



HOPEFUL CLIMATE FUTURES:

LESSON PLAN

Welcome

The Climate Action Toolkit is a set of enriching and engaging classroom activities designed and tested by staff at the University of Cambridge Y5-6 pupils (9-11 years old) to explore the urgent topic of climate change. 5 hour- long lessons which have been tested in primary schools.

Session Aim: To help students understand and create solutions for sustainability, adaptation to and mitigation of climate change. This is achieved through hands-on, interactive activities where students work collaboratively to design a sustainable island.

Learning Outcomes

Knowledge:

- **Sustainability:** Imagine using a set of coloured pencils. If you use them carefully and share with friends, there will be enough for everyone now and later. Sustainability is like this but with Earth's resources, ensuring we all have what we need without running out. Living in a way that makes sure we don't run out of water, food, or clean air in the future. Like using energy from the sun instead of burning coal.
- **Climate Change:** Think of Earth wearing a blanket. When we use cars and factories a lot, they make greenhouse gases which act like more blankets, making Earth too warm. This causes weather to act strangely with hotter summers, colder winters and bigger storms.
- **Adaptation:** If it starts raining when you're playing outside, you might wear a raincoat or play under a shelter. Similarly, adaptation means changing our ways to live better with the new, warmer weather, like growing different crops that can survive the heat.
- **Renewable Energy:** Like a wind-up toy that can go as long as you keep winding it, renewable energy comes from things that won't run out or harm the planet, such as sunlight for solar panels or wind for wind turbines, unlike oil or coal.
- **Sustainable Transportation:** Getting around without making greenhouse gases or polluting the air, like biking, walking, or using cars that run on electricity.
- **Composting and Permaculture:** Turning leftover food into good soil for plants and designing gardens that work well with nature.
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Skills:

- **Critical Thinking:** Analyzing problems and thinking of solutions
- **Creativity:** Designing innovative solutions and creative presentations
- **Collaboration:** Working together in groups
- **Communication:** Sharing ideas clearly with others

Attitudes:

- **Responsibility:** Understanding the impact of individual actions on global sustainability.
- **Optimism:** Believing in the possibility of positive change through innovation and cooperation.
- **Curiosity:** Being eager to learn more about climate change and sustainability.
- **Empathy:** Considering how climate change affects people and ecosystems around the world.

Connection to Climate Change Theme:

The lesson plan's connection to the climate change theme is centered around engaging students' creativity to envision and design a sustainable way of living that combats climate change. It provides a practical and imaginative context for understanding environmental impact and the necessity of sustainable development.





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Primary Curriculum Links:

English:

- The lesson plan includes activities that involve creative writing, storytelling, and presentation skills. Students practice story telling skills by preparing a short presentations about living on an imaginary sustainable island that they have designed.

Geography:

- The plan covers key geographical concepts such as land use, climate change adaptation, and sustainable living practices. Students engage with the idea of a sustainable island, discussing and planning its geography, resources, and environmental management.
- Land Use: Students brainstorm and plan the use of land on their sustainable island, considering aspects like energy sources, transportation, food production, and housing. This directly relates to understanding and applying principles of sustainable land use.

Art and Design:

- Creativity is encouraged through the design of a sustainable island, either in the form of posters, models, or through art workshops where students create art from recycled materials. This fosters skills in art and design, emphasizing creativity and environmental awareness.

Lesson Plan

Activity	Guidance	Resources Needed	Time
01 Starter Sustainable Island	<p>Introduction (to be read to students): "Imagine if we could live on an island where everything is designed to be super cool for both us and the planet. This isn't just any island; it's a place where everything works in harmony with nature, from the way we get around to how we power our homes and grow our food. It's like being in a futuristic movie, but better, because it's all about taking care of our earth. Today, we're going to dive into what this dream island might look like. You'll get to see a picture of this awesome place and share your thoughts on what makes it special and how we can take some of these cool ideas and make them real in our own lives. Let's take a trip to this island and see what makes it a perfect place for the future."</p> <p>Present the images: Present the slides (1-8). Option 1: Allow students 40 seconds to look at each slide and record their observations individually, then give them time to discuss their answers in pairs or groups (2-3 minutes), then report back to you. You can nominate answers in an open discussion to wrap up the activity.</p>	Picture A projected or printed and distributed in groups of four	15 min





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Option 2: Present each slide and ask the guided questions below. There are suggested answers. You can nominate a student to write down key words or concepts.

Guided Questions: Ask the students the following questions and elicit the following suggested answers

“Take a good look at this island. What are some things you notice that might be different from where we live?”

- **Suggested answer:** This island has lots of windmills spinning in the breeze and homes with shiny roofs. There are no smoky factories, and the roads aren't full of cars.

Energy: “Can you spot how this place might be generating its own energy? What do you see?”

- **Suggested answer:** Look at those big fans on the hills; they're wind turbines that use the wind to make power. The roofs have solar panels that soak up sunlight to turn it into energy.

Transportation: “Look at the ways people

- might be getting around. What's missing that we usually see, and what new modes of transportation can you find?” **Suggested answer:** Instead of lots of cars, people are riding bikes or scooters, and there's a big green bus that probably runs without using fuel which makes greenhouse gases. Some people are even paddling in boats!

Food Production: “Where do you think the people on this island get their food? Identify any areas that might be used for growing food.” **Suggested answer:** Can you see those gardens with all the colourful plants? People here might grow their own fruits and veggies and don't eat very much meat. There's even a floating garden on the water!

- **Buildings and Housing:** “How do the homes and buildings here look different? What materials or designs are they using that helps the environment?” **Suggested answer:** The houses don't look like ours; they have plants growing on the sides and roofs. Those plants can keep the house cool and clean the air!





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	<ul style="list-style-type: none">• Water Use: "Water is precious. What are some ways this island might be using or saving water?" Suggested answer: There are little pools catching rainwater near some houses, and it looks like they use that water for the gardens and maybe even flushing toilets!• Community Spaces: "What kinds of community spaces or areas can you see? How do these spaces encourage a sustainable lifestyle?" Suggested answer: I see open places where people are hanging out, like that picnic area and a playground by the water. These places let everyone enjoy being outside together. <p>Facilitate Discussion (optional): As students answer, facilitate the dialogue to deepen understanding: "Why do you think that is important for sustainability?"</p> <p>Encourage Critical Thinking (optional): Challenge students to think critically: "How could we apply some of these sustainable solutions in our own community?"</p>		
02 Pictionary Pictionary for Sustainability	<p>Reinforce students' understanding of sustainability terms and concepts through an engaging drawing and guessing game.</p> <p>Introduction: Explain that the class will play a game to learn about sustainability concepts.</p> <p>Explanation of the activity:</p> <ul style="list-style-type: none">• Display the slide with the game rules.• Go over the objective, rules, team size, round duration, and scoring system.• Answer any questions about the game. <p>Forming groups:</p> <ol style="list-style-type: none">1. Divide the class into teams of 4-6 students.2. Have each group sit together with their drawing supplies and set of cards. <p>Playing the Game (10 minutes):</p> <ul style="list-style-type: none">• One student from each group starts as the drawer. The drawer picks a card without showing it to the rest of the group.• Start the timer for 1-2 minutes.	<p>Pre-made cards with sustainability terms.</p> <p>Whiteboards and markers for each group (or paper and pencils).</p>	15 min





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	<ul style="list-style-type: none">• The drawer illustrates the term on the card while the other team members guess the word.• If the team guesses correctly within the time limit, they earn a point. If not, no point is given.• Rotate the role of the drawer so that each student has a chance to draw. <p>Transition between rounds:</p> <ul style="list-style-type: none">• Quickly discuss the term if no one guessed it• Rotate the drawer and prepare for the next round <p>Conclusion:</p> <ul style="list-style-type: none">• Tally the scores and congratulate the winning team• Discuss what terms were easy or difficult and why <p>Reflection: After the game, reflect on the activity. Ask the students which words were easiest or hardest to describe and why?</p>		
03 Poster Create a sustainability poster or model	<p>Introduction:</p> <ul style="list-style-type: none">• Explain the task to the class: "We're going to draw our own islands where everything is designed to keep our Earth healthy. Think about clean energy like sunlight for power, places to grow food, and ways to get around without pollution."• Briefly introduce the activity using the explanation slide.• Emphasise the importance of sustainability and creativity. <p>Forming groups and assigning roles (2 min):</p> <ul style="list-style-type: none">• Display slide 10 of the PPP.• Organise students into groups of 5.• Assign specific roles: transportation, energy, housing, food, community, and water management. Give instructions for drawing the island outline across individual sheets to be assembled later. <p>Individual drawing (15 min):</p> <ul style="list-style-type: none">• Display slide 11 of the PowerPoint	<p>Individual sheets of drawing paper (one per student).</p> <p>Pencils, markers, and coloured pencils.</p> <p>Sticky notes for feedback.</p> <p>Tape or glue sticks, blue tack (for assembling the island drawing).</p>	30 min





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- Students work on their portion of the island, focusing on their assigned sustainability aspects.
- Encourage quick, expressive sketches rather than detailed artwork.

Group presentations (7 min):

- In pairs or groups, students present their portion of the island, explaining the sustainable features.
- 1 person talks about their specific role, 5 mins per team, then 2 mins Q&A, then swap.
- Each group can evaluate the other using the evaluation sheet in the resources.

Assembly and walking gallery (5 min; optional):

- Students assemble their individual drawings to create a complete island.
- Conduct a quick "Walking Gallery" where students observe and leave feedback on each others Islands using sticky notes.

Reflection (1 min):

Have a quick wrap-up, asking students to consider one way they can promote sustainability in their own lives based on the activity.

Teacher's notes:

- Maintain a brisk pace to ensure all parts of the lesson plan are covered.
- Use the prompt slide 11 to guide students on considerations for their designs.
- During the presentations, encourage students to focus on explaining the sustainable features they included.

