

FACT: 18 PERCENT OF CORN RAISED IN THE U.S. IS EXPORTED TO OTHER COUNTRIES

LESSON 1: It's a Small World (Multidisciplinary)*

LESSON 2: Export Math! (Math)*

*All lesson Plans are adaptable for ALL ages!

CLAIRE HAS A DREAM

Claire stood in front of her third grade classroom telling her story.

"I was born in Korea," she began. "My name was Hye Yung. Hye means wisdom and Yung means glory. I came to Minnesota when I was three months old."

She told them she had never seen her birth mother. But her foster mother, who had cared for her those three months, had sent her a hanbok for her first birthday. A hanbok is a centuries-old style of Korean dress. Claire's was made of red silk, and covered with beautiful designs.

She told them how her hair grew straight up into a spike when she was little, so the first words Elizabeth ever said to her as she was carried off the airplane were, "Look at my sister's hair!"

She told her class that in Korea the people eat lots of rice. She showed them some Korean writing, and she taught them to sing the "Hokey Pokey" in Korean.

Then she laid several items on a table: a pencil, a dollar bill, and some thread. She said that in Korea, a child on their first birthday is asked to choose one of those three things, and whichever one they choose will predict their future. If they pick up the pencil, they will become a scholar. If they pick up the money, they will become a businessperson. If they choose the thread they'll have a long, long life. If the 1-year old picks up two items at the same time, they will double their good fortune!

Then she told her class how it felt to be an American born in another country. She said that sometimes people made fun of the way her eyes slanted. Sometimes kids in school talked funny, making fun of the way they thought people talked in Korea. One time when Claire was shopping for a pair of cowboy boots, the owner of the store told her she didn't belong in this country, and wouldn't wait on her...

That day in school was special for Claire. Her class loved hearing about Korea, and they asked lots of questions. After school turned out to be special too. When she got off the bus, Dave was just starting to harvest the cornfield. Riding in the combine was one of her favorite things to do!

She climbed a ladder into the cab, then sat on the little seat next to Dave's. He always had a bag of candy ready for her.

The combine was Huge! When she was in it, high above the corn, she felt majestic and grand. She could see



all the fields around. She could look down the rows of corn and watch them bend into the combine's path.

The front of the combine looked like a giant comb laying flat on the ground, one row of corn fitting between each of the fingers. As the "comb" pushed forward, the stalks of corn were bent and pulled into the machine. Once inside, the kernels were separated from the cob, and the leaves were sent back to the field.

The kernels were the treasure! Claire could see them pouring into the combine bin behind her seat, and could watch it filling as they drove. There were thousands and thousands of kernels, flowing like golden water! When the combine was full, the kernels were loaded into trucks that carried them away from the farm. She asked Dave where the corn went after it left the farm. He smiled and said, "Korea." Claire thought he was kidding, but that night she asked her mom, just to be sure.

"Most of the corn we raise is used to feed animals," her mom said. "Some of it is used to make ethanol gas for cars. Some is used in foods we eat every day. The rest, about 18% of the corn raised in the United States, is sent to other countries around the world."

"And yes, a lot of corn grown here is sold to Korea. Your home country is one of the United State's best customers! From our farm the corn is taken to the Mississippi River, where it's carried on barges to the Gulf of Mexico. Sometimes it travels by train to the West Coast. At the ocean ports, it's loaded into the ships that carry it to other countries. The corn from this farm will travel inside a truck, train, barge, and ship on its way around the world!"

That night Claire couldn't fall asleep. All she could think of was the corn she had helped harvest that afternoon. She wondered if it was on its way to Korea. She wished she had painted one of the kernels purple. Maybe a little girl in Korea would find it, and wonder who had painted it.

When she finally did sleep, she had a dream.

She dreamed about a great, gigantic ship crossing the ocean. On the side was written its name, the "Hye Yung." The ship was filled with corn from her farm and other farms in the United States. There was corn everywhere, filled to the top of the cargo area. The captain and crew had to sleep and eat in the engine room. Everything else was full of golden corn.

A storm came. First, it was a gentle wind, then it became wild and fierce. The Hye Yung was rocking up and down on the waves. She was creaking and groaning as she tossed on the waves.

The customers in Korea were standing on the shore, praying she would arrive safely. They needed the corn for food. The farmers in the United States were praying too. Everything depended on the strength of that ship. Could she make it through the storm?

Claire woke up then. She was scared.

But she was wiser too. She realized that everyone in the world was connected. She knew that people in Korea depended on people in the United States, and people in the United States depended on people in Korea. She felt lucky to be connected to both countries, even if sometimes it felt like she was in a storm.

And she liked the idea that corn from her farm might end up in the country where she was born.



LESSON 1: IT'S A SMALL WORLD

- SUBJECT:** Multidisciplinary
- OBJECTIVE:** Students will learn which countries are the biggest customers of U.S. corn, and will choose one of them to study in depth. Their activities will emphasize the “corn connection” between our country and the one they are studying.
- EVALUATION:** The world will be a smaller place because students will know more about particular countries and they will have an appreciation for the world-wide importance of corn exports and imports.

BACKGROUND FOR TEACHERS:

Corn is a major source of food for both humans and animals throughout the world.

Much of the economic success of the entire agricultural sector depends on international trade. One of every five rows of corn grown in the United States goes overseas. There is no other sector of the U.S. economy where the link between trade and prosperity is clearer than in agriculture.

STUDENT ACTIVITIES:

1. Ask students to read the story, Claire Has a Dream. Discuss some things they learned about Korea from the story—the language, the clothing and the customs. Can they find Korea on the map? Do any of them know someone who’s been to Korea?
 - What do they think about Claire’s dream, in which people from two countries, on different sides of the world, are connected to each other?
2. Pass out the following handout, which lists the top 10 U.S. corn customers. (Example 1)
 - Ask the students if they know anything about any of those countries.
 - Use a globe or world map to point out the location of each of the countries.
3. Ask students why they think these countries need to import so much corn from the United States. (For example: they don’t have enough land to raise it themselves, they have more people than they can feed on their own, the climate isn’t good enough for corn, etc.)
4. Ask students what they think the people in these countries do with the corn. (Most of the corn is used to feed animals for meat (See Unit 6). Corn can also be processed into food for people—like corn tortillas in Mexico or any of the other food items made from cornstarch, corn oil, or corn syrup. (See Unit 9).



5. Students should then, either individually or in teams, choose one of the countries listed. Ask them to complete two or more of the following assignments for their country:
 - Learn the word for corn, and be able to write and say it in the language of the country.
 - Imagine himself or herself as a person living in that country. Write a poem or story about a ship filled with corn arriving in their country. Describe how they plan to use that corn. Describe how they feel about buying corn from the United States.
 - Create a collage of people from the country (or many countries) concentrating on the food needs, favorite foods or food sources in that country. (*Give a bonus to any student who can incorporate corn into their collage!*)
 - Find a foreign student, immigrant or visitor from the country they are studying, and invite them to talk about their country. Or conduct an interview with them about the agriculture or food systems in their country. Ask if they know their country is very important to the U.S. corn farmer! Tell them “thank you!”
 - Use the Internet to find a pen pal or classroom in the country they are studying. Tell them “thank you” for being such a good customer of U.S. corn! Ask how they use corn in their country. Tell them some of the ways we use corn here (See Units 6, 7, and 9).
 - Find a book or story in the library about the country, and share it with the class.
 - Older students can write reports about the language, clothing, music, customs, art, or history of the country. Give extra credit if they can learn about the agricultural or food system of the country, and why it needs to import corn!

6. Encourage older students to investigate political issues affecting trade between countries.
 - They might want to investigate U.S. trade relations with China.
 - Students could research the issue of exporting genetically enhanced grain (See Unit 4). This is currently under close scrutiny by European countries.



TOP TEN U.S. CORN CUSTOMERS	
Japan	584.9
Mexico	153.0
Taiwan	152.1
S. Korea	140.8
N. Africa	127.7
Colombia	48.4
Venezuela	27.6
Dominican Republic	26.0
EU	2.9
Malaysia	2.0

COMPARISON OF TOP 10 U.S. CORN CUSTOMERS 1996-97 VS. 1997-98		
	1996-97	1997-98
Japan	580.03	584.9
Mexico	113.3	153
Taiwan	220.7	152.1
S. Korea	205.9	140.8
N. Africa	146.4	127.7
Colombia	53.8	48.4
Venezuela	27.2	27.6
Dominican Republic	28.6	26
EU	68.8	2.9
Malaysia	32.6	2



LESSON 2: EXPORT MATH!

SUBJECT: Math

OBJECTIVE: Students will work with several graphs and pie charts to learn about world corn production and exports. They will also learn to convert bushels to tons, and U.S. tons to metric tons.

EVALUATION: Students will understand how important foreign trade is to corn farmers in the United States.

BACKGROUND FOR TEACHERS:

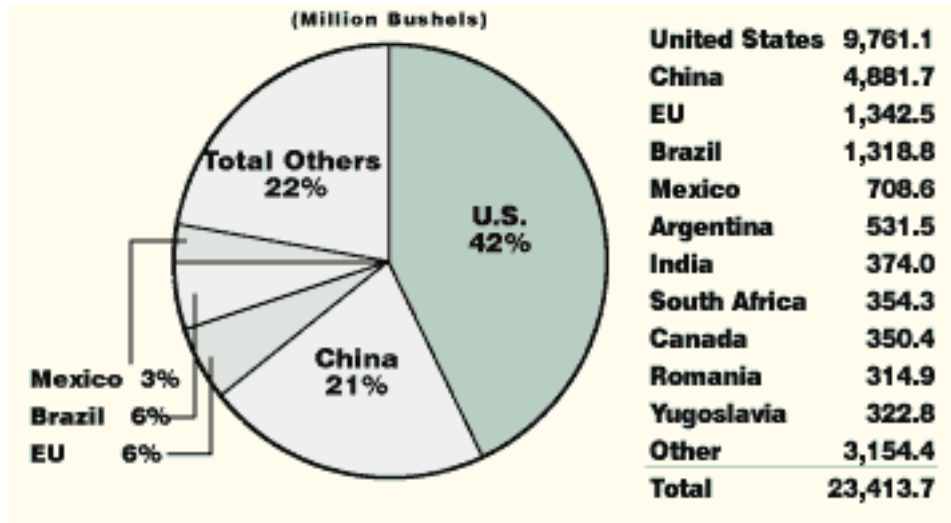
One of every five rows of corn grown in the U.S. is exported overseas. The U.S. is the world's largest producer of corn (42 percent), the world's largest exporter of corn (70 percent), and is also the world's largest consumer of corn.

STUDENT ACTIVITIES:

1. Ask students to read the story, Claire Has a Dream, paying close attention to her mom's explanation that 18 percent of the corn raised in the United States is sent to other countries. See if they can remember all the different kinds of transportation used to move corn from the field to the customer! (combine, truck, barge, train, ship...) Look up the word "export" in the dictionary.
2. Younger students can complete worksheet 1. Older students can complete the math problems, and answer the extra credit questions on worksheets 2, 3, 4, & 5.
 - Ask older students to study all three charts (production, export, and consumption) and to write at least five observations they make while comparing the three. (For example: The U.S. is the top producer, exporter, AND consumer of corn...Egypt is a large consumer of corn, but does not produce or export much...China produces 4881.7 million bushels and consumer 4615.9, so only has 265.8 million bushels to sell...)
3. Try to make every country real for the students and not just a name or number on these graphs. If they haven't completed Lesson 1, find the countries on maps or a globe. Ask how the students think the corn will be used in each country, and why they think that country needs to import corn from the U.S.



WORLD CORN PRODUCTION



CORN PRODUCTION

1. Which country produces the most corn in the world? _____
2. The United States, European Union, Brazil, and Mexico together produce ____percent of the corn in the world.
3. Name six other countries that each produce between 300 and 600 million bushels of corn. _____
4. China produces _____ percent of the world’s corn, second only to the U. S.
5. How many million bushels of corn are produced in South America (Brazil and Argentina)? _____
6. How many more bushels of corn are produced in the U. S. than in China? _____



7. What percent of the total world corn production is from Canada? _____

8. Bonus question: Subdivide the “others” section of the pie chart by calculating the percentage for Argentina, India, South Africa, Canada, Romania, and Yugoslavia.



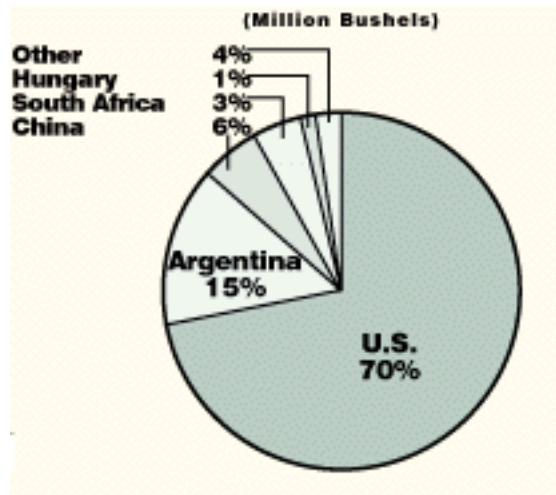
HEAVY FACTS

A U.S. TON WEIGHS 2000 POUNDS
A METRIC TON = 1.12 U.S. TONS
THERE ARE 35.7143 BUSHELS IN ONE U.S. TON
ONE METRIC TON = 1,000,000 GRAMS

1. How many U.S. tons are there in 5 metric tons? _____
2. How many metric tons are there in 10 U.S. tons? _____
3. How many bushels are there in 1000 U.S. tons? _____
4. How many pounds are in a bushel? _____
5. How many pounds are in 1 metric ton? _____
6. Bonus question: If the U.S. exported 45 million metric tons of corn, how many bushels would that be? _____



WORLD CORN CONSUMPTION BY COUNTRY 1998*



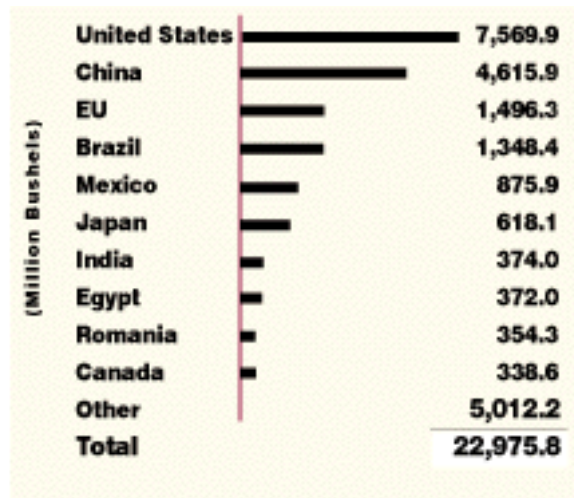
*Projected for year ending September 30, 1999

CORN EXPORTS

1. Which country exports the most corn in the world? _____
2. Hungary, South Africa, and China together export _____ of the corn in the world.
3. The second largest exporter of corn in the world is _____



WORLD CORN EXPORTS BY COUNTRY 1998*



*Projected for year ending September 30, 1999

CORN CONSUMPTION

1. How much more corn is consumed in Mexico than in Japan? _____
2. North American consumption of corn equals _____ million bushels.
(U.S. + Canada + Mexico)
3. If you add the amount of corn consumed in China, the European Union, Brazil, Mexico, Japan, India, Egypt, Romania, and Canada, is it equal to, greater than, or less than, the amount of corn consumed in the U.S.? _____

