

### **3.E.1.2**

Students know that the Sun and stars in the sky move in consistent patterns. Students know that shadows are created by objects blocking the light. Students know that as the Sun changes its apparent position in the sky, the shadows cast by objects will change. Students know that the Earth rotates on its axis and revolves around the Sun.

Teacher info

<http://abyss.uoregon.edu/~js/ast122/lectures/lec02.html>

The Earth's rotation

[http://hea-www.harvard.edu/ECT/the\\_book/Chap1/Chapter1.html](http://hea-www.harvard.edu/ECT/the_book/Chap1/Chapter1.html)

The Earth's Orbit

[http://hea-www.harvard.edu/ECT/the\\_book/Chap1/Chapter1.html](http://hea-www.harvard.edu/ECT/the_book/Chap1/Chapter1.html)

View Binder Sundial

[http://www.yearofscience2009.org/themes\\_astronomy/ViewBinderSundial.pdf](http://www.yearofscience2009.org/themes_astronomy/ViewBinderSundial.pdf)

Light and shadows: The Sun Moves in the Sky

[http://www.yearofscience2009.org/themes\\_astronomy/ViewBinderSundial.pdf](http://www.yearofscience2009.org/themes_astronomy/ViewBinderSundial.pdf)

Apparent Motions of the Sun

[http://www.polaris.iastate.edu/NorthStar/Unit4/unit4\\_sub1.htm](http://www.polaris.iastate.edu/NorthStar/Unit4/unit4_sub1.htm)

Various Activities

[http://www.units.muohio.edu/cryolab/education/documents/ElementarySchoolAstronomy\\_Pliske.pdf](http://www.units.muohio.edu/cryolab/education/documents/ElementarySchoolAstronomy_Pliske.pdf)

Casting Shadows

[http://www.dentalllearning.org/course/AdvancedRadiography/DoctorSpiller/Shadow\\_casting.htm](http://www.dentalllearning.org/course/AdvancedRadiography/DoctorSpiller/Shadow_casting.htm)

Explains Shadows (Kid Friendly)

<http://www.engineeringinteract.org/resources/alienattack/flash/concepts/shadows.htm>

Interactive Light and Shadow Activity

[http://www.bbc.co.uk/schools/scienceclips/ages/7\\_8/light\\_shadows.shtml](http://www.bbc.co.uk/schools/scienceclips/ages/7_8/light_shadows.shtml)

<http://www.sciencekids.co.nz/gamesactivities/lightshadows.html>

The Earth in Space

<http://www.ncsu.edu/scivis/lessons/earthinspace3d/earth2.html>

Motion of the Sun and Earth (using a Model)

[http://eyeonthesky.org/lessonplans/07sun\\_motionclass.html](http://eyeonthesky.org/lessonplans/07sun_motionclass.html)

The Earth and Its Place in the Universe

<http://classroom.jc-schools.net/sci-units/earth.htm>