

# World of Wonder

EXPLORING THE REALMS OF HISTORY, SCIENCE, NATURE & TECHNOLOGY

## A native of the tropics

Chocolate is derived from the seeds (or beans) of a tropical tree called the **cacao** (kah-KOW). The native origin of the cacao tree is in dispute; it may have originated in the Brazilian Amazon basin, the Orinoco Valley of Venezuela, or Central America.

## Food of the gods

The word "cacao" is based on two Mayan words that mean "bitter juice." The word "chocolate" is thought to be from the Mayan word for "sour water." The Latin name for cacao fruit is "*Theobroma cacao*," which means "food of the gods."

## About the tree

An **evergreen**, the cacao tree is found in **tropical** regions where the climate is warm and wet. They grow within 20 degrees latitude north and south of the equator. A cultivated tree measures up to 25 ft. (7.6 m) high. A tree in the wild can reach heights of up to 60 ft. (18.3 m) or more. The cacao tree does best in shady areas and is often planted under larger trees, like the banana tree. The cacao is a colorful tree with large, shiny leaves that turn from red to green as they mature. The flowers are pink or white and have five petals. Thousands of tiny blossoms grow in clusters on the trunk and older branches. The melon-shaped fruit or pod contains 20 to 40 almond-shaped seeds, which, when dried, can be made into chocolate and cocoa.



## Did you know?

- ◆ On average, Americans eat 10.8 lbs. per person of chocolate a year.
- ◆ The U.S. retail chocolate industry is worth about \$13 billion per year.
- ◆ The first chocolate box was created by Richard Cadbury in 1868. He decorated the box with a painting of his daughter holding a kitten. (He invented the heart-shaped candy box, too.)
- ◆ Chocolate manufacturers use 40% of the world's almonds, 20% of the world's peanuts and 8% of the world's sugar.
- ◆ 60% of the world's chocolate is consumed in North America and the European Union.

## The top producers

The projected 2002–2003 top five cocoa bean producers by country (in tons):

Côte d'Ivoire	1,300,000
Ghana	475,000
Indonesia	440,000
Nigeria	165,000
Brazil	150,000

## Top manufacturers

The top chocolate manufacturers based on 2002 confectionary sales (in billions):

Mars Inc.	\$7.5
Nestlé	\$7.2
Hershey Foods	\$4.5
Cadbury Schweppes	\$4.4
Ferrero	\$3.9

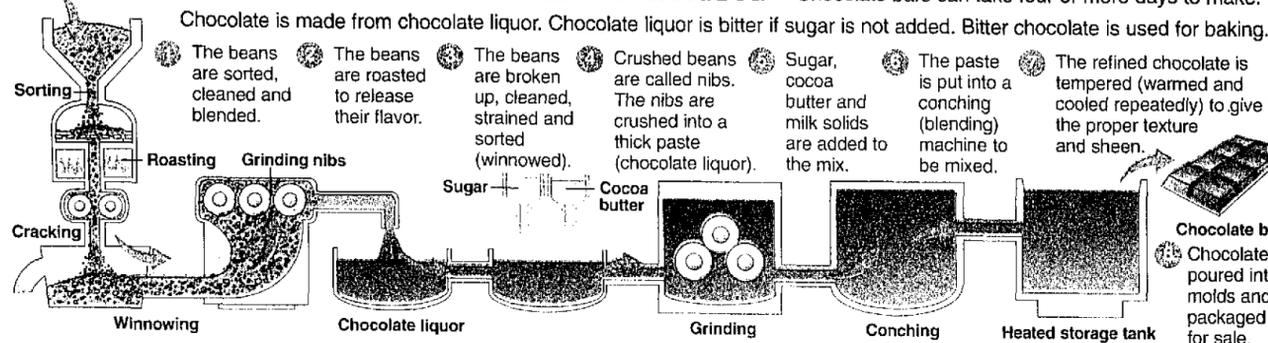
## Kinds of chocolate

All chocolate products are made from chocolate liquor. Chocolate varieties are defined by how much chocolate liquor, sugar and milk solids are contained in the product. **Dark chocolate** (or semi-sweet chocolate) contains 15% to 35% chocolate liquor and less than 12% milk solids. **Milk chocolate** is the most common kind of eating chocolate and contains at least 10% chocolate liquor and 12% milk solids. **White chocolate** is a combination of cocoa butter (no liquor), milk, sugar and flavor.

## What do you know?

- |  |  |
|--|--|
| <b>ACROSS</b>  | <b>DOWN</b>  |
| 3. Cacao trees grow in this type of region.                      | 1. The cacao tree is this kind of tree.                        |
| 5. This man invented the first heart-shaped chocolate box.       | 2. Chocolate is derived from this tree.                        |
| 6. These people of early Central America cultivated cacao beans. | 4. Cacao beans turn this color when first exposed to air.      |
| 8. Milk chocolate was invented here.                             | 6. Most common type of eating chocolate                        |
| 10. Kind of chocolate  | 7. Number of months it takes a cacao pod to ripen.             |
|  | 9. This kind of chocolate is also called semi-sweet chocolate. |

## How a chocolate bar is manufactured



## A chocolate chronology

<p><b>250–900 B.C.:</b> The Mayans of Central America cultivate and crush cacao beans to make an unsweetened beverage.</p>	<p><b>A.D. 1200–1300:</b> The Aztecs of Mexico believe their god Quetzalcoatl stole the cacao tree from paradise and gave it to the people. The elite or noble Aztecs drink "xocoatl," a cacao beverage spiced with hot chili peppers.</p>	<p><b>1502:</b> Christopher Columbus witnesses cocoa beans being used as currency by the natives in what is now Nicaragua.</p>	<p><b>1643:</b> Spanish princess Maria Theresa brings chocolate to France. It becomes very popular with Louis XIV and his court. All of Europe follows suit.</p>	<p><b>1861:</b> Richard Cadbury creates the first-known heart-shaped candy box for Valentine's Day.</p>
<p><b>1519:</b> Spanish explorer Hernando Cortez conquers parts of Mexico and is inspired by the Aztecs' use of cocoa beans as currency. He later establishes a cocoa plantation with the idea of growing money.</p>	<p><b>1528:</b> Cortez introduces cocoa to the Spanish court. Mixed with sugar, it becomes a popular drink for the noble court. Spain keeps this chocolate beverage a secret for about 100 years.</p>	<p><b>1704:</b> Germany introduces a tax on chocolate.</p>	<p><b>1875:</b> Milk chocolate is invented in Switzerland.</p>	<p><b>1897:</b> First-known recipe for chocolate brownies published.</p>
<p><b>1730s:</b> The steam engine leads to mechanized cocoa bean grinding and lower chocolate prices.</p>	<p><b>1747:</b> Frederick III of Prussia bans chocolate.</p>	<p><b>1910:</b> Canadian Arthur Ganong markets the first nickel chocolate bar.</p>		

**ANSWERS**

**ACROSS**

- TROPICAL
- CADBURY
- MAYANS
- SWITZERLAND
- WHITE

**DOWN**

- EVERGREEN
- CACAO
- PURPLE
- MILK
- FIVE
- DARK

**SOURCES:** World Book Encyclopedia, World Book Inc.; Encyclopedia Americana, Grolier Inc.; Hershey Foods Corp.; www.CandyUSA.org; International Cocoa Organization; www.fieldmuseum.org; About.com; Chocolate, Carolinda Books.

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