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ECODISCOVERY

"Play And Discover The Future"



PROJECT RESULT 4 • EDUCATIONAL RESOURCES

Teacher Guide

Using the ECOTOPIA Educational Game in the Classroom

Project: EcoDiscovery – Play And Discover The Future

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1 | Introduction

This Teacher Guide supports educators who wish to use **ECOTOPIA**, the educational game of the EcoDiscovery project, in the classroom. ECOTOPIA turns four environmental themes – water, energy, biodiversity and waste – into playable tasks in which learners act as members of an Eco-Team, make decisions and discover their real-world consequences.

The Four Themes of ECOTOPIA

Each theme becomes a chapter of interactive, mission-based learning

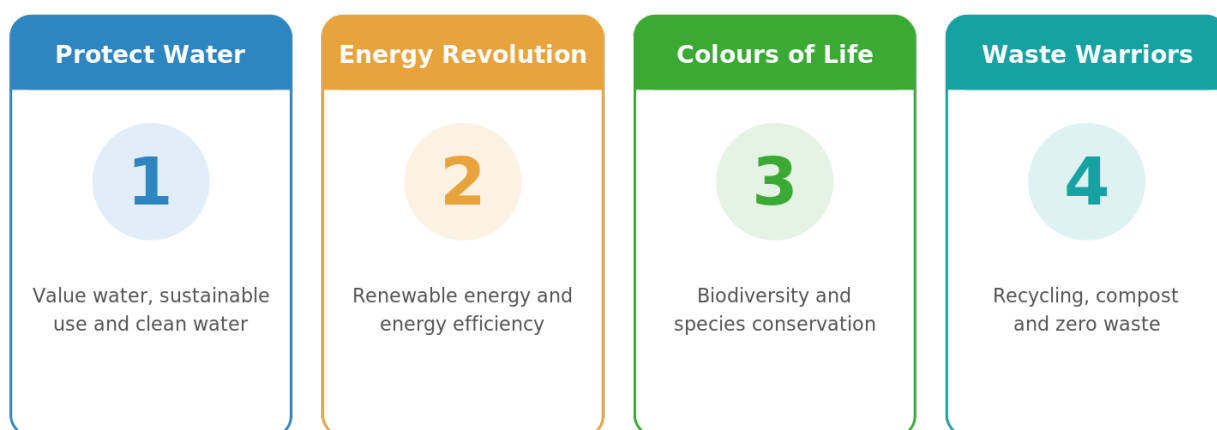


Figure 1. The four sections of the game, one per environmental theme.

The guide offers a ready-to-use lesson flow, discussion questions, follow-up activities, differentiation ideas and assessment tools, and links each part to concrete learning outcomes. It works in science, geography, citizenship, English (CLIL) and cross-curricular lessons. The game is free, needs no account, and is available on web, Android, APK and Windows in four languages.

2 | Recommended Age Group

ECOTOPIA is designed for middle-school learners aged **10–14** (rated 3+ on Google Play). The table below suggests how to adapt the focus of a session to different ages within this range.

Age	Suggested focus
10–11	Play in pairs; focus on the information cards and simple real-life actions. Emphasise vocabulary and cause–effect (“what happens if…”).
12–13	Individual or paired play; connect tasks to science and geography concepts. Use the discussion questions and a short follow-up task.
14	Independent play; use the game as a springboard for debate, data work and a project or campaign. Encourage learners to evaluate the solutions critically.

3 | Classroom Integration

Subjects and curriculum links

Subject	How ECOTOPIA fits
Science	Water cycle, energy sources, ecosystems, materials and decomposition.
Geography	Resources, sustainability and human impact on the environment.
Citizenship / PSHE	Responsibility, community action and sustainable choices.
English (CLIL)	Environmental vocabulary, giving reasons and persuasive language.
Art / ICT	Game-design thinking, visual communication and digital literacy.

Ways to use the game

- **Whole-class** on a projector: play one task together and discuss each choice.
- **Paired play** on tablets or computers: learners support each other and compare scores.
- **Station activity**: one section per station in a carousel across a lesson.
- **Homework / flipped learning**: play a section at home, discuss findings in class.

Did you know? Play each task yourself before the lesson so you know which information cards and choices to highlight.

4 | Suggested Lesson Flow (45–60 minutes)

A Ready-to-Use Lesson Flow

One 45-60 minute lesson built around the game

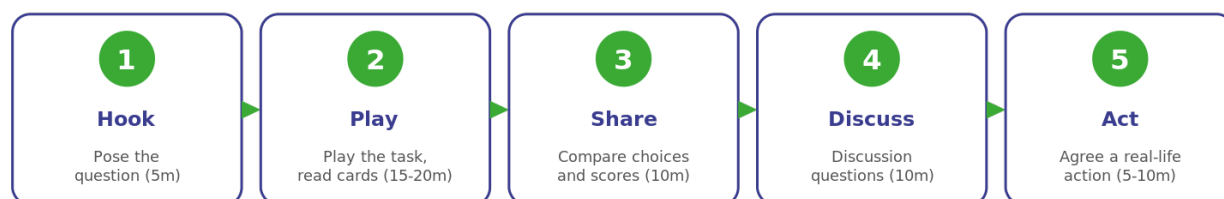


Figure 2. A simple five-stage lesson built around one task.

Stage	Time	Activity
Hook	5 min	Pose the task question (e.g. "How much water can we save at home?"). Collect quick predictions.
Play	15–20 min	Learners play the selected section/task, reading the information cards as they go.

Share	10 min	Compare choices and scores. Which facts surprised them? Which choices were hardest?
Discuss	10 min	Use the discussion questions for the section (Section 5).
Act	5–10 min	Agree on one real-life action to try before the next lesson (Section 6).

5 | Discussion Questions by Section

Section 1 – Protect Water

- Where does water get wasted in our school and homes?
- How should a city share limited water between homes, farms and industry?
- What is grey water, and where could we reuse it?

Section 2 – Energy Revolution

- Which energy do we use that comes from the sun or wind?
- What is "vampire energy" and how can we stop it?
- How could our school produce or save more energy?

Section 3 – Colours of Life

- Why do pollinators such as bees matter for our food?
- What makes a good habitat for wildlife?
- How can replanting help nature recover?

Section 4 – Waste Warriors

- Which of our everyday items could be recycled or reused?
- What can and cannot go into compost?
- How can waste become a useful resource?

6 | Follow-up Activities

- **Home water audit.** Learners check taps and habits at home and report savings.
- **Energy detectives.** Map lights and devices left on at school; propose fixes.
- **Pollinator corner.** Plant a small pollinator-friendly patch in the school grounds.
- **Classroom sorting station.** Set up paper, plastic, glass and metal bins and track use.
- **Design a task.** Learners invent their own ECOTOPIA task with an information card.
- **Campaign poster.** Groups create a poster sharing three facts and one call to action.

Did you know? Link follow-up activities to the evaluation forms so learners can reflect on what changed.

7 | Differentiation & Inclusion

- **Support:** pair confident readers with others; pre-teach key vocabulary; let learners replay a task.
- **Challenge:** ask fast finishers to design their own task or beat their score with fewer wrong choices.
- **Language:** switch the game language or use it as CLIL support for English learners.
- **Access:** the game runs on standard devices; whole-class projector play suits limited hardware.
- **Grouping:** mixed-ability pairs encourage peer explanation and discussion.

8 | Game Features to Highlight

The AI assistant

ECOTOPIA includes an AI assistant powered by the Gemini API. Learners press the **R** key during play to ask an environment or game question and receive an instant, age-appropriate answer.

The In-Game AI Assistant

A Gemini-powered helper for environment questions - no data stored

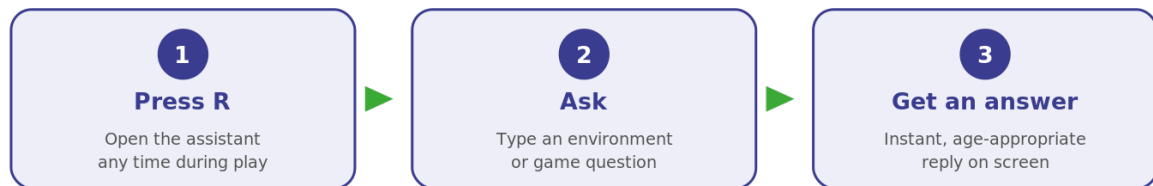


Figure 3. Encourage learners to ask "why" questions with the AI assistant.

The assistant only answers environment and game topics and stores no student data – a safe way to feed curiosity mid-lesson.

Scoring and reflection

Each task gives a score (0–100) based on speed and the number of correct choices, feeding badges and a privacy-masked global leaderboard. Emphasise learning over ranking.

9 | Assessment & Reflection

Use the companion *Evaluation Forms* (Student Reflection Form and Teacher Observation Form) to capture learning alongside the game score. Suitable evidence includes participation in discussion, the quality of the chosen real-life action, a learner's own designed task or poster, and pre/post changes in environmental vocabulary and attitudes. The Student Guide and Environmental Fact Sheets give further support and are available at www.ecodiscovery.eu.