadow of E_____ on m_____) Seen from everywhere on Earth http://www.mreclipse.com/Special/LEprimer.html
4. Rotation – Planet s_____ on its axis = 1 day (24 hrs), same length all over the world,
   Revolution – one complete o_____ of planet = 1 year, same length all over the world, 365 days

Universe, Galaxy, Solar System

1. Planet – orbits a s_____ Moon – orbits a p_____ (also called a satellite)
2. Star – gaseous ball of fire. How many in our solar system? _____
3. Dwarf planets = C_____, Pluto, H_____, M_____, E_____
4. Inner planets – M_____, Venus, E_____, Mars
   Outer planets - Jupiter, S_____, Uranus, N_____

	Relative size	State of Matter	Spacing pattern
Inner Planets			
Outer Planets			

5. A_____ Belt – big space rocks between Mars and Jupiter
6. K_____ Belt – region beyond Neptune that is full of comets, asteroids and other debris.
7. Comets – have a tail, made of _____ , orbit the _____
   http://www.kidsastronomy.com/comets.htm
8. *draw a line to the correct definition*
   i. meteor — space rock
   ii. meteorite — when space rock enters atmosphere
   iii. meteoroid — when it hits E's surface
9. Biggest item U_____, G_____, S_____ S_____, P_____ Sa_____ smallest item
   (M____ W___)

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<u>Earth Science</u> – Plate Tectonics (look at map across from library)

1. Earthquakes – seismic waves (P and S) are the energy released from the earthquake's focus.
2. P-waves travel _____ than S-waves.
   a. S_____ are the instruments that record the seismic waves.
   b. Richter Scale – measures the _____ release of a moderate earthquake (magnitude 3-7)
   c. Moment magnitude – measures the energy release of l_____ s_____ earthquakes
   d. Mercalli Intensity scale – measures the _____ the earthquake causes.
3. Inner Earth– crust, m_____ (plastic,) outer core (liquid,) inner core (solid)
4. Volcanoes – shield, composite/stratovolcano, cinder cone,
5. Mountain formation
   a. Coast range – plates c_____, not v_____, folded mountains
   b. Cascade Range – Pacific plate s_____ under the North American. plate, v_____.
   c. Himalayan Range – I_____ plate colliding with the Eurasian plate, not v_____
6. Alfred Wegener = Theory of C_____ Drift
   (comp.)http://earthguide.ucsd.edu/earthguide/diagrams/plate_reconstruction/platereconstruction.html
7. Evidence of Pangaea – F_____, M_____, g_____ s_____, & c_____ shapes all match http://sio.ucsd.edu/voyager/earth_puzzle/
8. Theory of Plate Tectonics – http://pubs.usgs.gov/gip/dynamic/Vigil.html
   http://education.sdsc.edu/optiputer/teachers/platemovement.html
   a. Convergent – found along c_____, plates move _____
   b. Divergent – m_____- o_____ r_____, plates move _____
   c. Transform boundaries – S____ A_____ F_____, plates move _____
   d. Subduction zones - Area where o_____ crust plunges under continental crust
9. Why the plates move: basal drag (c_____ in mantle,) s_____ _____ (gravity), ridge push (magma forces to surface)
   (comp.) http://earthguide.ucsd.edu/eoc/teachers/t_tectonics/p_convection2.html
   http://www.see.leeds.ac.uk/structure/dynamicearth/convection/driving_forces/index.htm
10. Continental Shelf – "edge" of continent, under ocean

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Geology

1. Rock Cycle – melting/cooling, heat/pressure, compaction/cementation

   http://www.learner.org/interactives/rockcycle/index.html *click through the whole thing!*

   a. Weathering – b_____ the rock, erosion – m_____ of rock particles

   b. Igneous = V_____

      - i_____ or plutonic: from m_____, ex. granite, large crystals
      - e_____ or volcanic: from l_____, ex. obsidian, basalt

   c. Sedimentary –

      - cl_____: layered, deposition ex. sandstone
      - ch_____: crystals from evaporation of water, stalactite, stalagmite ex. thunderegg
      - organic: f_____ buried in layers of s_____

   d. Metamorphic – (gumdrops) ex. gneiss, slate

      - F_____: flattened crystals
      - Non-f_____: mangled/folded

2. Geologic Time Scale - http://www.enchantedlearning.com/subjects/Geologictime.html
3. Finding relative ages of rocks = comparing which one is older

   a. Law of S_____ - helps determine relative ages of rocks

http://www.classzone.com/books/earth_science/terc/content/investigations/es2903/es2903page03.cfm

b. Index fossils – organisms that lived for a relatively s____ time and are common in the f_____ record. http://pubs.usgs.gov/gip/geotime/fossils.html

c. Carbon dating (C-14) – helps determine age of organic remains

http://www.pbs.org/wgbh/nova/tech/radiocarbon-dating.html *click on "launch interactive"*

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