

Sample Climate Change Lesson Module
Healing Earth

The *Healing Earth* team asks that when you use any aspect of this lesson module that you please send an email sharing: 1) how you used the resource, 2) how your students responded to the resource, activity, or lesson, and 3) what changes you would recommend for future versions. Please email Dr. Michael Schuck (mschuck@luc.edu) and Dr. Nancy Tuchman (ntuchma@luc.edu). The information that you share will help improve these resources for your and others' use. We appreciate your feedback.

Instruction Level	Approx. Time (min)	Activities	Materials Needed	Main Content Area(s)
ENGAGE	10-15	<p>Prompt students to predict how many scientists in total (researching, writing, reviewing) contribute to scientific reports, specifically here on climate change. One example is the National Climate Assessment Report (http://nca2014.globalchange.gov/report). Set up a brief spectrum on the board with the range of their predictions.</p> <p>Watch the following four minute TED talk by Rachel Pike about the process of collecting data for a climate research study. http://www.ted.com/talks/rachel_pike_the_science_behind_a_climate_headline/transcript?language=en#t-0</p> <p>Briefly discuss reactions to the video. Were the student predictions correct (hundreds of contributors)? Consider connecting the steps of the scientific process in light of this real world example by having students write out the steps mentioned in the video.</p>	White or chalkboard, internet connection and projector.	Science
	10-15	<p>Invite students to briefly share their responses to the following questions after a brief time for quiet journaling: how does weather affect your life? Do you or your community depend on climate for a living? Prepare a class consensus paragraph about the ways in which weather and climate affect your classroom community. Then share this paragraph with another classroom through the <i>HE</i> Facebook page or directly with another teacher. Share any responses from other schools with the class.</p>	Internet connection, contact with another classroom using <i>HE</i>	Global Awareness

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EXPLORE	30 (more outside of class for students)	<p><i>Spiritual Almanac</i></p> <p>Briefly introduce phenology as the focus for this unit. “Phenology refers to key seasonal changes in plants and animals from year to year—such as flowering, emergence of insects and migration of birds—especially their timing and relationship with weather and climate.” From https://www.usanpn.org/natures_notebook.</p> <p>Ask students if they have ever seen an almanac. Share some example almanacs if possible (such as http://www.almanac.com). Explain the <i>Spiritual Almanac</i> as a blend of observing nature and reflecting personally. Have students pick a spot on campus or near their homes where they can commit to spending 10-15 minutes each day for about a week observing, sketching or taking a photo, and journaling about their experiences. Share the following guiding questions with students: How does your natural location feel? Did it change since your previous observations? What do you observe about the location and about yourself as you sit in nature? What are you grateful for in this location on each day?</p> <p>Consider having students contribute observations as citizen scientists to one of many phenology databases, such as Project Bud Burst (budburst.org), Nature’s Notebook (www.usanpn.org/natures_notebook), Peggy Notebaert Nature Museum (www.naturemuseum.org/nature-and-science-in-action/citizen-science).</p> <p>After they have kept their journal for a few weeks, check back in with your students to see if they have noticed anything that surprised, intrigued, or worried them as they were journaling. What patterns emerged in the world and in their lives?</p> <p>Share the following quote from Pope Benedict XVI on April 24, 2005: “The external deserts in the world are growing, because the internal deserts have become so vast. Therefore the earth’s treasures no longer serve to build God’s garden for all to live in, but they have been made to serve the powers of exploitation and destruction.” From www.ecojesuit.com/healing-a-broken-world-from-our-communities-thinking-</p>	Internet connection and projector (optional), writing and drawing materials for students.	Spirituality, Science, Action

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		<p>and-praying-on-the-gift-of-creation/7290/. How does this quote connect with your students' experiences of completing their <i>Spiritual Almanac</i>?</p>		
EXPLAIN	30-45	<p>Prepare a content lecture on climate change topics, especially natural seasonality and how organisms (including people) are affected by quick changes in the environment. Connect to data introduced in the Engage activity such as atmospheric measurements or to “A Record of Climate Change” attachment, which has an online data activity. Tying in action opportunities can be especially relevant to this chapter because climate change can be a daunting issue without a perspective of how small actions can make large changes (for better or worse).</p>	<p>Lecture Slides, <i>HE</i> Climate Change chapter, “A Record of Climate Change” article (attached)</p>	<p>Science, Action</p>
EVALUATE	30-45	<p><i>Compelling question: is climate change an issue of justice?</i></p> <p>Present the following statements to students on a handout or a projector and have them respond anonymously by writing their answers on a blank sheet of paper in under five minutes. Clarify that they should pick the one response that most closely matches their own view, even though none of the options may match their opinion 100% accurately. Adapted from “Classroom Assessment Technique 28” from Angelo and Cross 1993.</p> <p>From my personal knowledge and opinion, climate change is:</p> <ol style="list-style-type: none"> an over-exaggerated political hoax not a serious concern for most people an issue that affects only a limited number of people a concern mainly for future generations an immediate concern for the entire world <p>If a friend told me that climate change is fake, I would most likely:</p> <ol style="list-style-type: none"> completely agree and tell them why avoid the conversation because it makes me uncomfortable have no opinion to offer 	<p>Projector or handouts with questions,</p>	<p>Ethics</p>

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		<p>d. ask them to explain why they think that way</p> <p>e. completely disagree and tell them why</p> <p>Gather the responses and tally the answers (or have a student do so). Consider beginning this activity at the end of a class period so that you have enough time to go through the responses. You could also begin the whole unit with this brief activity.</p> <p>Next, present the following moral principles. If students are unfamiliar with these topics, some examples might be helpful as well.</p> <ul style="list-style-type: none"> • Preferential option for the poor: The moral principle that people in absolute need of the basic goods of life should be given priority in caregiving. <ul style="list-style-type: none"> ○ Examples: during a wildfire, people who may have difficulty moving away from the fire because of physical or monetary restraints should be evacuated first, OR in an area with a lack of resources because of a natural disaster, shipments of food should be directed to people who are most in danger of dying or being injured from hunger and malnourishment • Common Good: The sum total of those conditions of social life which allow social groups and their individual members relatively thorough and ready access to their own fulfillment. <ul style="list-style-type: none"> ○ Examples: a community that spends tax dollars on a park that is open to every citizen would be serving the common good better than a community that chooses to spend money on a party or celebration that selectively benefits only a few citizens, OR a family that moves to a new city for a parent’s job might do so because they think that their family will be better off as a whole in the new city <p>Have students, on their own or in pairs, list some ways in which these principles might apply to the topics in this chapter. Compile a list of responses on the board. Open up the discussion to allow students to add to the list or clarify topics.</p> <p>Finally, have students revisit the opening questions by asking them to respond using</p>		

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<p>ELABORATE</p>	<p>15-20</p>	<p>the moral principles to someone who may have chose an answer that is very different from their own, explaining clearly why they disagree.</p>	<p>Pens and journals if students will want to write</p>	<p>Spirituality</p>
		<p><i>Climate Change Examination of Conscience</i> Adapted from Joseph Carver’s <i>Ecological Examen</i></p> <p>Ask students to take a relaxed posture, sitting up, and closing their eyes, as they feel comfortable. Lead them through the following examen, allowing a minute or two between each question for them to reflect.</p> <p>All creation reflects the beauty and blessing of God’s image: in our climate, the weather that shapes our planet, the seasons that give a rhythm to our life, and our own internal fluctuations. Where were you most aware of these today?</p> <p>How did you respond to these aspects of the climate today? Did you make a conscious effort to care for any of these aspects of creation?</p> <p>What challenges or joys do you experience as you recall your care for creation today? Were you surprised, hurt, confused, or amazed at your experiences of creation?</p> <p>How can you take actions to repair breaks in your relationship with creation, in the ways that you may have hurt the planet?</p> <p>As you imagine tomorrow, ask for the grace to see the Incarnate Christ in the dynamic interconnections of all Creation.</p> <p>Consider asking students to then write down a brief prayer of their hopes for the planet especially in their perspective on climate change. Ask students to share some of the prayers with the online <i>HE</i> community.</p>		