



CHOCOLATE



DESCRIPTION OF CHOCOLATE

Chocolate is made from cocoa beans found on the cacao tree.

The cacao tree was first discovered in the South American rainforest.

The three main ingredients in chocolate are chocolate liquor, cocoa powder, and cocoa butter.

Different kinds of chocolate use varying amounts of these 3 ingredients.



HOW CHOCOLATE IS MADE

- Cocoa pods are harvested
- Pods are crushed and fermented.
- Cocoa beans are taken out of the pods and then dried.
- Beans are roasted, graded, and then ground.
- Grinding the beans creates a liquid called chocolate liquor.

Chocolate liquor - made mostly of fat called cocoa butter.



HOW CHOCOLATE IS MADE

Cocoa butter is extracted.

Cocoa powder is also created when beans are ground.

Process creates chocolate liquor, cocoa powder, and cocoa butter.

Ingredients are blended back together to create different kinds of chocolates.



HOW CHOCOLATE IS MADE



TYPES OF CHOCOLATE

- **Sweet Chocolate**

Contains no milk solids

Cannot contain less than 15% chocolate liquor

- **Dark Bittersweet Chocolate**

Contains the most chocolate liquor.

It is sweet chocolate that cannot contain less than 35% chocolate liquor.

- **Semi Sweet Chocolate**

Similar to dark bittersweet chocolate.

- **Baking Chocolate**

Contains no sweeteners and no milk.

- **Milk Chocolate**

Contains milk and sugar, which differs from bittersweet and semisweet chocolate.

Cannot contain less than 12% milk and cannot contain less than 10% chocolate liquor.

Can contain other ingredients but must comply with regulations.

- **White Chocolate**

Technically not real chocolate

Contains no chocolate liquor, which is one of the main ingredients in chocolate.

It's made of cocoa butter, milk, and sugar.

HISTORY OF CHOCOLATE

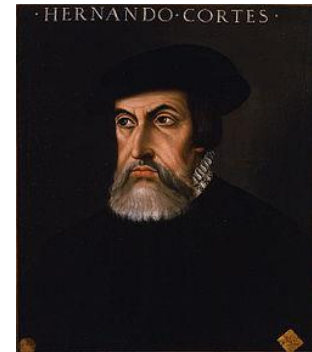
- Dates back to about 1,500 years ago.
- First found in Mayan and Aztec Civilizations.
- Mayans used cacao beans to create a cold, unsweetened, spicy chocolate beverage. This was the first form of chocolate.
- Aztecs came across cacao beans through trade. They named the spicy drink xocolatl (bitter water).
- Cacao beans played important roles in both Mayan and Aztec Civilizations.
- The Cacao tree grew in limited areas



This scene was painted on an ancient Maya vessel, which reveals how people drank chocolate as a beverage and often presented it to their gods as an offering.

HISTORY OF CHOCOLATE

- The chocolate drink was first brought to Europe by Spanish conquistador, Hernan Cortes.
- The drink was sweetened to match European tastes.
- The drink spread from Spanish courts to other European courts.
- The drink was also prescribed to people for depression and used in love and death potions.
- In the late 18th century French and Dutch processors experimented with chocolate liquid.
- This led to the production of chocolate powder, which then led to the production of the first solid chocolate.
- The first solid chocolate was believed to have been sold in England in the mid-1800s.



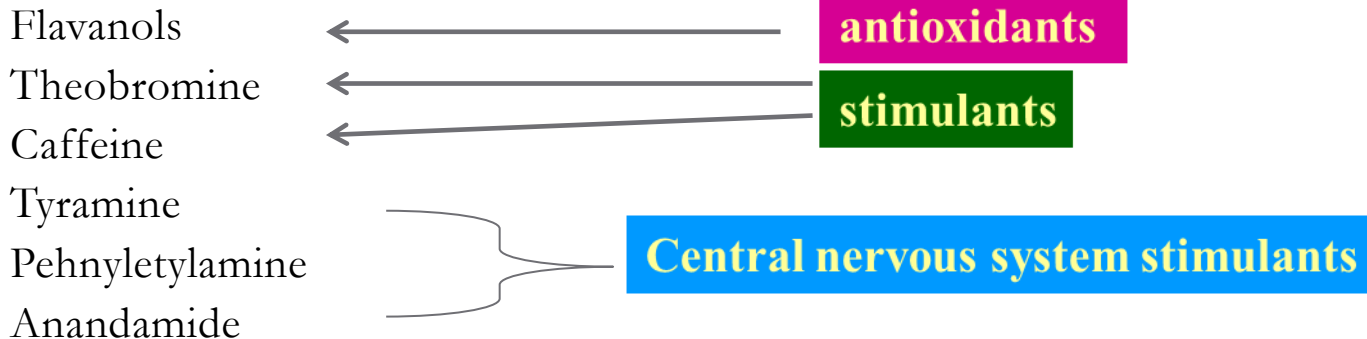
CHOCOLATE FACTS

Chocolate Consumption:

Americans consume over 3.1 billion pounds of chocolate every year, which is about 11.7 pounds per person.

Milk Chocolate is the most popular among Americans, followed by dark chocolate and then white chocolate.

Chocolate contains more than 300 known chemicals.



Chocolate is considered a mood food.

Contains an amino acid called L-tryptophan. This increases serotonin in the brain, which is a calming hormone.

Said to be nature's own "antidepressant."

CHOCOLATE MYTHS AND TRUTHS

Myth: Causes acne.

Truth: Studies found no connection between eating chocolate and acne.

Myth: High in cholesterol.

Truth: Chocolate is low in cholesterol and low in animal fat.

Myth: Causes tooth decay.

Truth: Studies found that tooth decay is not as big of a problem as once thought. Tooth decay is mostly caused by poor hygiene.

Myth: High in caffeine.

Truth: Chocolate is not high in caffeine and contains less caffeine than coffee.

Myth: Causes weight gain.

Truth: When eaten in moderation, chocolate does not cause weight gain.

Myth: Is addictive.

Truth: People who say they are addicted are just experiencing strong cravings. The characteristics of an addiction such as tolerance and withdrawal and chemical changes in the brain are not associated with eating chocolate.

POTENTIAL HEALTH BENEFITS

- Chocolate may be good for the heart.
- Chocolate contains chemicals like those found in red wine and green tea.
- Helps improve circulation
- Helps cut down blood pressure
- Chocolate contains flavanols.
- Helps in preventing the oxidations of “bad” cholesterol, which reduces the stickiness of blood platelets and improve blood vessel elasticity.
- Theobromine, found in chocolate, was found to treat coughs better than codeine.



CHOCOLATE TEMPERING

- The purpose of tempering chocolate is to pre-crystallise the cocoa butter in the chocolate, which is related to the working temperature of the chocolate. During tempering, the cocoa butter in the chocolate changes into a stable crystalline form.
- During tempering, the cocoa butter in the chocolate changes into a stable crystalline form. It ensures the hardness, shrinking force and gloss of the finished product after it has cooled. If the chocolate is melted in the normal way (between 40 and 45 °C) then left to cool to working temperature, the finished product will not be glossy.
- The 3 factors which are important during tempering are time, temperature and movement



CHOCOLATE TEMPERING STEP 1



Melt the chocolate in a melting pan (set the thermostat to 45 °C)

STEP 2



Lower the thermostat ($\pm 32\text{ }^{\circ}\text{C}$ for dark chocolate / $\pm 30\text{ }^{\circ}\text{C}$ for white chocolate and milk chocolate) and immediately add 15% to 20% Callets at ambient temperature

STEP 3



Stir the chocolate well to ensure the dispersion of the stable crystals of the Callets. Are the Callets melting too quickly? That is because the chocolate is still too hot. Add more Callets and continue stirring.

STEP 4



Pour out two thirds of the chocolate onto the clean marble slab

STEP 5



Begin spread the chocolate thinly across the marble using a palette knife. This applies a shearing force to the chocolate which, along with the temperature, is also critical to the tempering process.

STEP 6



Bring the spread chocolate back together using scraper, keep moving and continue to shear and cool the chocolate. For dark/bittersweet chocolate, it should be 32 °C, Milk Chocolate should be 29 °C and white chocolate should be 30 °C

HOW TO TEMPERING CHOCOLATE

