



WHERE DO APPLES GO?

A story about the nature of materials



Teacher's Guide

Grade: K - 2

Lesson: Where Do Apples Go?

Number of Class Periods: Three 45-minute periods



The TerraCycle Curriculum Series was co-created by The Cloud Institute for Sustainability Education and Learner-Centered Initiatives.



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LESSON: Where Do Apples Go?

Standards

McCrel National Standards

Geography – Environment and Society Level I (K-2)

Standard 14: Understands how human actions modify the environment

1. Knows ways in which people depend on the physical environment (e.g., food, clean air, water, mineral resources)

Mathematics - Level I (K-2)

Standard 6: Understands and applies basic and advanced concepts of statistics and data analysis

2. Understand that one can find out about a group of things by studying just a few of them

Language Arts - Level I (K-2)

Standard 8: Uses listening and speaking strategies for different purposes.

1. Makes contributions in class and group discussions (e.g., reports on ideas and personal knowledge about a topic, initiates conversations, connects ideas and experiences with those of others)
2. Asks and responds to questions (e.g., about the meaning of a story, about the meaning of words or ideas)

EfS Standards (add performance indicators and narratives if applicable)

F 7e: There are materials that are made by Nature and materials that are made by people (Entry Level students distinguish between Nature-made and man-made materials as a first step to understanding how materials cycle)

G 6: Turn a problem into an opportunity to make positive change (entry level students turn a problem into an opportunity by inventing a new use for the man-made material)

EfS Enduring Understandings

EU9 – Read the feedback (pay attention to the results of our behavior over time)

EU11 – Live by the Natural Laws (Work with the rules of Nature)

EU12 We are all responsible (Nature takes responsibility for what it makes; people are responsible for what we make)



LESSON SUMMARY

This lesson wraps itself around the reading and discussion of a book about a little girl who learns about the materials cycle. Students are then engaged in a sorting and categorizing exercise to look at the similarities and differences between materials made by nature and materials made by people. The lesson ends in a design opportunity.

OVERARCHING QUESTION

How can we make beautiful things out of what we don't want anymore?

GUIDING QUESTIONS

WHY WOULD SOMEONE THROW FOOD OR WRAPPING ON THE GROUND?

WHAT WOULD HAPPEN IF EVERYONE DID THIS?

WHAT DOES YOUR FAMILY DO WITH FOOD SCRAPS?

WHAT DOES YOUR FAMILY DO WITH MATERIALS LIKE WATER BOTTLES, CANS OR WRAPPING?

HOW DID MARIA KNOW THAT SOMETHING STRANGE WAS HAPPENING TO THE APPLE? (EU 9)

WHAT WAS HAPPENING TO THE GRANOLA WRAPPER? (EU 9)

WHY WAS MARIA CONFUSED BY WHAT SHE SAW HAPPENING TO THE APPLE AND THE GRANOLA BAR? (EU 9)

WHERE DID THE APPLE GO? (EU 9)

WHAT IMPORTANT LESSONS DID MARIA LEARN BY THE END OF THE STORY? (EU 9, 11, 12)

HOW DO YOU THINK MARIA AND HER FRIENDS FELT AT THE END OF THE STORY? (EU 11, 12)

RESOURCES/MATERIALS FOR THIS LESSON:

- Copy of the book Where Did the Apple Go? (provided)
- Various samples of Nature-made and man-made items (see list in the lesson)

LEARNING OPPORTUNITIES, ACTIVITIES, AND PROCEDURES

DAY 1

1. Teacher reads story WHERE DO APPLES GO? And discusses with students.

Some possible guiding questions:

Why would someone throw food or wrapping on the ground?

What would happen if everyone did this?

What does your family do with food scraps?

What does your family do with materials like water bottles, cans or wrapping?

How did Maria know that something strange was happening to the apple? (EU 9)

What was happening to the granola wrapper? (EU 9)

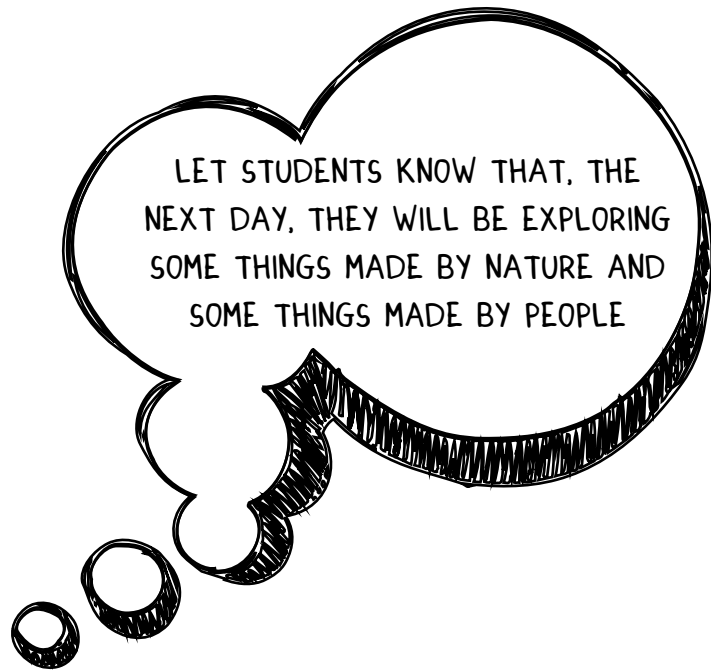
Why was Maria confused by what she saw happening to the apple and the granola bar? (EU 9)

Where did the apple go? (EU 9)

What important lessons did Maria learn by the end of the story? (EU 9, 11, 12)

How do you think Maria and her friends felt at the end of the story? (EU 11, 12)

2. Let students know that, the next day, they will be exploring some things made by Nature and some things made by people.



DAY 2

1. In small groups of three or four, students explore a variety of materials, some from Nature and some from humans.

Suggested items:

A. Made by Nature



Fruits &/or vegetable.



Soil, rocks



Flowers, plants, leaves



Water (glass of water, picture of ocean or lake)

B. Made by People



Plastic water bottles (personal and gallon)

Car



Candy wrapper

Can



Jar

Cell phone



Glasses

Plastic straw



2. They are asked to sort the materials into two categories: Made by Nature and Made by People
3. Each group presents their clusters and explains their reasoning for the way that they categorized.
4. Groups then analyze the categories by responding to the questions:
 - A. What is the same about both categories?
 - B. What is different about the two categories?

DAY 3

Each group chooses one item from the Made by People category and proposes ways of reusing or recycling it. They present their ideas to the class for feedback and then select one idea to actually implement.

INSTRUCTIONAL/ENVIRONMENTAL MODIFICATIONS/DIFFERENTIATED STRATEGIES

Students who need more precise supervision or extended guidance could work directly with the teacher or assistance.

EFS ASSESSMENT/SCORING CRITERIA

What do I need to collect or administer to prove that students have grown towards and/or achieved desired outcomes/standards?

EfS/National Standard	EfS Indicators/National Benchmarks	Assessment Instrument	Scoring Criteria
F Healthy Laws and Principles	F7	Sorting and comparison activity	Students distinguish between Nature-made and man-made materials as a first step to understanding how materials cycle
G Inventing and Affecting the Future	G6	Innovation – different use for an object made by man	Students turn a problem into an opportunity by inventing a new use for the man-made material
Geography Level 1 Standard 14	1	Story discussion; responses to category analysis activity	Students can explain or discuss how people depend on/use apples and other food that is grown (or created by Nature)
Mathematics Standard 6 Level 1	2	Categorization activity, including student explanations of groupings as well as category analysis	Students can explain characteristics of a group of things based on the examination of a few items from that group
Language Arts Level 1 Standard 8	1	Discussions related to book and category activity;	Students contribute to class discussions
	2	Discussions related to book and category activity; giving and receiving feedback about recycling proposal	Students can pose appropriate questions and respond appropriately to questions asked

Teachers can monitor student engagement with, and understanding of the enduring understandings by focusing on students' responses to questions identified with an EU.