How is chocolate made?

Have you ever wondered where your favourite chocolate bar comes from? Well, it's quite a big task that involves a lot of hard work!

✓ STEP ONE>>> GROWTH

It all starts with the cacao tree. The tree must be about five years old before it begins to flower. Cacao trees grow up to 30 feet in the wild, which is actually rather short for a rainforest tree. Many of the much taller trees create a canopy for the shad-loving cacao tree.

Cacao trees originally grow in tropical rainforests in Central and South America. Now they are also grown on farms in Africa, Indonesia and Papua New Guinea- in fact any place within 20 degrees of the equator.

Small insects called midges eat the nectar of the cacao flower. When the midges fly from blossom to blossom, they transfer pollen and fertilize the trees so that the fruit can grow.
Brightly coloured fruits (called pods) then appear along the tree trunk and branches. Inside are the cacao seeds- the source of the chocolate.

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✓ STEP TWO>>> HARVEST

Cacao pods ripen throughout the year, but main harvests occur twice yearly. Farmers use hand tools to harvest ripened cacao pods. They use a machete (a big knife) to slice ripe pods from the tree and gather them into baskets.

You can tell that the cacao pods are ripe by the colour that they turn- they come in a variety of colours such as red, yellow, orange and green, depending upon their type. But all pods are about the same size and shape as small American footballs.

This is very hot and tiring work. Farmers often spend several weeks harvesting their crops.

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STEP THREE>>>> FERMENT

Next the farmers split open the pods with their machetes and scoop out the pulp-covered cacao seeds by hand. Cacao pods have tough skins and it can take two or three blows with a machete to open one up. A skilled worker can hack up to 500 pods in one hour!

Then they pile these seeds under banana leaves to ferment. This causes the seeds to heat up naturally, causing chemical changes that alter the look at flavour of the seeds.

In about one week the seeds turn a rich dark brown and begin to taste a bit like bitter chocolate.

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STEP 4>>>> DRY

Farmers dry fermented cacao seeds in the sun on rooftops, tables or large mats. Drying cacao seeds prevents them from getting mouldy during shipping.

Because the weather is so good and warm in equatorial countries, the seeds will be thoroughly dry in about a week.

Farmers turn the seeds during the week to make sure that they dry evenly.

Drying the seeds removes the moisture, so they'll be about half the weight when they're finished.

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STEP 5>>>> SHIP

Once the seeds have dried, the farmer scoops the seeds into sacks. Each sack can weigh anything from 130 pounds to 200 pounds.

The bags are then sent to the shipping centre. Soon the buyers of chocolate companies will come to inspect the seeds and finalize their purchase.

Once the seeds have been examined, they will be loaded onto a cargo ship. In about 60 days, the ships carrying the seeds will land in the United States or Europe.

Once they have reached their destination, the sacks of cacao seeds will be opened and poured into special stainless- steel trucks or railcars that will send the seeds to the chocolate makers.

How is chocolate made?

STEP 6>>>> roast

The seeds are then roasted. This is when the seeds release the rich aroma and delicious flavour of chocolate! Roasting can last anywhere from 30 minutes up to 2 hours. When finished, the seeds are a dark, rich brown.

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STEP 7>>>> crack, fan, winnow

The roasting process makes the cacao shells rather brittle. Now it's time to send the seeds through a machine called a winnower, this removes these thin shells.

Inside the winnowing machine, notched cones crack open. The brittle shells fall off and giant fans blow them away.

What remains are the nibs- the tasty centres of cacao seeds that eventually become chocolate. Strainers sort these nibs according to size.

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STEP 8>>>> Grind

Now the cacao nibs are ready for the mill. Heavy metal discs do the work, grinding the nibs into a thick paste that will eventually become chocolate.

The grinder then generates enough friction and heat to liquefy the nibs into the thick paste called 'chocolate liquor.' Despite its name, it actually contains no alcohol.

Some chocolate liquor is pressed to remove the cocoa butter. Further processing turns it into cocoa powder.

The unpressed chocolate powder is used to make chocolate.

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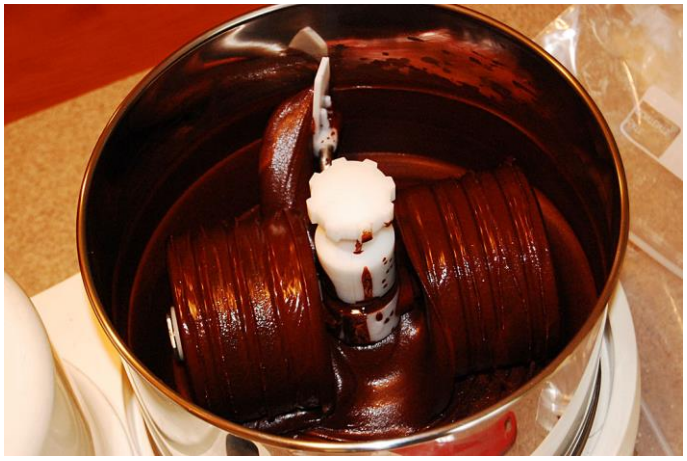
STEP 9>>>> mix

To make chocolate, manufacturers blend the unpressed chocolate liquor with condensed milk, sugar, and extra cocoa butter. Machines churn the liquor to mix the ingredients.

These are all mixed for a few hours, and then it becomes a course brown dough called 'crumb.'



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STEP 10>>>> refine

Now the thick chocolate 'crumb' needs to be refined to make even silkier. Giant steel rollers do the job of smoothing out the gritty mixture.

The rollers break down the tiny particles of milk, cocoa and sugar so that the batter has a creamy texture.