

Geography for Tomorrow Space Geography 5-Week Certificate Program: Sample Curriculum

Session 1: Close to Home

Have students flip to page 6 in their student packets

Lecture: 23 minutes



- Earth's relation to space
 - Axis: Earth is on a tilted axis, because of this we have seasons: in the summer we (northern hemisphere) are tilted towards the sun, while the southern hemisphere doesn't get as much sun (and thus has winter in July!)
 - Solstices: July or December; when the sun is at its most intense in the northern or southern hemisphere, and least intense in the other hemisphere
 - Eclipses: Solar and Lunar
 - Solar: moon is directly in between sun and Earth, "covers" the sun for a second
 - Lunar: Earth is in between the sun and moon, completely covers up the moon (so we cannot see the moon)
 - Moon: our "satellite," which orbits Earth
 - Far side of the moon: the side that never faces Earth
 - We cannot see it, though scientists have been able to map it
 - Full of craters: **mapping is key to envisioning this part of the moon**
 - Moon was formed from a prehistoric collision of the Earth with a large asteroid, causing the moon to chip off and float into space
 - Moon has it's own gravitational pull, though much less than the Earth: people weigh much less there! The moon's gravitation is also behind tides here on Earth
 - The moon's atmosphere is very thin, and people cannot breathe on it without aid
 - We have been able to send men to the moon to explore it, get samples
 - Magnetic north pole and south pole on the Earth: basis of compasses
 - The actual magnetic poles are slightly shifted from the geographic poles
 - Layers of the Earth-Earth isn't just one big solid rock, but has many layers, including layers of magma and liquid metals

- The sun
 - Source of energy, light, impacts our climate and seasons, and allows us to thrive here on Earth
 - Was formed at the beginning of the solar system, and the planets formed around it from floating dust
- Atmosphere
 - The atmosphere allows us to communicate, fly, breathe, and live (it captures heat from the sun)
 - Separated into layers based on how high it is, and how hot or cold

Videos (12 minutes)

- <https://www.youtube.com/watch?v=ev9oPUNaqXE> (3 mins)
- <https://www.youtube.com/watch?v=EPyl1LgNtoQ> (3 mins)
- <https://www.youtube.com/watch?v=h3kB0Z4HdSo> (3 mins)
- <https://www.youtube.com/watch?v=2U3ucaVzRqQ> (3 mins)

Activity (25 minutes)

- Complete worksheet in packet on shading in the Earth based on where the sun is (page 7)
- Play the game at: http://www.bbc.co.uk/bitesize/ks2/science/physical_processes/earth_sun_moon/play/ (full screen pls)
- Play game at http://www.bbc.co.uk/schools/digger/9_11entry/7.shtml