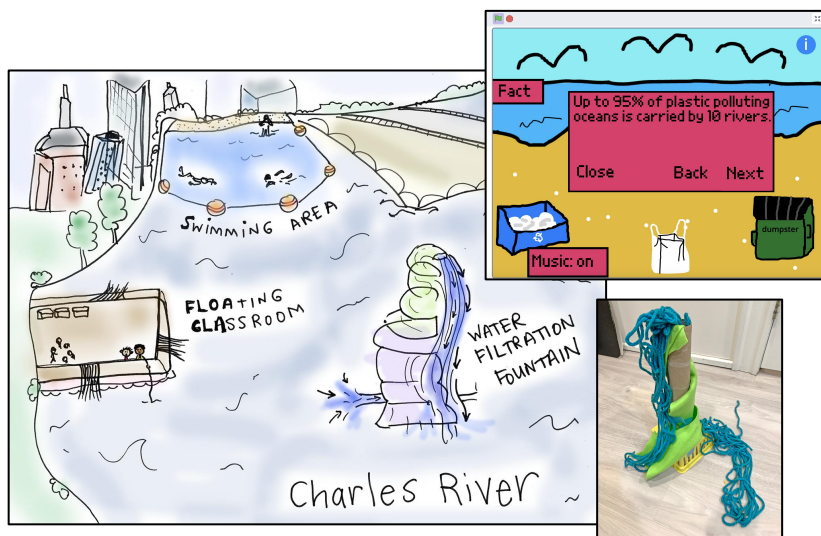# From Prototypes to Public Service Announcements

Exploring Creative Problem Solving

Cards in This Pack

- Project Message

- Prototype Your Solution

- Code Your Sprite

- Scratch Project Inspiration / Reflection

Combine with other cards like "Imagine a World" or "Create a Story" to learn how to animate your sprites!
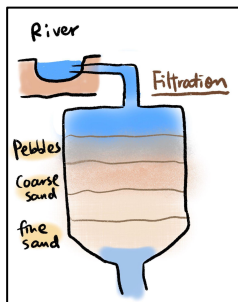
Project Message

1. **Identify** a real world problem.

2. **Imagine** a world where the problem is solved: What would it look like, feel like, sound like, etc.?

3. **Research** the problem.

4. **Brainstorm possible solutions**.

SCRATCH

Possible Places to Research:

- Kiddle Safe Search
  https://www.kiddle.co

- Global Goals Project Podcast
  https://www.globalgoals.org/podcast

- Interview a Community Member
  https://www.climatehubs.usda.gov/sites/
  default/files/Interview--Lesson%20plan.pdf
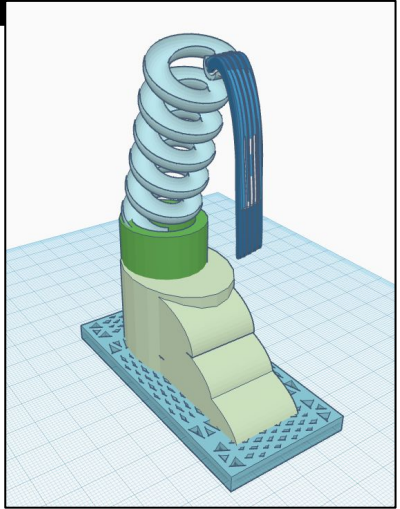
Choose one of your solutions to explore.

Water Filtration System Drawing
Image Source: Tracy Tang

Petition for Awareness Scratch Project
Image Source: @shoothoops00

SCRATCH

Prototype Your Solution

Options:

- **Unplugged**: Use art materials and recyclables to create your prototype

- **Digital**: Use applications like Tinkercad

- **Digital:** Use the Scratch paint editor

Example solutions shown above: unplugged and Tinkercad versions of a water filtration fountain.

SCRATCH

Prototype in Scratch

- Open scratch.mit.edu

- Choose "Create"

- Design your own solution by drawing sprites and backdrops

    - use the paint editor tools

    - upload photos of your prototype

    - remix available sprites

- Consider adding a narrator sprite(s) to share information

- Consider adding sounds related to your prototype
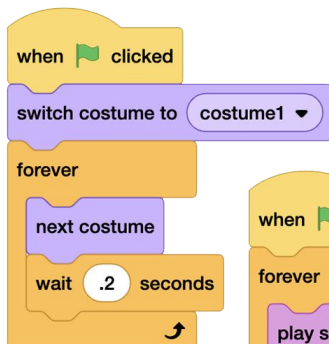
Code Your Sprite

Options:

- Create an **informational project**.

- Create a **story with characters** and your prototype as a background.

- **Animate elements** or **add interactivity**.

Example project scratch.mit.edu/projects/725319255 by pixelmoth

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SCRATCH

Code Your Sprite

scratch.mit.edu

IDEAS TO TRY

```
when 🚩 clicked
switch costume to (costume1 ▼)
forever
    next costume
    wait (.2) seconds
```

```
when 🚩 clicked
forever
    play sound (Water Drop ▼) until done
    wait (pick random (2) to (6)) seconds
```
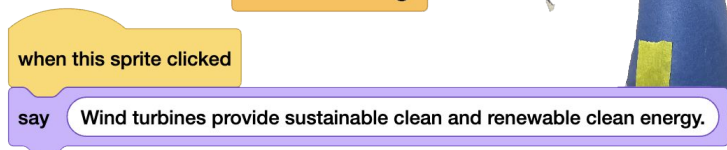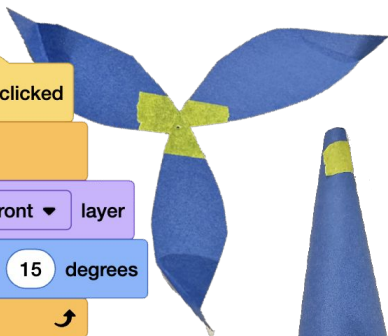
Combine photos and vector shapes to create multiple costume changes.

Add sounds or voice recordings with information.

Add animations, like turning or moving or color changes.

Use "say" or "speak" blocks to communicate information.

```
when 🚩 clicked
forever
    go to (front ▼) layer
    turn ↻ (15) degrees
```

```
when this sprite clicked
say (Wind turbines provide sustainable clean and renewable clean energy.)
```
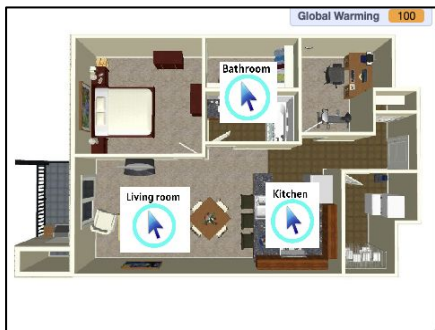
Scratch Project Inspiration

Plastic Pollution Simulation
By Action_project

Help Save the Earth!
By Maltese_Falcon

Graffiti Public Service Announcement
By NutMeg_Coder

Global Warming Simulation
By Owen-Wong

Reflection

- Step back and examine the process:

    - What have you learned about the problem?

    - Where did you get stuck?

    - How did you get unstuck?

- What would you change about your solution? Have others explored a similar real world problem? What was their solution? If you've learned new information, how might you iterate on your solution?

- What is something you are looking for feedback on?