A Supply Chain

Students explore supply chains by identifying a supply chain process for a candy bar from raw materials to the end consumer.

GRADES
9 - 12+

SUBJECTS
Geography, Human Geography, Social Studies, Economics

CONTENTS
1 Link, 1 Video

OVERVIEW

Students explore supply chains by identifying a supply chain process for a candy bar from raw materials to the end consumer.

For the complete activity with media resources, visit:
http://www.nationalgeographic.org/activity/a-supply-chain/

Program

DIRECTIONS

1. Introduce the concept of a supply chain.
   Explain to students that a supply chain is a network of people and activities that help move a product from start to consumption by the end user. Encourage students to think about how
the complexity of a supply chain might vary for different types of products; for example, produce that is sold at a farmers market versus a CD that is sold at a store.

2. Explore a real-world example.
Ask students to help identify the various materials needed to make a candy bar. Write the ingredients on the board as individual students think of them. Ask students to pinpoint on a wall map of the world where the materials come from. They can use a print or online encyclopedia, as needed. Use the following list as a guide:

- Cocoa—West Africa, Central and South America, and parts of Asia
- Nuts—worldwide, depending on the type of nut
- Aluminum Foil (for wrapper)—West Indies, North America, and Australia
- Sugar—Brazil (primarily), India, and China
- Paper (for wrapper)—North America
- Raisins—California, Turkey, Chile
- Milk—United States
- Corn Syrup—United States, Europe, Brazil, and Mexico
- Vanilla—Madagascar, Indonesia, China, and Mexico

3. Have pairs of students sketch the supply chain.
Divide students into pairs and provide them with drawing paper. Have pairs of students sketch out a supply chain process for a candy bar, using the list of materials the class brainstormed.

4. Have pairs of students explain their work.
Ask each pair to briefly present their drawing and explain their thinking to the class. Highlight the key supply chain stages by writing them on the board as students say them and drawing arrows between them. Key stages include:

- Supply—raw materials supplied to manufacturing
- Manufacturing—focuses on building, assembling, converting, or furnishing these raw materials into finished products
- Distribution—focuses on ensuring these products reach consumers through an organized network of transporters, warehouses, and retailers
- Consumption—customers
5. Revisit the discussion from Step 1 about complexity.

Point out to students that the diagram you drew is an example of a very simple supply chain for a single product, where raw material is acquired from suppliers, transformed into finished goods in a single step, and then transported to distribution centers, and ultimately, customers. Explain that a typical supply chain is likely to be much more complex, involving many interchanges among the different stages and players. Remind students of the example of produce versus a CD. Ask them to sketch a more complex supply chain to make sure they understand the concept.

Extending the Learning

If possible, have students visit the Illicit website or watch the National Geographic film *Illicit: The Dark Trade*. An excerpt of the film is provided in this activity. Go to the PBS website to find out where you can get the full DVD.

OBJECTIVES

Subjects & Disciplines

- Geography
  - Human Geography
- Social Studies
- Economics

Learning Objectives

Students will:

- describe and sketch a real-world example
- explain how supply chains can grow in complexity

Teaching Approach

- Learning-for-use

Teaching Methods
• Discussions
• Hands-on learning

Skills Summary

This activity targets the following skills:

• Critical Thinking Skills
  • Analyzing
  • Remembering
  • Understanding
• Geographic Skills
  • Acquiring Geographic Information
  • Organizing Geographic Information

National Standards, Principles, and Practices

NATIONAL GEOGRAPHY STANDARDS

• **Standard 11:**
The patterns and networks of economic interdependence on Earth's surface

VOLUNTARY NATIONAL CONTENT STANDARDS IN ECONOMICS

• **Standard 3: Allocation of Goods and Services:**
Different methods can be used to allocate goods and services. People acting individually or collectively through government, must choose which methods to use to allocate different kinds of goods and services.

Preparation

What You’ll Need

MATERIALS YOU PROVIDE

• Drawing paper
• Encyclopedias (online access or hard copies)
• Pencils
• Pens
• Wall map of the world

REQUIRED TECHNOLOGY

• Internet Access: Optional
• Tech Setup: 1 computer per classroom, Projector, Speakers
• Plug-Ins: Flash

PHYSICAL SPACE

• Classroom

GROUPING

• Large-group instruction

RESOURCES PROVIDED: WEBSITES

• PBS: Illicit—The Dark Trade

RESOURCES PROVIDED: UNDEFINED

• Illicit: The Dark Trade

BACKGROUND & VOCABULARY

Background Information

Supply chains consist of a network of people and activities that help move a product from start to consumption by the end user.

Prior Knowledge

Recommended Prior Activities
<table>
<thead>
<tr>
<th>Term</th>
<th>Part of Speech</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>consumer</td>
<td>noun</td>
<td>person who uses a good or service.</td>
</tr>
<tr>
<td>distribute</td>
<td>verb</td>
<td>to divide and spread out materials.</td>
</tr>
<tr>
<td>manufacture</td>
<td>verb</td>
<td>to make or produce a good, usually for sale.</td>
</tr>
<tr>
<td>supply</td>
<td>verb</td>
<td>to provide a good or service.</td>
</tr>
<tr>
<td>supply chain</td>
<td>noun</td>
<td>processes involved in the production or manufacture of a good or service.</td>
</tr>
</tbody>
</table>

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