Classroom Activity: Microplastics in Our Oceans

Initial Knowledge Assessment (10 minutes)

Before we begin our investigation into microplastics, let's assess what we already know:

1. What do you think microplastics are? Draw and label what you imagine they look like.

2. List three everyday products that you think might contain microplastics:

3. How do you think microplastics might reach our beaches?

Scientific Investigation Setup (20 minutes)

Materials Needed per Group:

- 3 sand samples from different areas of the beach
- Magnifying glass
- White paper
- Tweezers
- Recording sheet

Record your observations in the table below:

Sample Location	Color of Particles	Approximate Count	Type (if known)
Sample 1			
Sample 2			
Sample 3			

Impact Analysis (25 minutes)

Based on your findings and class discussion, complete the following:

1. Marine Life Impact Chain:

Draw a diagram showing how microplastics move through the marine food chain, starting with small organisms:

2. Human Connection:

Explain three ways these microplastics might eventually affect human health:

1.
2.
3.

Solution Development (30 minutes)

Group Challenge: Design an Innovation

Work with your team to design a solution that could help reduce microplastic pollution. Consider:

- Prevention methods
- Cleanup technologies
- Alternative materials

Use this space to sketch and describe your innovation:

[Design Space]

Explain your solution:

1. How does it work?

2. What problem does it specifically address?

3. What materials would be needed?

Personal Action Plan (15 minutes)

Create Your Weekly Microplastic Reduction Plan:

Day	Action	Expected Impact
Monday		

Wednesday		
Friday		

Community Outreach Project (45 minutes)

Create an Awareness Campaign

Design materials to educate your community about microplastic pollution:

1. Design a Catchy Slogan:

2. Create an Infographic:

Include these key elements:

- Statistics about microplastic pollution
- Sources of microplastics
- Impact on environment
- Solutions and actions

[Infographic Design Space]

Data Analysis and Presentation (30 minutes)

Using the class data collected from all groups, create visual representations:

1. Create a Bar Graph:

Compare microplastic counts across different sample locations

[Graph Space]
Y-axis: Number of microplastic particles
X-axis: Sample locations

2. Analyze Class Results:

1. What patterns did you observe in the data?

2. Which location had the highest concentration of microplastics and why might this be?

3. What conclusions can you draw about microplastic distribution?

Final Reflection and Assessment (20 minutes)

Knowledge Growth Assessment:

Compare what you know now with your initial thoughts:

What I Thought Before	What I Know Now

Future Actions:

List three specific changes you will make in your daily life to reduce microplastic pollution:

1.
2.
3.

My Commitment to Change:

I, _____, commit to making these changes starting from _____ (date)

Signature: _____