Explaining the Earth’s Seasons

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| TABLE V.13  Developing an Explanatory Model for the Earth’s Seasons | | | |
| URL or Sketch | Evidence | Powerful Idea | Relevant Vocabulary |
| <https://www.windows2universe.org/the_universe/uts/earth3.html> |  | The Earth revolves around the Sun in one year.  The orbit is nearly circular. | revolves  orbit  constellations |
| <http://sciencenetlinks.com/science-news/science-updates/tilted-earth/> |  | The Earth’s axis is tilted at about 23 degrees to the plane of the orbit | tilted axis  plane of orbit |
| <https://www.illustrativemathematics.org/content-standards/tasks/1140> |  | As viewed from the northern hemisphere, the Earth rotates counterclockwise about an axis tilted about 23.4 degrees to the plane of the Earth’s orbit while Earth revolves counterclockwise around the Sun | rotates  counterclockwise  revolves |
| <https://spaceplace.nasa.gov/seasons/en/>  <http://www.todayifoundout.com/index.php/2011/12/the-earth-is-hottest-when-it-is-furthest-from-the-sun-on-its-orbit-not-when-it-is-closest/> |  | A hemisphere tilts toward the Sun during the summer solstice; the tilt is perpendicular to the Earth’s orbit. | Hemisphere  solstice |

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| <https://spaceplace.nasa.gov/seasons/en/> |  | A hemisphere tilts along the Earth’s orbit, either in the same or opposite direction of motion, during spring and autumn equinoxes | equinox |
| <https://spaceplace.nasa.gov/seasons/en/> |  | A hemisphere tilts away from the Sun, perpendicular to the Earth’s orbit, during the winter solstice |  |

Diagram of a tilted Earth revolving around the Sun in an almost circular orbit.

Sketch of using a lamp and students to model the reasons for seasons.