

# Unit Project

 small groups  45–60 minutes

## Reuse a Milk Carton

There are many ways to complete this Unit Project. The steps and Suggested Materials indicate one way to complete the investigation. Encourage children to come up with their own ideas for how to reuse a milk carton. If children decide to follow another process to complete their investigation, be sure to review each group's plans before the children begin. Provide guidance for groups that may have strayed off topic. Be sure to review each group's plan before they begin. This Unit Project supports content in Lesson 2.

### 3D Learning Objective

#### SEP Engaging in Argument from Evidence

Explore various ways to reuse a milk carton. Collect data to use as evidence to answer a question. Construct an argument using evidence to support a claim.

### Skills and Standards Focus

This project supports building student mastery of **Performance Expectation K-ESS3-3.**

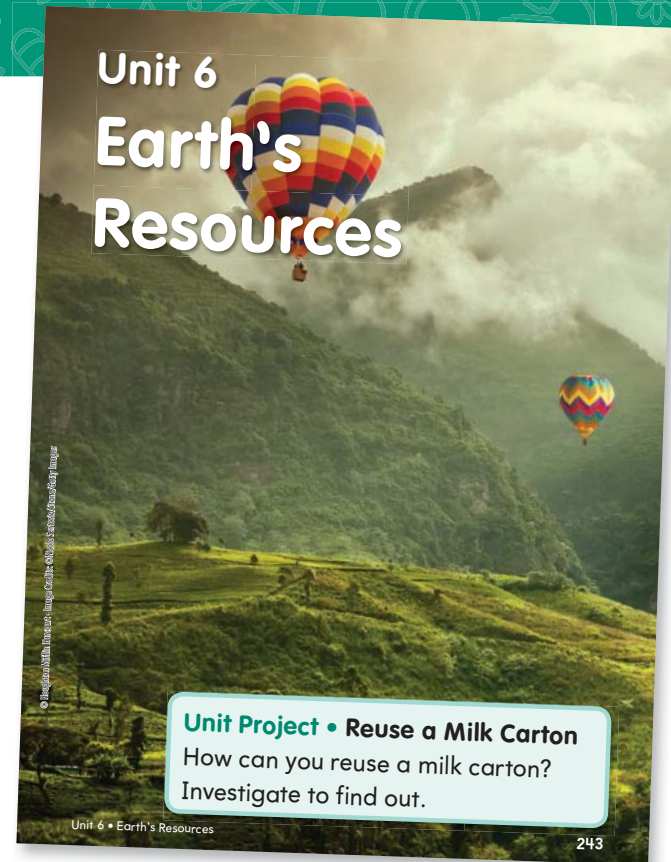
- SEP** Engaging in Argument from Evidence
- SEP** Obtaining, Evaluating, and Communicating Information
- DCI** **ETS1.B** Developing Possible Solutions
- DCI** **ESS3.C** Human Impacts on Earth's Systems
- CCC** Cause and Effect

### Suggested Materials

- empty, rinsed milk carton
- colored paper
- crayons
- string
- paint or markers
- safety scissors

### Preparation

Have enough milk cartons and bundles of colored paper and other materials prepared in advance for each group of children. Suggest that children draw lines to mark where they want to cut the carton. Before they begin cutting, remind children to check the marks they made against their sketches. Have a large paper bag next to each group where they can put their scrap paper. Before beginning the project, review with children the reason why reusing objects helps save resources.



## Differentiate Instruction

**Extra Support** Children can be provided with two to three different predetermined ways to reuse a milk carton. They can then choose how they want to go forward to reuse their milk carton.

**Extension** Provide children with constraints before they decide on how to reuse the milk carton. Examples of constraints could be that you must cut a hole in the bottom of the milk carton or that you can reuse the milk carton as a container.



## Unit 6 Project Reuse a Milk Carton

Name \_\_\_\_\_

How can you reuse an empty milk carton? Can you think of two different ways to use one? Write or draw your ideas below. Then choose one. Plan and conduct an investigation to show how to use an empty milk carton.

Children should write or draw two ways to reuse a cardboard milk carton.

### Materials

Draw and label the materials you will need.

Children should draw and label materials. The following are possible materials children can use for this investigation: cardboard milk carton, colored paper, crayons, string, paint, markers, safety scissors.

# Unit 6 Project

## Reuse a Milk Carton

### SEP Obtaining, Evaluating, and Communicating Information . . . . .

Pose the unit project question to children. Encourage them to think of two ways to demonstrate how to reuse an empty milk carton. Discuss all the ideas as a class. Have children choose one to investigate.

In the sample investigation shown, children use an empty milk carton to make a container that holds objects such as pencils and markers.

Children will rinse the empty milk carton with water and then draw a sketch of their plan for how to reuse the carton. Then children will cut the carton to the desired shape. **Ask:** How will your sketch help you know how to cut the carton? I can use the sketch to know where to cut the carton and how it should look after it's been cut.

**ESSENTIAL QUESTIONS** Prepare children for their project by asking the following questions.

- How can you reuse a milk carton?
- What evidence can you collect to show the milk carton has been reused?
- What cause-and-effect relationship will occur when you make a way to reuse the milk carton?

**Ask:** Why is it important to reuse objects when possible? What effect does reusing objects have? Reusing objects is a way to help save resources. When I reuse a milk carton as a container to hold things, I will not be using resources needed to make a new container.

## Steps

Have children talk with a partner about how to carry out their investigation. Have partners share their ideas with the class.

### DCI Human Impacts on Earth's Systems. . . . .

Before beginning the investigation, have children describe the resources used to make containers such as the one they will be making.

**Ask:** What materials are used to make containers? **Answers may vary to include wood, plastic, ceramic.** How does reusing something to make your own container help save natural resources? **New resources are not used to make the container.**

Tell children to feel free to revise their sketches as they work on making a container from the milk carton. At the end of the investigation, children will need to be able to demonstrate how their container can be used. Children should record their observations using words and pictures.

## Data

Have children talk with a partner about the natural resources they saved by reusing the milk carton to make a container.

### DCI Developing Possible Solutions. . . . .

**Ask:** How did you reuse the milk carton? How did you save resources? **Children should describe what they made from the milk carton and how it can be used. They should explain that they saved resources because new resources were not used to make the container.**

### CCC Cause and Effect. . . . .

Review with children that a cause is why something happens and an effect is what actually happens. **Ask:** Why do you think what you made helps save resources? **No new resources were used to make the container.** Refer children to Lesson 2 Engineer It • How Can We Save Natural Resources?

## Steps Write the steps you will do.

Answers may vary but should reflect a logical order of steps in the investigation. Sample steps listed:

1. Rinse the milk carton with water.

2. Draw a sketch of your plan for the carton.

3. Cut the carton to the right shape.

4. Decorate the carton.

5. Show how to use the carton.

## Data

Record your data.

Answers and drawings may vary but should reflect a way to reuse a milk carton.

## Analyze Your Result

Look for patterns in your data.

## Restate Your Question

Answers should identify the question children initially chose at the beginning of the investigation.

## Claims, Evidence, and Reasoning

Make a claim that answers your question.

Answers should describe how a milk carton can be reused.

Review the data. What evidence from the investigation supports your claim?

Answers should cite evidence from the investigation to support the idea that reusing a milk carton helps save resources.

Discuss your reasoning with a partner.

## Analyze Your Results

Have children analyze their data. Elicit from them any patterns they noticed. Encourage them to share their data with the other groups in order to compare results. **Ask:** How did you reuse the milk carton? I used the milk carton to create a container.

## Claims, Evidence, and Reasoning

Children should understand that reusing objects helps save natural resources. They should cite evidence to support their claims by using drawings and written notations.

**Ask:** What claim can you make? I can claim that I helped save resources. **Ask:** How does your evidence support your claim? My evidence supports this because I was able to reuse the milk carton to create something new without using additional natural resources.

## SEP Engaging in Argument from Evidence . . . . .

Review with children what it means to make a claim. Guide them to understand that the data they collected will be used as evidence to support their claim. **Ask:** What can you use as evidence from your investigation? the data collected, such as the drawings and writings

### Scoring Rubric for Unit Project

3	States a claim supported with evidence that reusing objects helps save natural resources
2	States a claim somewhat supported with evidence that reusing objects helps save natural resources
1	States a claim that is not supported by evidence
0	Does not state a claim, and does not provide evidence