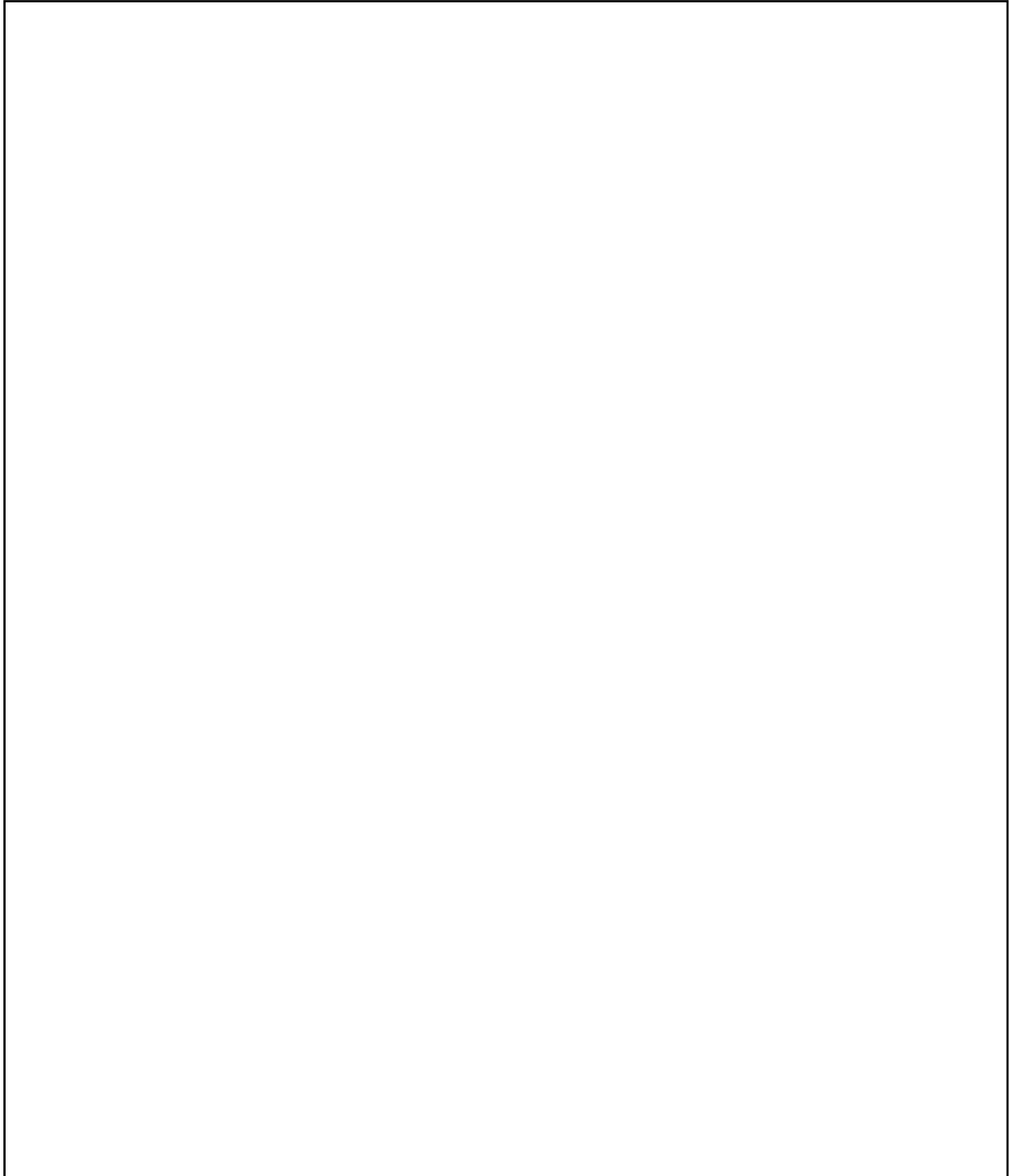


The Problem: Ocean Plastic Pollution

Draw a picture of ocean plastic pollution and its harmful effects on marine life.
Add labels and speech bubbles for extra details.



Ocean Plastic Pollution

Three things you KNOW:

1. _____
2. _____
3. _____

Three things you WONDER:

1. _____
2. _____
3. _____

Three things you LEARNED:

1. _____
2. _____
3. _____

Engineering Design Challenge



STEP 1: ASK

How can we make recycling plastic bottles fun and sustainable at our school?

Specifically, how can we design a FUN collection container that makes people WANT to recycle plastic bottles?

Criteria:

- The container must fit over the provided 14-gallon bin.
- It must have at least one opening for the plastic bottles.

Constraints:

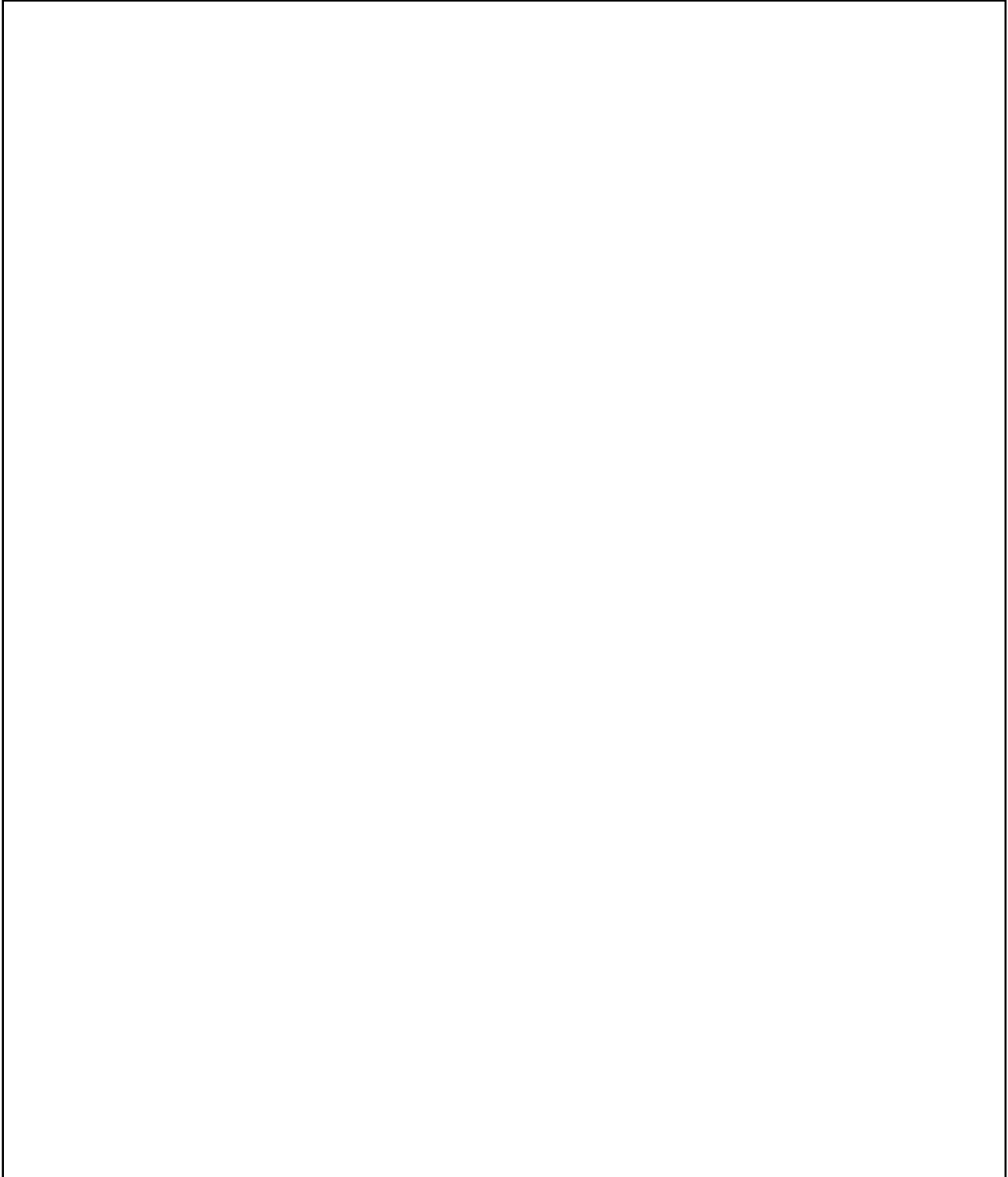
- The container must be built using only the provided materials.
- Its dimensions cannot exceed 3-4 feet.

STEP 2: IMAGINE

Brainstorm different ideas with your peers. Then draw and label one idea below.

STEP 3: PLAN

Work with your team members to design a fun plastic bottle recycling-container.
Draw and label your team's final design plan below.

A large, empty rectangular box with a thin black border, intended for students to draw and label their final design plan for a plastic bottle recycling container.

List the materials that you will need to build the final container:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

Reflection:

How will your team's design make it fun for people to recycle plastic bottles?

STEP 4: CREATE

Work with your team to build a cardboard prototype of your recycling container using your design plan as a reference. As you build, remember to test your container often to see if it functions correctly. If not, make changes as needed.

Reflection:

What was the hardest part about building the cardboard prototype? Why?

As you tested the cardboard prototype, what structural changes did you have to make for it to function correctly?

Compare your cardboard prototype to the original design plan. Are they similar or different? Explain your answer.

STEP 5: IMPROVE

Work with your team to build and decorate a final, more durable, recycling container using your cardboard prototype as a reference.

Reflection:

What was the hardest part about building the final container? Why?

Describe how you improved the container from the cardboard prototype.

What further improvements would you make if you had more time or resources?
