

Learning A–Z

level **R**

Multi-level

O R U

Grade

3

Word Count

1,218

Lexile

940L

Nonfiction • Informational

Refer to the Focus Question on page 2 of this title to guide discussion and support additional learning connected to the text.

All About Chocolate is an informational book that includes interesting facts about the history of chocolate, where and how cacao trees are grown, and the steps taken to make chocolate. A “History of Chocolate” timeline provides additional details. The book is also available for levels O and U.

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All About Chocolate



Written by Robert Charles

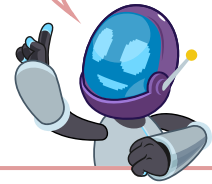
All About Chocolate



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Focus Question

How are people both producers and consumers?



Words to Know

cacao	machete
conching	mills
consume	mole
fermentation	solidified
ingredients	



This chocolate shop in Ontario, Canada, buys cocoa beans directly from growers in Central and South America.

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Introduction

Ask people about their favorite sweet thing to eat, and they'll probably say it's chocolate. People around the world love chocolate. They love it so much that every year they eat more chocolate than any other sweet.

Where Chocolate Comes From

It might surprise you to learn that chocolate actually grows on trees. That doesn't mean that you can pick a chunk of chocolate from a tree branch and eat it. In fact, the chocolate growing on trees looks, tastes, and smells nothing like the chocolate you eat.

The tree that gives us chocolate is the **cacao** (kah-KOW) tree. Chocolate comes from beans that are found in large pods on the tree. Cacao trees grow near the equator, where it is hot and wet.



Cacao blossoms don't sprout from branches as with many other trees. Instead, they sprout from the trunk. Tiny flies help pollinate them.

Today, most cacao trees are grown on large farms. The trees have lots of small flowers that bloom during the year. Some of the flowers change into pods, but most do not.

The pods are green when they first form, but they change to a golden or dark red color as they get ripe.



These pods contain the beans that will be used to make chocolate.

Preparing the Beans

Taking the pods from the cacao trees is the first step in making chocolate. But it's not the pods that are important—it's the 20 to 50 beans found inside the pods, which are actually the tree's seeds. It takes a lot of beans and a lot of work to make chocolate. First, the pods are gathered. Then, someone using a large blade called a **machete** (mah-SHET-ee) cuts the pods open.

The beans are then scooped out of the open pods. You might expect the beans to be brown. Instead, they are cream-colored and covered with a soft pulp. These beans are a long way from being the chocolate you know.

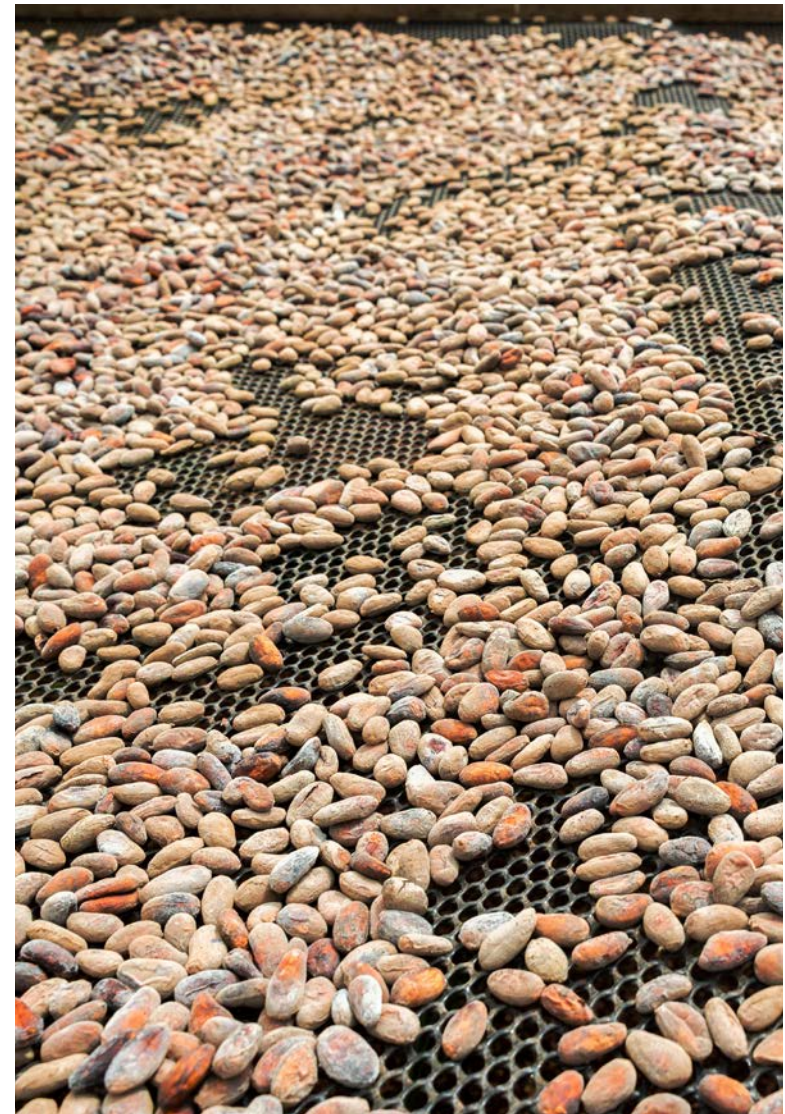


Once a pod is broken open, it reveals the beans inside.

The pulp-covered beans are put into piles or boxes and covered. As the beans come in contact with the air, they begin to change from a cream color to a purple color. The beans also change on the inside in a process called **fermentation**. This can take more than a week, but the fermented beans still do not taste or smell like chocolate.



After fermenting, a worker spreads the cacao beans so they can dry.



Cacao beans may take more than a week to dry in the sun.

After the beans have fermented, they are dried. As they dry, the beans are turned. Once the beans are dry, they are placed in large cloth bags and shipped to makers of chocolate.

From Beans to Chocolate

Making chocolate from the fermented, dried beans is a very long and complicated process. First, the beans need to be cleaned, which removes any remaining pulp or pieces of the pods. Then, chocolate makers blend different varieties of beans to make sure the chocolate has just the right flavor.

The cleaned and blended beans are roasted in order to bring out the chocolate flavor. This is the stage when the beans begin to smell like chocolate. As the beans are roasted, the thin shell that covers them grows brittle. The beans pass through a special machine that cracks their shells and blows away the pieces of shell with fans.



Beans roast in giant drums at a candy factory.

After the shells are removed, only the meaty part of the bean, called the *nib*, remains. The nibs are ground up and crushed until they become a liquid. The liquid is poured into molds where it cools into bars of bitter, unsweetened chocolate. The bars are then pressed until the most important part of the chocolate, a yellow liquid called *cocoa butter*, is removed. The cocoa butter drains through a screen and is collected to make the chocolate we eat.

Word Origins

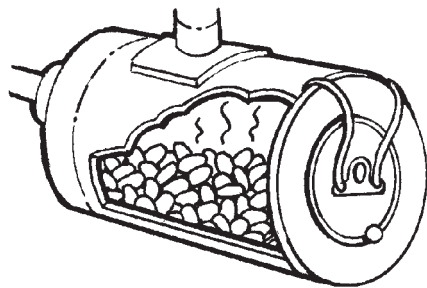
Cacao or Cocoa?

When the products of the cacao tree made their way to English-speaking countries, the word *cacao* became the word *cocoa*. Writers and speakers of English today still use the word *cacao* when discussing the tree and its flowers, pods, and beans. People usually use the word *cocoa* when discussing the many products that come from the beans.

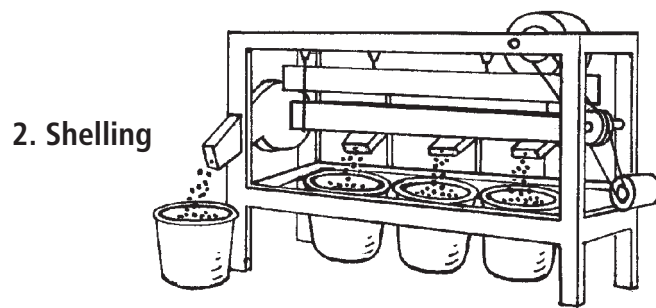


After the liquid cocoa butter is removed, the solid part of the bar is ground into a powder. Cocoa powder is sent to dairies and bakeries to flavor baked goods and dairy products.

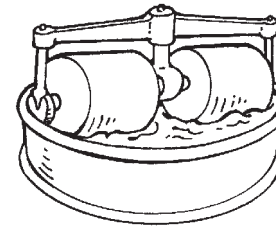
The chocolate we eat is made in the final step, called **conching**, which takes place in machines with big rollers. Sugar, cocoa powder, cocoa butter, and other **ingredients** are rolled and mixed until smooth. The smooth mixture is poured into molds and cooled. After it has cooled and **solidified**, the chocolate is removed from the molds and wrapped in packages for shipping.



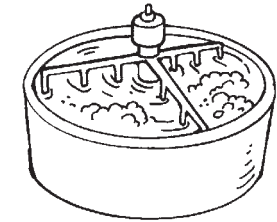
1. Roasting



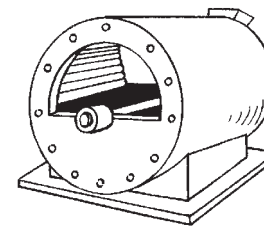
2. Shelling



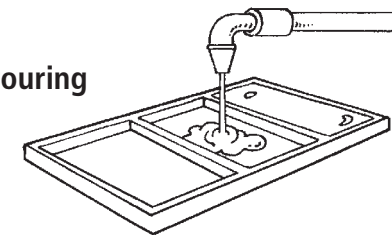
3. Grinding



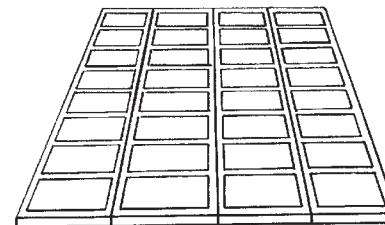
4. Mixing



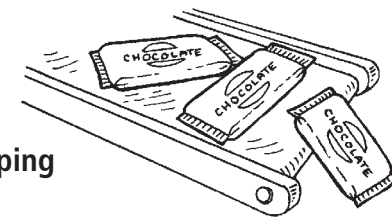
5. Conching



6. Pouring



7. Cooling



8. Wrapping

History of Chocolate

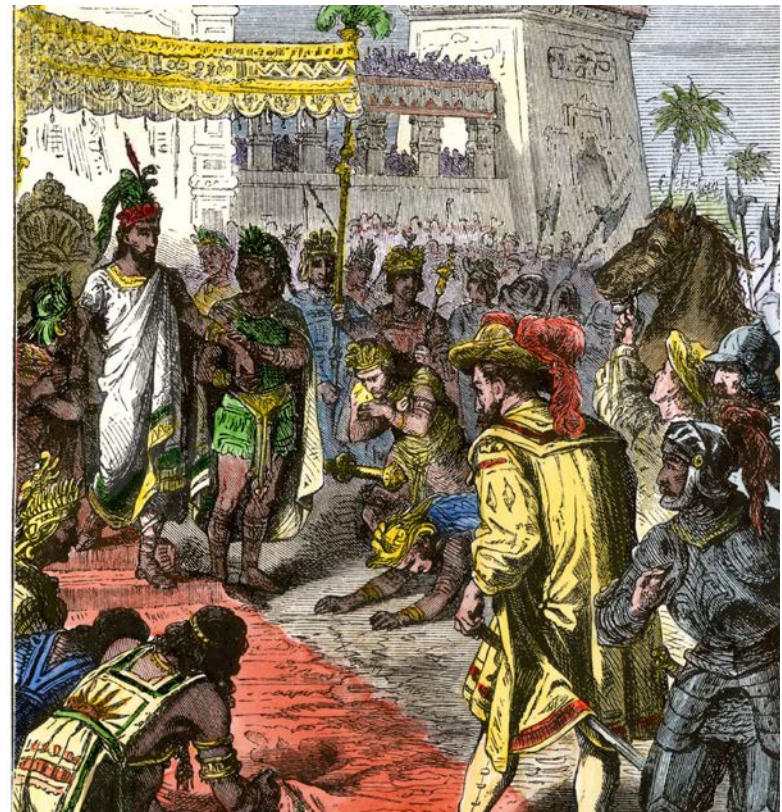
As near as historians can tell, people living in Mexico and Central America were using chocolate almost 2,000 years ago. These people enjoyed a drink made from chocolate. But if you were to try this drink today, you'd find that it tastes much different from the chocolate drinks you enjoy. In fact, it was a very bitter-tasting drink—kind of like coffee.



An Aztec man with his chocolate, as drawn for a 1685 French book.

A Spaniard by the name of Hernan Cortes helped Europeans begin to see that there was value in cacao beans. The great Aztec ruler Montezuma had served Cortes a drink made from cacao beans. The Aztecs told Cortes that it was the drink of the gods.

The Aztecs believed that cacao beans gave them added wisdom and strength. They placed so much value on cacao beans that they used the beans as a form of money. Cortes saw much more value in the beans as money than as a drink. He planted cacao trees so that he could use the beans not for chocolate, but as money. It was his way of growing money on trees.



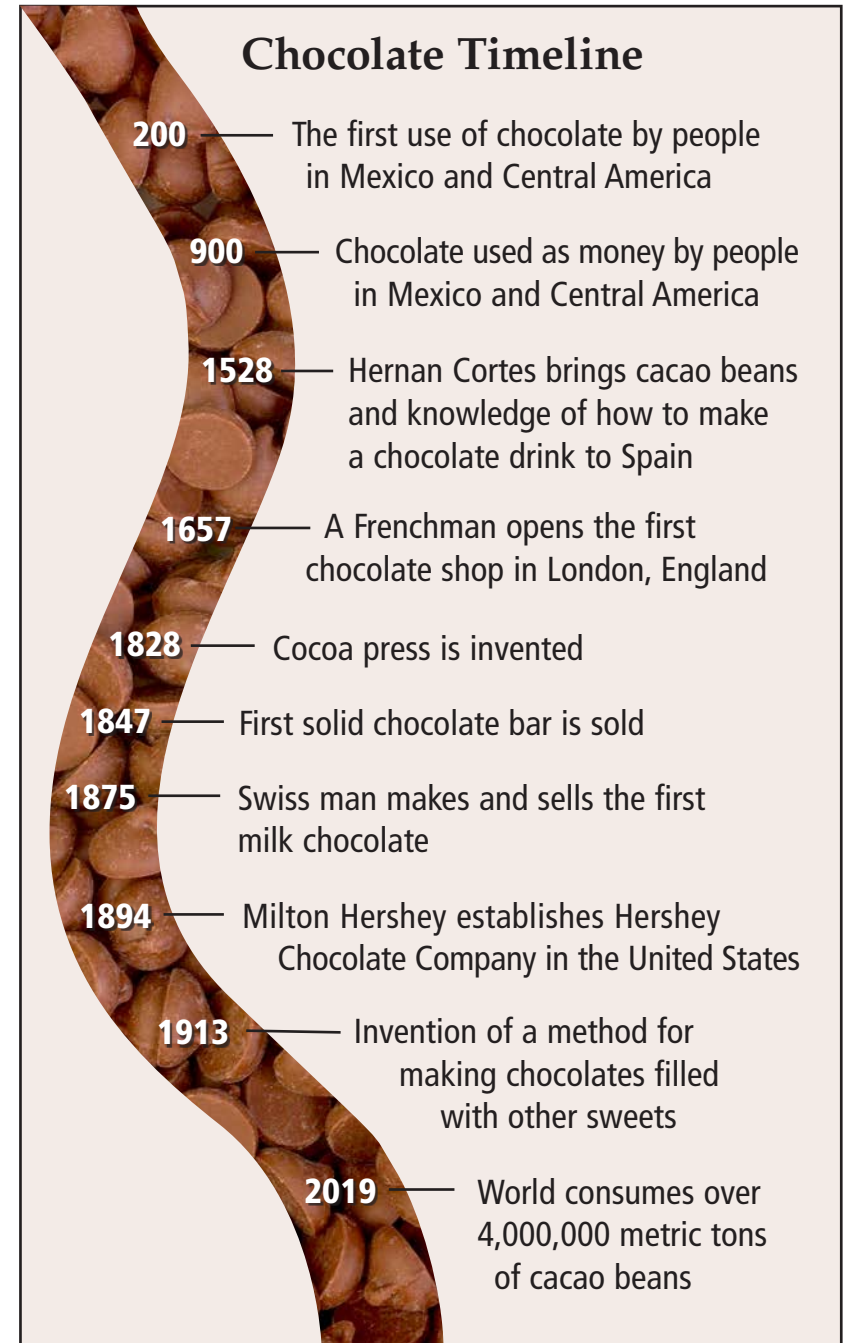
Although Cortes was treated as a guest by Montezuma, in time he and his men captured the Aztec leader and killed many Aztec citizens. It was the Aztec gold that Cortes wanted, not the chocolate.

Cortes brought back knowledge of how to make the chocolate drink, but it still was not popular outside the Americas. Not until the Spanish began mixing sugar with the drink did chocolate begin spreading in popularity.

Until the 1600s and 1700s, chocolate was a luxury food for royalty and powerful church officials. But during the 1600s, people began grinding large amounts of cacao beans in **mills**, making much more chocolate and at a lower cost. The invention of smooth milk chocolate also added to the treat's popularity. The first chocolate shop opened in 1657 in London, England. In the 1700s, a steam-driven chocolate grinder was invented, allowing factories to quickly make tons of affordable chocolate. Today, chocolate is a favorite and affordable treat in many countries.



Chocolate is enjoyed with gusto by people of all ages.





Do You Know?

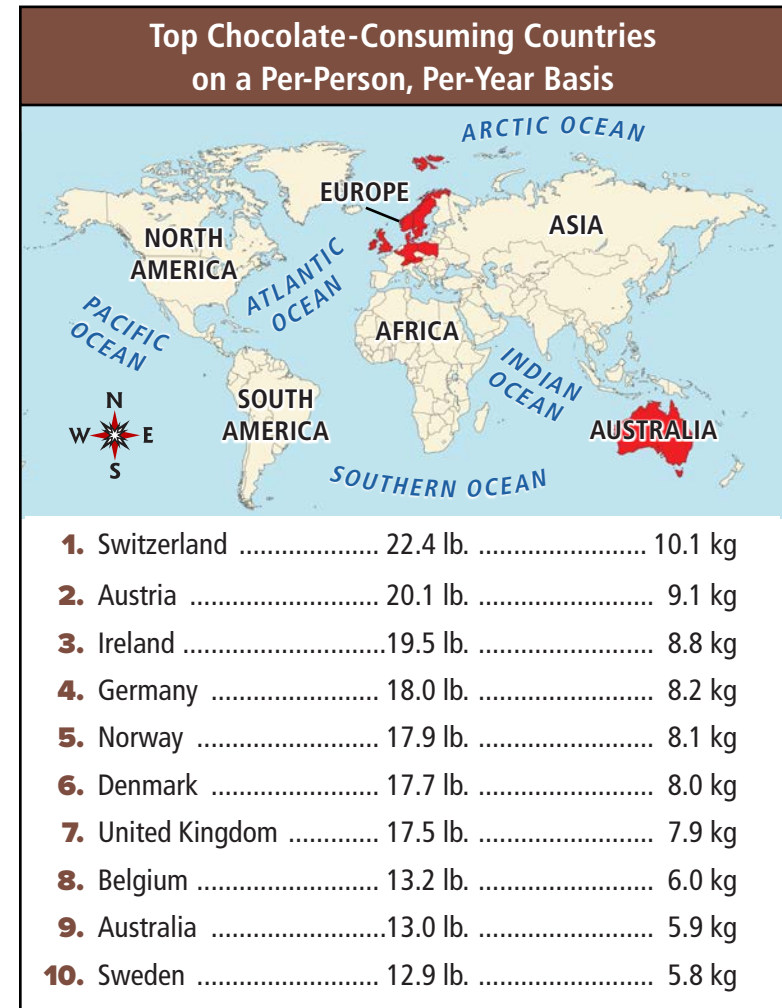
Some specialty shops sell only chocolate treats.

Recent medical studies show that there are definite medical benefits of eating chocolate. The benefits are linked to dark chocolate, rather than milk chocolate. Some of the medical benefits include a reduction in heart disease and blood pressure.

Chocolate Today

Most of the chocolate made in factories today is used to make chocolate candy. Other chocolate goes into ice cream, chocolate drinks, and baked goods such as cakes and doughnuts. Even a sauce called **mole** (MOLE-ay), used in Mexican cooking, is made from chocolate.

Each year people around the world **consume**, or eat, tons of chocolate. The people of Switzerland consume more chocolate per person than anyone else in the world. They are joined in their love of chocolate by people in many other European countries.



Meanwhile, it is West Africa that produces much of the world's cocoa, and much of the labor done to harvest cacao beans there is done by children. Instead of going to school, they work, hoping to earn enough to eat. The work is hard and dangerous.

The root cause of this child labor is poverty. To end it, chocolate companies need to pay farmers more for their cocoa. Some small companies already do this. By paying more, farmers and their families earn enough to live on, and children can go to school instead of working on cocoa farms.



A young child gathers pods (left). Nine-year-old Moahe helps dry beans on a cocoa plantation (above). Both children are working in Ivory Coast.



The next time you eat chocolate, think about how it was made.

Conclusion

It took a long time for chocolate to become popular outside the regions of Central and South America where cacao trees come from. Over the years, people added things such as sugar and milk to the long and complicated process of making chocolate from cacao beans. Today, people around the world eat millions of kilograms of chocolate, making it the world's most popular sweet.

Try This!

Yummy Chocolate Brownies

Make sure you have an adult help you with any cutting or handling of hot foods.

1 Gather these ingredients:

- 1 cup butter or margarine
- 4 squares (1 oz. each) of unsweetened chocolate (also called baker's chocolate)
- 4 eggs
- 2 cups white sugar
- 2 teaspoons vanilla extract
- 1½ cups all-purpose flour
- 1 teaspoon baking powder
- pinch of salt



- 2** Preheat the oven to 350°F (180°C). Rub grease over a 9x13-inch (15-cup) baking pan.
- 3** Melt the butter in a saucepan over medium heat on the stovetop. After the butter is melted, take it off the heat and stir in the chocolate until it is melted and mixed in. Add the eggs one at a time, stirring thoroughly. Then add the sugar and vanilla, stirring the mixture until smooth.
- 4** In a separate bowl, mix the flour, baking powder, and salt. Gently pour the butter, chocolate, and sugar mix into the flour and stir it until the flour is completely wet.
- 5** Pour the mixture into the baking pan and spread it evenly.
- 6** Bake for 25 to 30 minutes until the brownies begin to pull away from the sides of the pan.
- 7** Let the brownies cool in the pan before you cut them. Makes 12 brownies.

Glossary

cacao (*n.*) page 5

the tree from which we get chocolate

conching (*n.*) page 13

the process of smoothing a chocolate mixture

consume (*v.*) page 20

to eat or buy

fermentation (*n.*) page 9

a natural changing process that occurs in many foods and plants

ingredients (*n.*) page 13

the different food items that go into a dish or recipe

machete (*n.*) page 8

a long, thick knife

mills (*n.*) page 17

machines that use animal, wind, or steam power to grind things

mole (*n.*) page 19

a spicy Mexican sauce made with chile and strong chocolate

solidified (*v.*) page 13

changed from a liquid or gas into a solid