

Sample Biodiversity 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 | 60 | View <i>Lord of the Ants</i> | Internet connection and access to YouTube video: https://youtu.be/BFfZHXXea6M (accessed 17 February 2016) | Science, Spirituality |
| | 15-20 | <p><i>Beginning Questions:</i> What does nature mean to you? To the functionality of the world?</p> <p>Draw a scene of a time where you remember connecting with nature.</p> <p>Share pictures and discuss, "Is nature worth protecting?"</p> <p>Share E.O. Wilson's quotation (reason to act):</p> <p><i>"I realized that I had to be more public. I saw, clearly, that the world that I loved, the natural world with countless millions of kinds of plants and animals in it was disappearing, not because people were deliberately out to destroy the natural world, but because in their own self-interest they were taking their own part of it and converting it. So one has, in cases like that, to become an activist and a spokesman."</i></p> | Paper/pens/markers /pencils | Spirituality, Action |

| Instruction Level | Approx. Time (min) | Activities | Materials needed | Main Content Area(s) |
|-------------------|--------------------|--|--|----------------------|
| EXPLORE | 30-45 | <p><i>Compelling Questions:</i> What is nature? Specifically, what is biodiversity in nature?</p> <p>Conduct an estimation of Simpson's Diversity Index: use string to set up transects in a diverse area like near the lake, then count the variety of species in the transect to estimate biodiversity.</p> <p>If possible, have students enter data at: http://ww2.mdsg.umd.edu/interactive_lessons/biofilm/diverse.htm</p> <p>Share out loud about how the statistics compare among regions.</p> <p>(An alternative to this, if going outside to actual space in nature is not possible, is to provide student with pictures of different areas and have them conduct the same estimation.)</p> | <p>String</p> <p>(Selected pictures, in the attachment, of different areas if using the alternative format)</p> | Science |
| EXPLAIN | 20-30 | Lecture Presentation on Biodiversity | <p>Teacher developed presentation on biodiversity (see sample slides for one example).</p> <p>“Biodiversity Chapter” of <i>HE</i> text</p> | Science |

| Instruction Level | Approx. Time (min) | Activities | Materials needed | Main Content Area(s) |
|-------------------|--------------------|---|--|----------------------------------|
| EVALUATE | 30-45 | <p><i>Ethics and Biodiversity</i></p> <ul style="list-style-type: none"> • Introduce the ethical foundations of instrumental value, intrinsic value, and environmental sustainability, giving examples of each. See the <i>HE</i> intro for more details. • Sort students into groups to read case studies • Have students present on regional reports to group based on the following key questions: <ul style="list-style-type: none"> ○ What are the major ethical dilemmas from each of the case studies in terms of the ethical foundations (intrinsic and instrumental value, environmental sustainability)? ○ What are some of the sides of this issue? Are there pros and cons? ○ What scientific, ethical, or spiritual questions do you have for experts and activists from this country about their biodiversity problem? ○ What ethical challenges do we face in protecting and improving Earth's biodiversity based on this regional report? ○ What is your view of this issue? What actions would you propose taking in this region? • Have students discuss possible worldwide actions to address the case studies. • Find a case study from your community or region that connects with biodiversity. Then discuss local actions that students could take to make a positive impact on the issue. Depending on your classroom, students could also research a local issue on their own or in small groups to present to the class. | <p>Case Studies for <i>HE</i> text. Links found below, in the attachment, and in the Action section of the Biodiversity chapter.</p> <ul style="list-style-type: none"> • AFRICA • ASIA • PACIFIC • EUROPE • NORTH AMERICA • SOUTH AMERICA • SOUTH ASIA | Ethics, Action, Global Awareness |

| Instruction Level | Approx. Time (min) | Activities | Materials needed | Main Content Area(s) |
|-------------------|--------------------|--|--|----------------------|
| ELABORATE | 15-20 | <p><i>Empathy Across Species Meditation and Reflection</i></p> <p>Introduce the idea of meditation as a common practice across many religious traditions (notably Buddhism and Catholicism). If students are unfamiliar with meditation, consider giving a longer introduction about the process and benefits of meditation such as fostering deeper interiority and examining experiences of awe.</p> <p>Conduct the following meditation and reflection with students:</p> <ul style="list-style-type: none"> • Imagine yourself as a species or location from your regional report (an animal, a river, a person, etc.). What are they thinking? What are they feeling? What are their needs? Attempt to calm your thinking about them, or any judgments you have about them or yourself. Just be them. Also, experience what sensations arise in your body. Then, in your journal, write about what you experienced as this other species, what you thought, felt, needed — and what you would want humans to understand about you. • Coming back to yourself as a human, what would you say or do in response to the observed individual? Can you think of any ideas or possibilities of how you could, with others, perhaps, improve, protect, preserve, cherish, or otherwise meet the needs of the individual? Do any of these resonate with something that you would like to do? • Write a haiku (5-7-5 syllables) explaining your needs as a species or location. Share haikus in class wall or board presentations. • Global connection: have students share their haikus through the teacher forum online, so that other classes can see them <p>Connect the reflection to the actions discussed previously by asking students to consider how certain proposed actions would affect the species they imagined.</p> <p>Close lesson module with E.O. Wilson’s idea of Biophilia.</p> | <p>Paper/pens/markers /pencils</p> <p>Handout: “Biophilia”</p> | <p>Spirituality</p> |