

## **Environmental Science Education Resources (Bolded items are recommended)**

*Most of the listed resources are free, although some require registration using email address and password. Some offer additional resources through subscription, but with the exception of one that is reasonably priced, paid resources have not been included.*

*While most of the recommended resources are recommended for your consideration. A few (non-bolded titles) are listed, but with some noted reservations.*

- **Great Bay National Estuarine Research Reserve:** [greatbay.org](http://greatbay.org), natural and cultural history information about Great Bay.
- **NOAA Estuary Education: All Grades (This one is most pertinent to estuaries and topic aligned with the Great Bay Discovery Center and the Reserve System)**

<https://coast.noaa.gov/estuaries/>

This is one of the links available from the previous listing, and an example of numerous topic-specific resources available from NOAA, with specific sub-sites for students, educators, those seeking data, and an extensive gallery of videos.

Examples of other topic-specific links available from #6 resource include Fisheries, Ocean Exploration, and Data in the Classroom (practicing science for upper high school students and offering teacher guides, supporting PPT slides and student work sheets). Worth a look.

- **Cornucopia** (PBS Learning Media and CA Academy of Sciences): Grades 6-10.  
<https://www.pbslearningmedia.org/resource/cornucopia/educational-games/>

Free (free login required for full access) STEM education game designed for use in classrooms and out-of-school time programs. Manage a plot of land, plant crops, and earn technology upgrades to make your farm successful. Manage through drought and future farming challenges. Teacher support material provided.

Page also includes links to 6 video series Fresh Water Solutions and links to other environmental videos.

- **PBS Learning Media:** All Grades.  
<https://nhpbs.pbslearningmedia.org/>

Wide range of educational videos, interactive videos and lessons (e.g., Energy Flow <https://nhpbs.pbslearningmedia.org/resource/tdc02.sci.life.oate.energyflow/energy-flow/>), and lesson plans.

Requires free login. Much to explore – e.g., for habitats see

<https://www.pbslearningmedia.org/resource/nat15.sci.lisci.anihome/habitat-animal-homes/>

Adaptation (Gr. 6-8): [https://www.pbslearningmedia.org/resource/tdc02.sci.life.reg.lp\\_adapt/adaptation/](https://www.pbslearningmedia.org/resource/tdc02.sci.life.reg.lp_adapt/adaptation/)

- **EPA – New Bedford Harbor:** Grades 4-9  
<https://www.epa.gov/new-bedford-harbor/environmental-education-resources-teachers-and-students>

Two main categories of PDF resources: (1) Environmental Issues Explained supports educator understanding of topics (e.g., Food Chains & Webs – incl. energy and Ecosystems and their Elements) and (2) Classroom Activities, which are not generally adaptable for online distance learning.

- **EPA – Environmental Topics:** Grades 6-12  
<https://www.epa.gov/environmental-topics>

This is the EPA directory for public information about a range of topics within EPA purview. It's not designed specifically to support educators, but may be useful for student assignments directed to gaining general overview of certain topics.

- **North American Association for Environmental Education:** All Grades  
<https://naaee.org/eepro/resources>

Lists 81 web sites with lesson plans and teacher resources for environmental education. Quality and relevance vary.

- **NOAA At Home Educational Resources:** Most Grades

<https://www.noaa.gov/education/stories/staying-in-keep-learning-with-science-activities-kids-and-families-can-do-at-home?fbclid=IwAR2ACZuKomKW7A0ep5OvFKzsaV2yOEjyG5L3rf78KgfxGtGgJtdl-Z8ZerY>

Solid activities students can perform at home and numerous links to other NOAA environmental resources. Worth a look.

- **Hot Science Cool Talks,** Environmental Science Institute – Univ. of Texas: All Grades

<http://www.esi.utexas.edu/outreach/hot-science-cool-talks/archives/?subject=Earth%2C+Geology+%26+Environment&grade=Middle+School&keyword=habitat>

Many videos addressing wide range of topics. Search by grade and topic.

- **Think Earth Environmental Education Foundation:** Grades 1-5

<https://thinkearth.org/curriculum/>

Well developed lesson units by grade level. Great for classroom, but would need adaptation for application to distance learning. Free teacher registration required.

- **California Environment and Education Initiative:** All Grades

<https://californiaeei.org/> Free registration and acceptance required to access extensive catalogue of lessons and supporting resources. Would need adaptation for application to distance learning. PDF catalogue of curriculum may be examined here <https://californiaeei.org/media/1072/curriculum-catalog.pdf>

- **In the Air** -- Missouri Botanical Garden's EarthWays Center: All Grades

<http://www.lungsatwork.org/intheair/>

Full spectrum of environmental education materials that can be used to educate and help K-12 students and adults better understand airborne toxics issues in their communities. The goal is to increase knowledge about air pollution and to make connections between behaviors and air quality. Five modules have been developed (K-3, 3-6, 6-8, 9-12 and adult). Good Resource. Includes many activities inviting student observation and exploration.

- **Habitat** – Generation Genius & National Science Teacher Assoc.: Grades 4-6 (site = K-8)

Habitats: <https://www.generationgenius.com/videolessons/habitats-video-for-kids/>

Adaptation: <https://www.generationgenius.com/videolessons/adaptations-video-for-kids/>

Twelve min. videos and full lesson plan. Well developed lesson plans. Site offers many other good lesson plans for grades K-8. Limited free access, but pricing is modest (\$39/class or \$99/school).

- **Habitat** -- BBC Bitesize: Primary Grades

<https://www.bbc.co.uk/bitesize/topics/zx882hv>

Brief animations supporting lessons. Geared to British standards and grade descriptions.

- **National Geographic:** Variable Grade Applicability

Homes and Habitats: Grades 2-8

<https://www.nationalgeographic.org/media/animal-homes-and-habitats/>

PPT slides (2) and several supporting videos. Materials -- categorizing habitats and homes -- may be utilized by upper levels (?). See also more general index of educational resources searchable by subject and grade at

<https://www.nationalgeographic.org/education/>

Adaptation: Grades 5-12

[https://www.nationalgeographic.org/topics/adaptation/?q=&page=1&per\\_page=25](https://www.nationalgeographic.org/topics/adaptation/?q=&page=1&per_page=25)

Five videos offering examples of animal adaptation.

<https://www.nationalgeographic.org/encyclopedia/adaptation-survival/>

Text and six images explain how adaptation effects survival.

- **Science4us – Balance in Nature:** Grades K-2

<https://www.science4us.com/elementary-life-science/balance-in-nature/>

Series of three lessons: Food Webs, Habitats and Eco Awareness. Free Trial.

- American Geosciences Institute: Grades K-12

[https://www.americangeosciences.org/education/k5geosource/education-resources?query\\_string=adaptation](https://www.americangeosciences.org/education/k5geosource/education-resources?query_string=adaptation)

Adaptation, but with a geoscience slant. Page lists lessons with recommended grade levels and type of curriculum support available. Some lessons are designed for classroom, but others with videos may be adaptable for distance learning. Educators will need to discern which may be appropriate for their students.

- **Legends of Learning:** Grade and Middle School Levels

Adaptation: <https://www.legendsoflearning.com/learning-objectives/adaptation/>

Numerous educational games and activities across a range of topics applicable to grade and junior high school students. Making games available to students necessitates some effort to set up, but once done, playlists may be shared with other teachers. Requires free registration.

- **Twig Science:** Grades K-5 (related sites up to grade 8)

[https://www.twigsciencetools.com/?utm\\_source=go.twigeducation.com&utm\\_medium=referral&utm\\_content=twig-science-tools&utm\\_campaign=covid19-us](https://www.twigsciencetools.com/?utm_source=go.twigeducation.com&utm_medium=referral&utm_content=twig-science-tools&utm_campaign=covid19-us)

Resource Overview: <https://www.twigscience.com/program-overview/>

Sign Up: <https://www.twigsciencetools.com/>

Collaborative development by educators from Imperial College, Stanford Univ. and others. Appears to offer evidence-based educational resources suitable to wide range of topics and grade levels. Multilingual options. Registration required. Numerous resources – 950 videos (over 700 also in Spanish), 700 activities, 1500 visuals and over 100 lessons. Worth exploring.

- Eden Project: **Rainforest Adaptation**

<https://www.edenproject.com/learn/schools/lesson-plans/rainforest-adaptations>

British-based mission focused community dedicated to and practicing sustainability. Offers lesson plans and materials supporting their philosophy. Noted lesson appears reasonable but requires adaptation for distance learning. Other resources not extensively reviewed.

- **WatchKnowLearn.org:**

Plant adaptation: <http://www.watchknowlearn.org/Category.aspx?CategoryID=546>

Animal adaptation: <http://www.watchknowlearn.org/Category.aspx?CategoryID=2855>

Offers many animated video lesson supports. Much to explore on range of topics. Suitability for your students may require careful review.