

## Chocolate Manufacturing

### From Trees to Beans



1. The Production of Cadbury's delicious chocolate begins with the cocoa tree. It produces large cocoa pods that sprout from tree trunks and main branches. Each pod contains 30-40 seeds, which sit in a sweet white pulp, rather like cotton wool – these seeds are the cocoa beans. When they're ripe, the cocoa pods turn a rich golden colour. They are then cut down from the trees and the pulp and beans are removed from the outside husk.

2. Next, the wet beans are dried in the sun and turned frequently so that they dry evenly – this is crucial because if any beans are still wet, they'll go mouldy when they are stored. Once the farmers are happy the beans are dry, they're taken to buying stations where the beans are weighed and packed into sacks.



### The Production Process

3. The beans are cleaned and processed. The beans are then roasted in a revolving drum. Hot air is filtered into the roaster as the beans pass along it. The roasted beans are 'kibbled' (broken in to small pieces) and then 'winnowed' (the brittle shells are blown away, leaving just the 'nibs', the centre of the beans). The nibs are then ground in a mill until they become a chocolate-coloured liquid, rather like thick cream, over half of which is cocoa butter. The liquid is called 'mass' or 'cocoa liquor' and this is the basic ingredient for all cocoa and chocolate products.
4. Mass contains cocoa butter and about half of this is pressed out. You're then left with a solid block that can be ground into cocoa powder and is used to make Cadbury Drinking Chocolate. It is mixed with sugar and fresh full cream milk, which has already been condensed into a thick liquid.
5. The mixture is dried in vacuum ovens to become milk chocolate 'crumb'. The crumb is taken to Cadbury's manufacturing factories and milled between enormous rollers before extra cocoa butter and special flavourings are added. Next, the milk chocolate needs to be 'conched' (rolled and kneaded so that it becomes silky smooth), and 'tempered' (cooled to a particular temperature to make it more stable).



### Chocolate Moulding

6. Bars of chocolate like Cadbury Dairy Milk, are called 'moulded' products because chocolate is poured into a mould to make them. Liquid chocolate is poured in, shaken (to make sure it fits the mould perfectly and to remove any air bubbles), and then cooled before being wrapped at high speed. Quality checks are built in at the end of the production process before packing. Our clever machinery is able to automatically check unmoulded chocolate bars for appearance, shape and weight.