Flood:ED School Greening Simulator

School Greening: Investigating Simulator Solutions (JR)

Investigate real-world solutions to flooding and heat using the Flood:ED School Greening Simulator, then apply what you learn to design a safer, more climate-resilient community.

Learning Outcomes

- Identify local climate solutions that reduce flooding and extreme heat.
- Explain how these solutions work and evaluate their benefits and challenges.
- Apply critical thinking to connect global examples to local needs and propose informed solutions.

Vocabulary

As you work through the Flood:ED School Greening Simulator, write down any words that are new to you! Take a minute to look up what each word means, and write the definition in your own words.

Example:

Albedo Effect – *the ability of a surface to reflect sunlight; light-coloured surfaces have higher albedo and reflect more sunlight, keeping the area cooler.*

Step 1: Exploring Flood Solutions with the Flood:ED School Greening Simulator 💧

🔍 Click on a solution *(like "bioswales" or "green roofs")* and read how it works.
📝 In the chart, describe *(in your own words)*:

- What the solution is
- How it helps with flooding
- What to consider before using it

Table 1: Flood Solutions

Solutions	What It Is	How It Helps	Things to Consider
Bioswales / Ponds			
Ground Material			
Tree / Shrub Planting			
Other solution *(pick one more from the simulator):* _____			

Step 2: Exploring Heat Solutions with the Flood:ED School Greening Simulator ☀️

🔍 Choose a strategy and see how it reduces extreme heat.
📝 In the chart, explain *(in your own words)*:

- What the solution is
- How it helps with heat
- What to consider before using it

Table 2: Extreme Heat Solutions

Solutions	What It Is	How It Helps	Things to Consider
Building Colour			
Trees / Shrubs			
Green Roof			
Other solution *(pick one more from the simulator):* _____			

Step 3: Exploring Environmental Projects with the Flood:ED School Greening Simulator 🪴

🔍 Explore a project that supports a sustainable environment.
📝 In the chart, describe (*in your own words*):

- What the project is
- How it helps the environment
- What to consider before using it

Table 3: Schoolyard Projects

Project	What It Is	How It Helps	Things to Consider
Pollinator Garden & Composting			
Bike Racks			
Student Initiative			
Other solution *(pick one more from the simulator):* _____			

Step 4: Ready, Set, Solve: Climate Action Quest 🌍

Reflecting on Climate Solutions: Tackling Flooding & Extreme Heat

Let's dive into some serious climate action thinking! Use your experience with the Flood:ED School Greening Simulator to answer the following questions. Get creative, be critical, and challenge yourself to think about the world differently.

1. 💡 Which climate solution caught your attention the most, and what made it stand out to you?

2. 🧠 What If...?

Your town faces both a flood and a heatwave in the same month! The mayor asks for your advice but gives you one rule: You can only choose **TWO** solutions to protect the town.

Your Task: Write a "Mayor's Memo" with:

- **The two solutions you recommend**
- **How each solution addresses both flooding and extreme heat**
- **Why these solutions work well together**

📄 Mayor's Memo:

Indigenous Knowledge + Water Protection 🌊

Indigenous communities have long valued and protected water through sustainable practices. Explore how these traditional practices can guide us in how we care for water today.

3. Choose one to explore (or both!):

🎥 **Video**

Indigi-Genius: Water Management

www.pbslearningmedia.org/resource/water-management-video/indigi-genius/

📖 **Article**

Protecting Sacred Waters

www.culturalsurvival.org/news/protecting-sacred-waters-indigenous-communities-are-leading-way

✏️ *Answer in your own words:*

a) What are some Indigenous values about water?

b) What are some traditional practices used to protect water or manage flooding?

c) How can these values help guide our approach to water conservation and climate adaptation today?

Step 5: Design Your Climate-Safe Space 🌍

Climate Resilience: Designing for a Sustainable Future

Pick a place you know well:
🏫 Schoolyard | 🏡 Backyard | 🌆 Neighborhood

Goal: Make it safer from flooding, extreme heat, and more sustainable.
🖍️ **Draw** and **label** your design below. Include:

- **1 solution for flooding, 1 solution for extreme heat, 1 environmentally friendly project**