

# Grade 1-6 Climate Action Inquiry

## Teacher Overview PowerPoint

IB-aligned • Science + ELA integration • flexible summer-friendly structure

**Focus: human impact on Earth's systems, ecosystems, and real-world climate solutions**



# Why This Works for Summer School

**The structure is flexible and teacher-friendly.**  
**Lessons are suggested, not locked into a strict day-by-day order.**  
**Students work on the project throughout the unit instead of only at the end.**  
**Science, reading, discussion, and writing are connected in a manageable way.**  
**Teachers can swap, combine, or revisit lessons based on student needs.**



**Message to teachers: Use the unit as a guide. Keep the project moving, choose the lessons that fit your class, and make it your own.**

# The Big Idea and IB Lens



## Big Idea

Human choices affect Earth's systems, ecosystems, and the responsibility people have to protect the environment.

## IB Theme

Sharing the Planet

## Central Idea

Human actions can impact Earth's systems and ecosystems, and people have a responsibility to make choices that protect the environment.

## Line of Inquiry 1

How human actions affect Earth's systems

## Line of Inquiry 2

How climate change impacts ecosystems and communities

## Line of Inquiry 3

How people can take responsible action to reduce environmental harm

**Key Concepts**  
Causation • Connection •  
Responsibility

**Learner Profile**  
Caring • Thinkers •  
Communicators • Principled

## Related Concepts

Systems • Interdependence • Sustainability • Impact

# Grades 1-5



## Climate Education

# Grades 1-5 IB Components

Entering Grade	Central Idea	IB Learner Profile	Lines of Inquiry	Key Concepts	Related Concepts
<b>Grade 1</b>	People can make choices that help care for and protect our environment.	Caring, Thinker, Communicator	<ul style="list-style-type: none"> <li>• How people affect the environment</li> <li>• Ways to reduce, reuse, recycle, and upcycle</li> <li>• How our actions help living and non-living things</li> </ul>	Responsibility, Change, Connection	Sustainability, Conservation, Creativity
<b>Grade 2</b>	People can use knowledge and advocacy to protect Earth's natural resources.	Caring, Communicator, Knowledgeable	<ul style="list-style-type: none"> <li>• Natural resources around the world</li> <li>• Human actions that affect resources</li> <li>• Using our voices to advocate for environmental change</li> </ul>	Responsibility, Perspective, Function	Advocacy, Natural Resources, Evidence
<b>Grade 3</b>	Earth's systems are interconnected, and changes to one system affect living things.	Inquirer, Thinker, Balanced	<ul style="list-style-type: none"> <li>• Earth's four systems and how they interact</li> <li>• Human impacts on Earth's systems</li> <li>• Solutions that restore and protect ecosystems</li> </ul>	Connection, Change, Causation	Systems, Interdependence, Adaptation
<b>Grade 4</b>	Communities make decisions about energy resources that affect the environment and our future.	Knowledgeable, Thinker, Principled	<ul style="list-style-type: none"> <li>• Renewable and nonrenewable energy sources</li> <li>• Environmental impacts of fossil fuels</li> <li>• Designing sustainable communities</li> </ul>	Function, Responsibility, Causation	Energy, Sustainability, Innovation
<b>Grade 5</b>	Communities use science and technology to protect Earth's resources and create a sustainable future.	Action, Communicator, Reflective	<ul style="list-style-type: none"> <li>• Community solutions to environmental challenges</li> <li>• Science and technology for conservation</li> <li>• How individual and collective actions create change</li> </ul>	Responsibility, Connection, Reflection	Stewardship, Conservation, Community


## K-ESS3-3. Communicate solutions that will reduce the impact of humans on living organisms and non-living things in the local environment.

<b>Entering Grade 1 Activity Board</b>		
<p><b>Generation Genius:</b>  <a href="#">Reducing Our Impact on Earth</a></p>	<p><b>Poster Project:</b> Create a poster with ways to Care for our Planet</p>	<p><b>Newsela STEM:</b>  <a href="#">Upcycling: Turn trash into toys, crafts, or a class project</a></p> <p><b>One man's trash is another man's treasure!</b></p>
<p><b>Material Collection Campaign:</b> Create posters for a collection campaign. Ask students and staff to bring in materials they are not using for a recycling activity.</p> <p><b>Be Creative!</b></p>	<p><b>Recycling Project:</b> Use materials from home to create recycling bins. Remember to label the bins for different types of recycling (cans, water bottles, food waste, etc.)</p>	<p><b>Engineering Design:</b> Upcycle your materials. Use your collected materials to create a toy, craft, art, or machine prototype for a positive purpose.</p> <p><b>Old to New, We make and Do!</b></p>

# Climate Education: Caring for the Environment




**K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.**

<b>Entering Grade 2 Activity Board</b>		
<p><b>Generation Genius:</b>  <a href="#">Natural Resources</a></p>	<p><b>Newsela STEM:</b>  <a href="#">How can kids help the planet?</a></p>	<p><b>Posters Project:</b> Create an environmental sustainability poster</p> 
<p><b>Science Research:</b> Research a country and the natural resources that they are known for. Find out what human activities are depleting those natural resources and how it impacts the organisms (plant and animal). Use the Claim-Evidence-Reasoning (CER) template to gather your findings.</p> <p><a href="#">CER Sentence Starters</a>  <a href="#">CER Templates</a>  <a href="#">CER Rubric</a></p>	<p><b>Science Writers:</b> Become an environmental advocate! Choose an area of sustainability you'd like to advocate for in the country you have chosen. Using your ELA writing skills and strategies, write an argumentative essay that explains your stance on the issue. Include some data, inferences, and some suggestions from your CER template to advocate to improve the conditions.</p>	<p><b>Science Poets:</b> Using the country you choose, create poetry centered around Environmental Justice and Advocacy. Highlight in your poem, the environmental injustice in the country, and what can be done. Put your poem on a flyer that you create. Make sure to use images from the country (drawn or researched) to add to your flyer. If you are familiar with the country or have visited, add some of your personal pictures.</p>

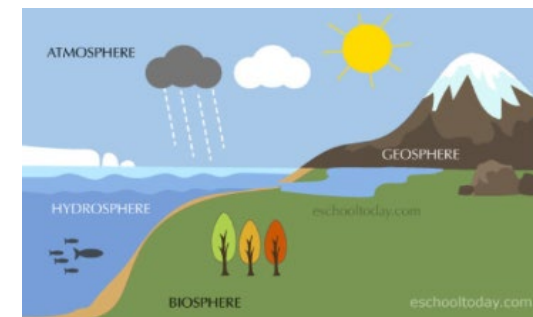
# Climate Education: Caring for the Environment



### 3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

<b>Entering Grade 3 Activity Board</b>		
<p><b>Generation Genius:</b>  <a href="#">Interactions of Earth's Spheres</a></p>	<p><b>Group Poster Project:</b> In your group, create a poster of the earth's systems. Briefly explain each system, what is in abundant there (gases, minerals, etc.), its range (how deep), and any organisms living there.</p>	<p><b>Newsela STEM:</b>  <a href="#">Life in a greenhouse? How ghastly!</a></p>
<p><b>Group Research Project:</b> With your group members, choose one of earth's systems. Explain how humans have impacted that system, the negative effects on the natural flora and fauna, and what efforts have been made to fix it.</p>	<p><b>Public Service Announcement:</b> Using the info you found with your group members, write a script for a PSA alerting the public of the problems in an area of the earth's system and what we as humans can do to improve the area.</p> <p>(The teacher will record each group and create a class commercial)</p>	<p><b>Diorama:</b> Bring in the materials needed to create a diorama of your earth system. Include with it, a short summary of the system using your group poster info.</p> <div style="text-align: center;">  </div>

# Climate Education: Earth's Systems



## 4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources, and their uses affect the environment.

<b>Entering Grade 4 Activity Board</b>		
<p><b>Generation Genius:</b> <a href="#">Renewable vs. Nonrenewable Resources</a></p>	<p><b>Newsela STEM:</b> <a href="#">Types of Renewable Energy</a></p>	<p><b>Research:</b> Use the Types of Fossil Fuels Concept Map to research the Fossil Fuels and their negative effects on the environment.</p> <p><a href="#">Types of Fossil Fuels Concept Map</a></p>
<p><b>Science Literacy:</b> Choose one of the Fossil Fuels from the Types of Fossil Fuels map. Further research to find at least 3 negative effects on the environment. Use that info to write a well-developed essay. Include how it causes Climate Change, the impacts on the environment, and a solution.</p> <p><a href="#">Fossil Fuels Cause + Effect Map</a></p>	<p><b>Carbon Footprint Calculator:</b> Calculate your Carbon Footprint using the calculator link. Using your data, complete a class Data table. Use the class data to complete a Claim-Evidence-Reasoning template based on your data vs the class data.</p> <p><a href="#">Carbon Footprint Calculator link</a></p>	<p><b>Engineering Design:</b> Create a <b>Green City</b> using recycled materials from your home and school. You have student choice in your design and model. Provide a summary explaining what fossil fuel(s) you have eliminated and replaced with a new green energy source.</p>

# Climate Education: Renewable + Nonrenewable Resources



# 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect Earth’s resources and environment.

Entering Grade 5 Activity Board		
<p><b>Generation Genius:</b>  <a href="#">Water Quality &amp; Distribution</a></p> <p><b>Newsela STEM Articles:</b>  <a href="#">U.N. reports see a lonelier planet with fewer plants, animals</a></p> <p><a href="#">U.N. report says climate change is rapidly hurting the Earth's land</a></p> <p><a href="#">Humanity healed the ozone hole: can we do the same for climate change?</a></p> <p><a href="#">Indigenous communities bring knowledge and solutions to conservation efforts</a></p> <p><a href="#">Restoring ecosystems could bring back wildlife and reduce carbon</a></p> <p><a href="#">Animal endangerment and its causes</a></p> <p><a href="#">What we lose when animals become extinct</a></p>	<p><b>Science Literacy:</b> Make a claim on how humans impact the earth’s resources. Choose a Newsela STEM article to support your claim. Complete a Claim-Evidence-Reasoning template using the information in the article and your claim.</p> <p><a href="#">CER sentence starters</a>  <a href="#">CER templates</a></p>	<p><b>Community Earth Protector’s Project:</b> Students investigate how different communities protect the environment using science and technology.</p> <p><b>Topics Could Include</b></p> <ul style="list-style-type: none"> <li>•Recycling programs</li> <li>•Solar energy</li> <li>•Community gardens</li> <li>•Water conservation</li> <li>•Electric buses</li> <li>•Wind farms</li> <li>•Beach cleanups</li> <li>•Wildlife protection</li> </ul> <p><b>Student Tasks</b></p> <ol style="list-style-type: none"> <li>1. Research a real community solution</li> <li>2. Explain the science behind it</li> <li>3. Describe how it helps Earth</li> <li>4. Present findings</li> </ol> <p><b>Final Products</b></p> <ul style="list-style-type: none"> <li>•Poster</li> <li>•Google Slides</li> <li>•News report</li> <li>•Mini documentary</li> <li>•Brochure</li> </ul> <p><b>IB Connections</b></p> <ul style="list-style-type: none"> <li>•Research skills</li> <li>•Communication</li> <li>•Global awareness</li> </ul>

# Climate Education: Human Impacts on Earth’s Systems (resources)



# GRADE 6



# Standards Without the Overload

## Anchor standards

**MS-ESS3-4:** Use evidence to explain how human population and resource use impact Earth's systems.

**MS-ESS3-3:** Apply scientific principles to design ways to reduce human impact on the environment.

## Supporting standards

**MS-LS2-3 / MS-LS2-4:** Explain how living and nonliving parts of ecosystems interact and affect populations.

**MS-ESS3-5:** Clarify evidence for factors that have caused rising global temperatures.

### Teacher takeaway

The standards are strong, but the lesson structure stays simple. Students learn the science through inquiry, project work, discussion, and evidence.



# Student Project Choices

## Choice 1: Ecosystem Model

Students create a model of an ecosystem and explain how climate change or human activity affects the living and nonliving parts.

## Choice 2: Climate Solution Poster or One-Pager

Students explain a climate or environmental issue, its cause, its impact, and a realistic solution.

Both choices include cause, impact, solution, evidence, visuals, labels, and a short explanation.



### Teacher move

Offer choice, then keep checking that students are adding science ideas as they work.

# When Are Students Working on the Project?

**Short answer: during most sessions.**

## Quick Launch

Warm-up, question, or vocabulary review

## Mini-Lesson

Short science, reading, video, or discussion

## Project Studio

Students build, research, write, revise, or conference

## Share / Reflect

Exit ticket, turn-and-talk, or checkpoint

Project Studio can happen during almost every meeting. Students should begin early and build their project over time. Teachers can lengthen or shorten mini-lessons as needed to protect work time.



# Suggested Lesson Menu

Teachers can move these pieces around. Think of this as a menu, not a script.

## Climate & Earth Systems

Climate Change Launch  
Earth's Systems  
Greenhouse Gases  
Human Impact on  
Ecosystems

Links appear with each  
lesson.

## Ecosystems & Interdependence

Ecosystem Builders  
Food Chains & Food Webs  
Biodiversity & Balance  
Animal and Habitat  
Connections

Links appear with each  
lesson.

## Cause, Impact, & Solution

Cause, Impact, Solution  
Climate Solutions  
Evidence Check  
Responsibility & Action

Links appear with each  
lesson.

## ELA + Science Connections

myPerspectives Text  
Connection  
Newsela STEM Reading  
Generation Genius Video  
CER Writing

Links appear with each  
lesson.

Next slides show the lesson + project connection + clickable resource together.

# Climate & Earth Systems Lessons

Each suggested lesson includes a visible clickable resource.

## Climate Change Launch

**Focus:** What is climate change, and why does it matter?  
**Project:** Brainstorm climate or ecosystem issues to explore.

[Click: GG Intro to Climate Change](#)

## Earth's Systems

**Focus:** How are land, water, air, and living things connected?  
**Project:** Identify which Earth systems connect to the project.

[Click: GG Earth's Spheres](#)

## Greenhouse Gases & Rising Temperatures

**Focus:** What causes global temperatures to rise?  
**Project:** Add a cause statement to the project.

[Click: GG Intro to Climate Change](#)

## Human Impact on Ecosystems

**Focus:** How do people affect habitats and natural resources?  
**Project:** Identify one human action affecting the chosen issue.

[Click: GG Human Impacts](#)

# Ecosystems & Interdependence Lessons

Each suggested lesson includes a visible clickable resource.

## Ecosystem Builders

**Focus:** What living and nonliving parts make up an ecosystem?

**Project:** Add living and nonliving parts to the model or poster.

[Click: GG Ecosystems](#)

## Food Chains & Food Webs

**Focus:** How do organisms depend on each other?

**Project:** Add a food chain, food web, or connection diagram.

[Click: GG Food Webs](#)

## Biodiversity & Balance

**Focus:** Why does ecosystem balance matter?

**Project:** Explain what may happen if one part changes.

[Click: GG Food Web Activity](#)

## Animal and Habitat Connections

**Focus:** How do animals depend on their habitats?

**Project:** Add animal, plant, or habitat details to the project.

[Click: Newsela Wildlife Lessons](#)

# Cause, Impact, Solution + ELA Connections

Each suggested lesson includes a visible clickable resource.

## Cause, Impact, Solution

Focus: How do we clearly explain an environmental problem?

Project: Draft the cause-impact-solution section.

[Click: Newsela STEM](#)

## Climate Solutions

Focus: What actions can students, communities, or governments take?

Project: Add a realistic solution to the project.

[Click: GG Reducing Our Impact](#)

## Evidence Check

Focus: How do we use evidence from texts, videos, or data?

Project: Add one piece of evidence to support the claim.

[Click: Newsela STEM](#)

## Responsibility & Action

Focus: What responsibility do people have to protect Earth?

Project: Add an action step or responsibility statement.

[Click: Newsela Earth Day Lessons](#)

Optional ELA support: short myPerspectives excerpts + CER writing routines

# Project Studio Options

**Research Studio** — gather facts from texts, videos, and teacher resources.

**Build Studio** — work on the model, poster, one-pager, or diagrams.

**Writing Studio** — draft or revise cause, impact, solution, and evidence sections.

**Conference Studio** — meet with the teacher or peers for feedback.

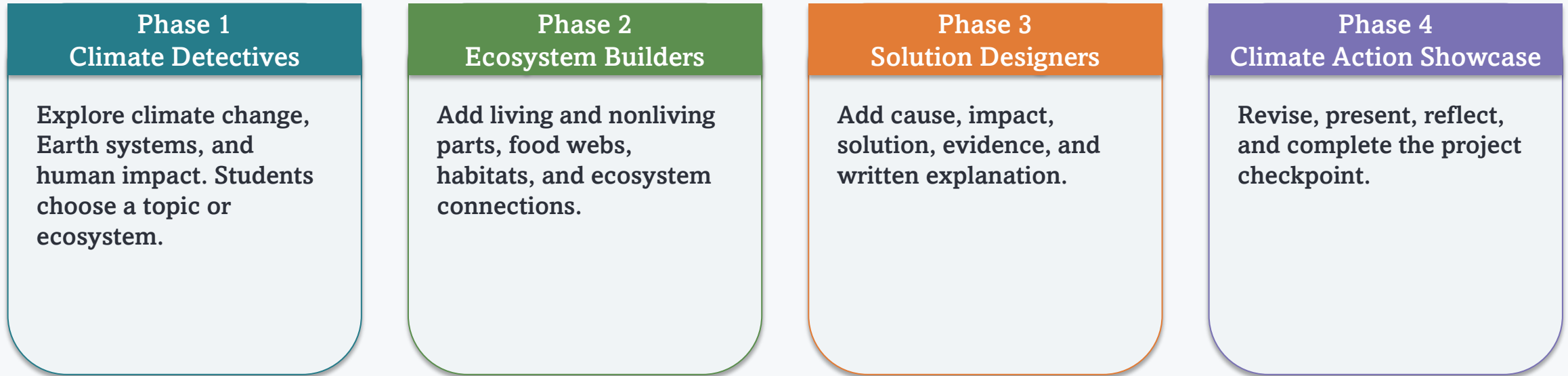
**Revision Studio** — improve visuals, labels, explanations, and accuracy.

**Showcase Prep** — practice explaining the project aloud.



Use these anytime students need work time, support, or a chance to catch up.

# Suggested Flow Over Time



**This is a suggested sequence of phases, not a strict calendar.**

# Clickable Teacher Resources: Generation Genius

Backup link hub: the main lesson slides already show the links beside each lesson.

## Suggested science video links

[Generation Genius: Intro to Climate Change](#)

[Generation Genius: Earth's Spheres](#)

[Generation Genius: Human Impacts on the Environment](#)

[Generation Genius: Ecosystems](#)

[Generation Genius: Food Webs and Food Chains](#)

[Generation Genius: Extreme Weather](#)

[Generation Genius: Water Cycle](#)

[Generation Genius: Reducing Our Impact on Earth](#)

## Best matches

Climate Change Launch  
Human Impact on Ecosystems  
Ecosystems  
Food Webs

## Teacher choice extensions

Water Cycle  
Extreme Weather  
Reducing Our Impact on Earth

# Clickable Teacher Resources: Newsela STEM and Savvas

## Newsela links

[Newsela STEM](#)

[Newsela Earth Day Lessons](#)

[Newsela Wildlife Lessons](#)

[Newsela Water Day Activities](#)

## Savvas / myPerspectives

[Savvas myPerspectives](#)

### Suggested myPerspectives text pairings

- from Silent Spring
- from My Life with the Chimpanzees
- A Young Tinkerer Builds a Windmill
  - Mars Can Wait. Oceans Can't.

Use short excerpts or teacher-selected passages.

### Important note

Some district platforms may require sign-in. The hyperlinks are included so teachers can get there quickly.

# Climate Action Showcase and Culminating Reflection

Students may present to a small group, participate in a gallery walk, or explain their work to a partner.

The final reflection helps students explain what they learned about human impact, ecosystems, climate change, and responsibility.

The project checkpoint focuses on science understanding, evidence, communication, and clarity.



## Suggested student reflection prompts

- What did I learn about human impact?
- How does my project show an ecosystem or climate issue?
  - What action can people take?

## Tone shift

We use “showcase,” “checkpoint,” and “reflection” instead of rigid language.

# Final Message for Teachers

**Keep it simple. Keep it flexible. Keep the project moving.**

## Plan

Use the suggested lessons as a menu, not a script.

## Teach

Blend science, reading, discussion, and writing in manageable ways.

## Support

Protect project time and use the clickable resources to make planning easier.

**Let student curiosity and teacher judgment guide the path.**