

Nurdles in a Watershed

Audience: Middle School

Description

Students will build a model watershed to explore how human activity and pollution, particularly nurdles, impact waterways.

Student Outcomes

- Model the effects of nurdles and human activity on a watershed.
- Draw valid conclusions based on their observations.

Materials

- Paper
- Markers (blue and red)
- Spray bottles with water
- Tape
- Baking tray or shallow pan (optional)

Teacher Background

- Hurdles with Nurdles (video clip)
- The Great Nurdle Hunt - issues with nurdle pollution
- Nurdle Fact Sheet (reference material)

Teacher Prep

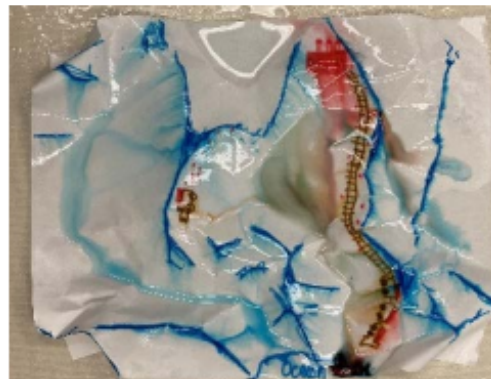
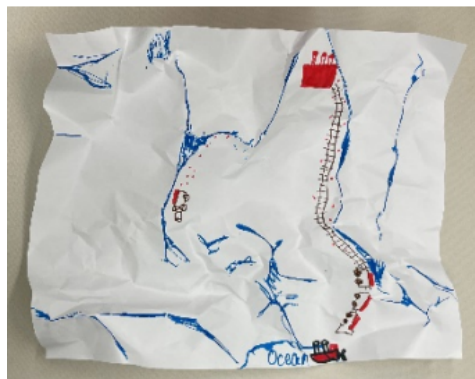
- Gather all materials.
- Ensure a flat, clean workspace for students.
- If tables are unavailable, students can use the optional baking tray or pan to contain their watershed models.

Introduction

- Show the video clip from [Hurdles with Nurdles](#) (:28–4:04).

Procedures

1. Give each student a sheet of white paper. Crumple it lightly to create “landforms” like mountains, valleys, and hills. (Over-crumpling may obscure features.)
2. Using a blue marker, color the tops of ridges and peaks to represent water flow.
3. Add human activity features: a factory (nurdle production), a railroad leading toward the ocean, a truck transporting nurdles, and a ship loading nurdles by the ocean. Use red to indicate nurdles, including small dots along transport routes to show spillage.
4. Tape the paper edges to the table or pan to preserve the landforms during the “rain” simulation.
5. Mist the model with water to simulate rainfall. Observe:
 - How does water flow through the watershed?
 - Where do nurdles collect?
 - What problems might arise from nurdle pollution?
 - Where are your watersheds forming?



Discussion

- If a factory is located inland, how might it affect the oceans? Other local effects? What solutions might help?
- How do nurdles impact the watershed and surrounding waterways?
- In what ways does human activity affect the health of a watershed?

Nurdles in a Watershed

Crumbled Paper Lab - Student Worksheet

Name: _____

Date: _____

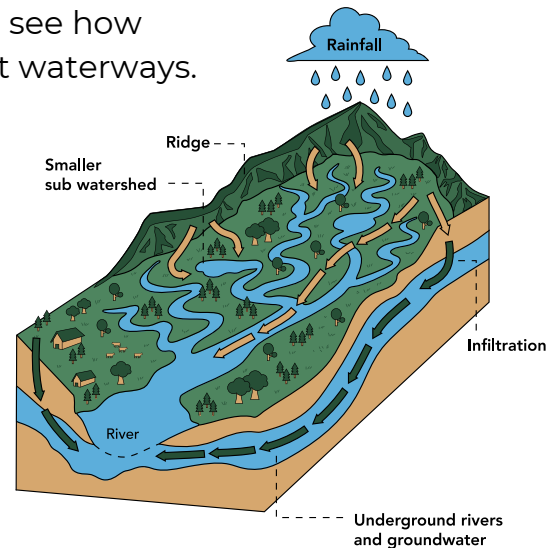
Objective: You will create a model watershed to see how human activity and pollution, like nurdles, effect waterways.

Materials

- Paper
- Markers (blue and red)
- Spray bottles with water
- Tape
- Baking tray or shallow pan (optional)

Steps

1. Make you land: Take a sheet of white paper and gently crumble it to create mountains, valleys, and hills.
2. Add water paths: Use a blue marker to color the tops of ridges and peaks where water will flow.
3. Add human activity:
 - Draw a factory where nurdles are made.
 - Draw a railroad or road leading to the ocean.
 - Add a truck and ship carrying nurdles.
 - Use red to show nurdles, including spilled nurdles along the transport routes.
4. Secure your paper: Tape the edges of the paper to the table or pan so it stays in place.
5. Simulate rain: Spray water over your model to see how water flows and how nurdles move.



Observations

- Water flow: Where does the water go?
- Nurdle Movement: Where do the nurdles collect?

Think About It

- How can a factory or people living far from the ocean still affect rivers, streams, and the sea?
- What happens when tiny pieces of plastic, like nurdles, get into the water?
- How do people's actions change the plants, animals, and water in a watershed?
- Talk about what you've seen or know from your own community.