WHERE DOES IT COME FROM?

CFE 3324V

OPEN CAPTIONED
NATIONAL GEOGRAPHIC
SOCIETY
1993
Grade Levels: 3-5
20 minutes
DESCRIPTION

Where do things come from? Detectives Backhoe and Trowel find the answers when a client asks about paper and blue jeans. Shows how paper is made from trees and how blue jeans are manufactured from cotton fibers. Demonstrates how pizza is created from other foods. After solving these mysteries, the young detectives go home.

INSTRUCTIONAL GOALS

- To suggest that forming a good question aids information searches.
- To observe the sequence of events involved in producing paper and denim.
- To depict the steps for creating a pizza from a combination of other foods.

BEFORE SHOWING

1. Read the CAPTION SCRIPT to determine unfamiliar vocabulary and language concepts.
2. Provide posters, charts, and nonfiction texts to explore how everyday items are made or where they come from.
3. Select an object such as a wristwatch or a telephone.
   a. Try to describe how the object works.
   b. Name the raw materials used to make it.
4. Introduce the video title “Where Does It Come From?” and predict what the video may be about.
5. Write Backhoe’s comment on the board: “If you don’t know something, ask a good question.” Explain also that the characters pretend to be detectives, and discuss the role of this type of investigator.
6. Explain that the characters will answer three questions:
   a. Where does paper come from?
   b. Where do blue jeans come from?
   c. Where does pizza come from?
AFTER SHOWING

Discussion Items and Questions

1. What is the role of a private investigator or detective? Why is forming a good question important?
2. Review the segments showing the entire processes for making paper, jeans, and pizza. Model using transition words such as first, then, next, after that, also, and finally to discuss these sequences.
3. Highlight the sequence of events as a tree becomes a piece of paper.
4. Why do lumberjacks pick the older trees to cut? How is the planting of new trees related?
5. Predict how much an average elephant weighs. Note that the machine lifting the paper roll weighs the same amount.
6. Describe the process of making denim. Discuss why denim costs so much in some countries. Determine why denim is a great product to use for blue jeans.
7. Where is wheat grown? What is the difference between white bread and whole-wheat bread or white dough and whole-wheat dough? Are both made from wheat?
8. Do all pizza parlors grate their own cheese? What is an alternative?
9. Describe the clothing of the cheese factory employee. Explain why his uniform is different from the clothing worn by the factory workers making blue jeans.
10. How is making a pizza like making pants or paper? How is the process different?

Applications and Activities

1. Research ancient materials used as paper, such as rocks and animal hides. Investigate the evolution of paper. Use adding machine tape to record a time line summary.
2. Simulate papermaking in the classroom. Research the process for making recycled paper by hand which uses screens and used newsprint.

3. Review the industrial sewing segments in the video.
   a. Research sewing vocabulary and safety procedures for machines used at home.
   b. Invite guests to demonstrate skills and products they have sewn.
   c. Sew simple denim items such as drawstring purses, pillows for the classroom, dolls for a nearby hospital, or cooking and woodshop aprons.

4. Host a “What’s Hot, What’s Not” fashion show. Model the latest in jeans, denim wear, and accessories. Write descriptions to accompany the garments and the models and to create a related fashion brochure.

5. Design a bulletin board display to compare blue jean prices.
   a. Cut out advertisements from catalogs, newspaper advertisements, and inserts.
   b. Visit local establishments to obtain style and price information.
   c. Conduct phone interviews to determine local style preferences.
   d. Compare department stores, boutiques, mail-order, and used clothes shop prices.

6. Partake of a Make-Your-Own Pizza. Before the party, learn the names and signs for a variety of pizza toppings and crust choices. Bake and enjoy.

7. Research yeast and its use in other products. Make yeast rolls or pizza dough from scratch to observe the dough over time as it rises. Write in observation journals.

8. Plan a trip to the nearest grocery. Compare fresh pizza ingredients such as tomatoes, mushrooms, and onions to their frozen and canned alternatives.

   a. Write letters of inquiry in advance.
b. Use a video camera to capture the sequence of pizza preparation from start to finish.
c. Review the segment and write an accompanying narrative.

10. Take a trip to a local fabric store.
a. Compare cottons, wools, synthetics, and other materials used for garments.
b. Obtain swatches of each material to create a classroom display.
c. Read a variety of garment tags to learn about washing instructions. Compare the care of 100% cotton with that of synthetics.

11. Use an atlas and the appropriate products maps.
a. Locate major producers of cotton clothing, synthetics, and a variety of paper products.
b. Investigate information about importing and exporting.
c. Relate pricing information to supply and demand.

12. Prepare How-to speeches. Demonstrate the preparation of a favorite recipe. Later, engage in wrap-around storytelling to review the sequence of steps. Switch speakers with each transition word.

13. Recall the scene which shows Terry using the encyclopedia to locate information about paper.
a. Find the encyclopedia in the classroom or library. Locate the word paper. Also find the cross references at the end of this encyclopedia entry.
b. Use a CD-ROM electronic encyclopedia to find the same information.
c. Conduct a search on the World Wide Web (WWW). Demonstrate how to narrow or limit the WWW search to match the video use of the word paper.

COMMUNICATION SKILLS

1. Practice new vocabulary using all appropriate modes of communication.
2. Review Terry’s comment “Yes, Barney, my amigo-type friend.”
   a. Note the humorous tone. Find other uses in the CAPTION SCRIPT such as good buddy, old chum, old acquaintance, my companion, and old neighbor-type ally.
   b. Learn the word friend from several other languages, such as ami in French, freund in German, amico in Italian, tomodachi in Japanese, and druk in Russian.
   c. Discuss the meaning of environmentally friendly methods with regard to the way paper, cotton, and other products are made.
3. Explore the meaning of the adage “Do you think money grows on trees?” that is used in the video’s opening.
4. Discuss Tony’s idiomatic use of “There’s more to pizza than meets the eye.”
5. Discuss the use of hyphens in Nicky Noble’s dialogue. Explain the urgency implied by his telegraphed speech. Relate how broken sentences influence speechreading.
6. Teach the use of de-, for the debarker, to denote motion down, away from, or off. Compare decompose, degenerate, decay, and dehydrate.
7. Investigate the humorous use of the names Backhoe and Trowel. List other funny names for detectives who must be prepared to do some digging.

WEBSITES

Explore the Internet to discover sites related to this topic. Check the CFV website for related information (http://www.cfv.org).
CAPTION SCRIPT

Following are the captions as they appear on the video. Teachers are encouraged to read the script prior to viewing the video for pertinent vocabulary, to discover language patterns within the captions, or to determine content for introduction or review. Enlarged copies may be given to students as a language exercise.

[mysterious music playing]

(boy)
It might have been
a dark and gloomy night,
and I might
have been working late
with my assistant,
Terry Trowel,
except I'm not allowed out
after dark.

[glass shatters]
But let's say
I was working late
at the office.
My assistant,
Terry Trowel--
somebody almost as smart
as I am--
and I were putting
the finishing touches
on another solved mystery.
So you're telling me
that I, Barney Backhoe,
a very sharp
and clever detective,
was wrong again?
You mean,
Terry, old pal,

money does not
grow on trees?
No, Barney.
It never did.
The government
prints paper money
and makes coins
at the mint.

Amazing.

Well, it just goes to show:
if you don't know something,
ask a good question.

Those answers
are amazing.
Yes, Barney...

my amigo-type friend.

[telephone rings]
brrrring
Backhoe and Trowel,
private eyes--
experts at finding
where things come from.

Yes.
Yes.

Come right over.
Who was that?
A client.
He said
he'd be right over.
[knocking]
Who's that?
The client.
He's here.
Come in.
Thank goodness
you're here late tonight.
My name
is Nicky Noble.
Tomorrow morning,
show-and-tell,
I promised
I'd be able to tell
where paper comes from.
Ha!
That's easy.
The stationery store.
Ah, do you mean
a newspaper
or writing paper?
Any kind of paper!
Mr. Backhoe,
please!
I'm desperate!
(Barney)
As I said...
What Nicky means is...
where does it come from?
The stationery--
I need to know
how it's made.
Where does it
come from?
Aah...gotcha.
[buzzing]
Bzzzz...
We have ways
of finding out.
[buzzing]
Bzzzz...
We usually
look it up
or ask somebody.
I've got
to aim better.
No fly...nothing.
Just bits of paper.
I wonder where paper
comes from.
Paper, paper...
Here it is.
"Paper is thought
to have been invented
thousands
of years ago.
(Terry reading)
"Paper is usually
made from wood,
"which, of course,
comes from trees.
"Lumberjacks
with powerful machines
"cut down older trees
"growing in forests
or on tree farms.
"Young trees
are left to grow,
and new trees are planted to become a future supply of wood. After they are cut, trees are dragged from the forest and sawed into logs. The best logs are sent to a lumbermill to be made into building materials or furniture. Other logs are taken to a paper mill. Logs are lifted into the mill and enter the debarker. Tree bark is not needed for making paper. It is scraped off the logs. Logs are moved to the chipper, where they are broken into woodchips. Woodchips are mixed with water and chemicals and heated. The chemicals and heat break the woodchips into small fibers. Fibers are mixed with more water to make a thick liquid called wood pulp. Wood pulp is sprayed onto a fast-moving wire screen. Most of the water in the pulp drains through the wire screen, leaving behind a thin mat of wood fibers. The mat is wet and fragile as it is lifted off the screen. The fibers pass through large rollers which squeeze out more water and press the fibers together. Paper is dried and smoothed as it passes over a series of heated rollers. The papermaking machinery produces a huge roll of paper that weighs as much as an elephant. The large roll of paper is cut into smaller rolls that are then made into many things, like books or birthday cards or stationery.” So, now you know. Good luck on your show-and-tell. See, Nicky,
old chum?
No problem
when you know
where to look.
Thanks,
Mr. Backhoe...
old acquaintance.

And you, too,
Miss Trowel.
Why don't you
stick around?
We usually have
pizza delivered
right about now.
[knocking]
Whoever that is,
he's ruining
my concentration.
[buzzing]
bbbb...
I bought
a dozen vases.
Now I'm down
to four.
[knocking]
Who's there?
Pizza!
It's Tony!
Don't let
the fly out.
You still have
a problem with flies?
Not "flies," Tony.
One fly.

Hey, Nicky!

You want to know
where something
comes from, right?
Paper,
for show-and-tell.
My sister, Linda,
is in your class.
She has to find out
where blue jeans come from.
Maybe
you'll tell me.
Everyone knows that.
Famous department stores--
(Nicky)
Or boutiques
or jean stores.
That's where you can
Buy blue jeans.
Linda needs to know
how blue jeans are made.
They must start out
as something else.
Tony's right.
They just didn't start out
as blue jeans.
[knocking]
They started out
as material,
like wool or cotton
or some synthetic material.
It all started
in France
a long time ago.
Blue jeans
are made from denim,
which is made
from cotton yarns.

(Terry)
Cotton yarn comes from the cotton plant.
The fruit of the cotton plant is called a cotton boll, which contains seeds and fibers.
Cotton is ready to harvest when the bolls burst open and the fibers inside become dry and fluffy.
Harvesting machines move through cotton fields, plucking cotton fibers off the plants.
After harvesting, cotton is taken to be cleaned and separated from its seed.
Trailers of cotton are emptied by vacuum tubes, and the cotton is taken to a cotton gin—a machine that separates cotton fibers from cotton seeds.
The cotton fiber is cleaned and packed in bales.
Cotton bales are then taken to the textile mill.
At the textile mill, the bales are opened.
Not all cotton fibers are the same. Machines mix together different kinds of cotton to make denim cloth for blue jeans.
The cotton is cleaned again and moved to the next machine.
Big rollers with wire teeth comb cotton fibers so they lie in the same direction.
The combed fibers leave the machine as a web, which is pulled through a funnel
Spinning machines twist cotton fibers into cotton yarn, which is wound on spools.
Next, about 400 spools of cotton yarn are combined and wound onto large rolls.
The rolls of yarn are taken to be colored.
The yarn passes through vats of dye called indigo,
which gives denim its blue color.

Dyed yarn goes to the weaving room.

The weaving room contains hundreds of looms—machines which weave yarns together into denim cloth.

The finished denim is inspected.

Finally, denim is rolled up for shipment to jeans manufacturers.

Here, blue jeans of all shapes and sizes are made with a carefully planned system.

The finished denim is inspected.

Finally, denim is rolled up for shipment to jeans manufacturers.

Here, blue jeans of all shapes and sizes are made with a carefully planned system.

The denim is rolled out on a cutting table.

A pattern guides workers as they cut through cloth to produce the different pieces that will be sewn together.

The pieces are labeled and organized near workstations of people who know what to do.

Pockets are sewn on.

Legs are sewn together.

Waistbands and belt loops are attached.

Buttonholes are stitched and cut open.

Rivets are added to give jeans extra strength.

Finished blue jeans are inspected, boxed, and sent to stores all over the world.

We can either go to the store or wait for some hand-me-downs.

That was really neat.

My companion, we did it again.

[crash]
[buzzing] bzzzz...

Now I'm hungry for that pizza.

I'll need the energy to assault the fly.

You'll need your energy to clean this place up.

By the way, where does pizza come from?

I know it was originally invented in Italy.

I guess we should ask someone who knows.

Well, Tony, old neighbor-type ally, you're the expert.
There's more to pizza than meets the eye.

The ingredients have to come from somewhere.

(Tony)

Pizza dough is usually made from wheat.

Wheat is harvested by machines called combines.

They cut the wheat and separate the grain, which is shipped to a flour mill.

Wheat grain is ground up and turned into powdery white flour.

At the pizza parlor, we mix flour with water and yeast to make pizza dough.

After rising, the dough is made into pizza crust.

It's tricky and takes practice to stretch out the dough to the right size.

Next, we add tomato sauce, which starts out as tomatoes.

The tomatoes are crushed and cooked with spices to become tomato sauce.

Next comes cheese.

Cheese starts out as milk.

Milk is heated and treated to make it thicken.

The watery whey is drained, leaving cheese curds.

Mozzarella cheese is stretched and then cut to length.

We shred mozzarella cheese back at the pizza parlor.

Some people like mushrooms on their pizza.

Mushrooms grow so fast that they can double in size overnight.

We slice them before we put them on the pizza.

The ingredients are baked in an oven.

Pizza ingredients come from many different places.

When they are put together correctly, it's pizza.

So...

There's more to pizza than you see.

There's more to everything than you see.

I'll come with you, Tony.

Thanks for the help.

(Barney) Any time we can be of service.
Something's missing.
[door closes]
They let the fly out.
And you get to clean up.
(Barney)
So, the fly got away again,
but we solved a few mysteries.
We decided to call it a night.
Besides, my mom called to say it was bedtime.
It's all in a night's work for two detectives who know that the only way to find out something is to ask.

Everything comes from somewhere.
Every part has a place to start.
That's the rule for every molecule.
And for every little single cell as well.
And if everything comes from somewhere it's the only rule.
I'd like to know how some things were made of other things.
Was it a long time ago?
Everything comes from somewhere.
That's the only rule.
Nothing just appears and says, "Here I am!"
There's always a source, always a source...
Funding for purchase and captioning of this video was provided by the U.S. Department of Education:

PH: 1-800-572-5580 (V).