



# Start Here.

To complete this puzzle, find the item indicated on the arrow and assemble the attached scene. Continue following the story in this way until you know everything about Chocolate!



## A great cup of cocoa

There are lots of different hot cocoa recipes but sometimes the best is also the simplest. Using one ounce of high quality sweetened chocolate (preferably Mexican) for every cup of hot milk, break the chocolate into pieces and melt in the milk over low heat, stirring often. Whisk until frothy and serve. Enjoy as you assemble the rest of the puzzle!



## What's in this stuff?

Hundreds of compounds have been identified in chocolate, such as: Caffeine, the well known stimulant also found in tea and coffee. Theobromine, a powerful heart stimulant; small amounts of which can be lethal to dogs. Phenylethylamine, a chemical in the brain that is released when we are in love. Magnesium, which helps the body produce serotonin and increases calcium absorption. Chocolate doesn't raise cholesterol or even cause acne!



## Unsweeten the pot

Chocolate is most often used in candies and desserts, but it is also a terrific addition to robust dishes. To get a feel for cooking with chocolate, try a Mexican mole sauce, or a hearty steak sauce made with unsweetened chocolate. Add a tablespoon of cocoa powder to your next pot of chili.



## Chocolate "Bombs Away!"

You might think that the Baby Ruth® candy bar is named after baseball great Babe Ruth. Though no one is sure, many believe that it is actually named after the infant daughter of former president Grover Cleveland. In any case, the Baby Ruth® bar was promoted in the early 1920's by dropping samples by parachute over Pittsburgh and other US cities.



## Aliens love it, too!

Mars, Inc. once passed up an opportunity to promote M&M's® in an untested science fiction movie. The movie producers went to their second choice, Hershey's, who decided to take the risk. They used their new product... Reese's Pieces®. The movie was E.T. and sales of Reese's Pieces® skyrocketed after the show opened.



## Cocoa Tracts

To produce one of the most important ingredients of its candies, the Hershey Chocolate Company built a sugar factory in Cuba. An entire railroad system was also built to service the factory. Though the factory no longer makes sugar for Hershey, the train is still in operation today!



## Add milk and stir?

Henri Nestle was a Swiss pharmacist working on a formula for infants who couldn't breastfeed. Daniel Peter, working for Callier, the first Swiss chocolate company, was unsuccessfully trying to mix milk with dark chocolate. By using the condensed milk invented by his friend Henri Nestle, he was able to make a smooth, sweet tasting milk chocolate. Peter's Chocolate is now a division of the Nestle Corporation.



## Like a South American "Euro"

Cocoa has been consumed in various forms for nearly 4000 years. The Aztecs and Mayans used cacao beans as currency. The Aztecs made a bitter drink using cacao beans, chili peppers and red dye. So valued were the beans that they were seldom eaten by "common folk". It would have been like lighting a cigar with a \$50 bill.



## Can I have my cocoa back?

Aztec Legend maintains that the God Quetzl Cotl was placated through an offering of chocolate. Concerned that Conquistador Hernan Cortez was Quetzl Cotl returning, King Montezuma sent an offering of their prized chocolate drink. Cortez destroyed the capital city and the army and then built a cacao plantation.



## Sweet Tooth

The Spanish added honey and sugar and then managed to keep the recipe secret for nearly 100 years. But in 1615, Princess Anne gave her betrothed, Louis XIII of France, a gift of chocolate and the chocolate cat was out of the bag.



## Cocoa spreads like wildfire!

The sweet chocolate drink quickly gained popularity, spreading from France to England, Italy, Germany, Austria, and Switzerland. It found its way into coffee houses of London and elsewhere, but solid, eating chocolate was not produced until the late 1600's.



## No bug spray allowed

At maturity the cacao tree is covered with about 6000 fruit, small, nickel-sized blossoms resembling orchids. A tiny biting insect known as a midge is the only creature small and determined enough to pollinate the stinky blossoms.



Cocoa plantations in Hawaii (the only US state to grow cocoa) are very productive because they have lots of midges.



## These trees are covered with footballs!

If pollinated, a seed pod will develop at the site of the blossom. One plantation tree might have 10 to 30 pods resembling acorn squash. They grow right from the tree trunk, a characteristic known as cauliflory (Brussels Sprouts grow this way, too).

Three varieties of cacao tree are commercially grown - Criollo (used for the finest chocolate), Forastero (a more mass market product) and Trinitario (a cross of the other two).



## The pods are ready!

After several months the pods ripen and the seeds begin to rattle inside. Their color turns from green to reds and oranges. A worker known as a tumbador (literally, a guy who knocks things down) harvests the pods. Gatherers (guys who pick things up) follow the tumbadors, collecting the pods and taking them to a processing area. There, the pods are opened and the beans are scooped out.



## Give those beans a time-out!

The beans are then fermented between banana leaves or in wooden crates for two to eight days in the same pulp in which they grew. During fermentation the beans begin to germinate briefly. While fermenting, the beans become brown, plump, and develop some of the aroma which suggests chocolate.



## Baked Beans

After fermentation, the beans are spread out in the sun and dried thoroughly. The dried beans are shoveled into sacks containing 130 to 200 pounds and usually shipped to North America or Europe. About 400 beans are needed to make one pound of chocolate.



## These nibs are delicious!

The bagged beans are sampled, inspected, then roasted. When the beans cool they are cracked in a mill or grinder. The shell or hull fragments are removed by winnowing - blowing them away. The remaining kernels or particles are called nibs. These nibs are the real cocoa.



## Squeeze out that yucky fat!

The nibs are finely ground and the heat from grinding melts much of the cocoa butter, which is separated from the powdered nibs. The nibs are again ground into a cocoa-flavored paste called chocolate liquor or cocoa mass. It is kept as a liquid in heated tanks.



## This chocolate tastes great! But is it?

Chocolate bars should be:

**Chocolatey** - the best dark chocolate contains as much as 70% cocoa solids.

**Smooth** - Soy lecithin (an emulsifier) is often used to impart smoothness, making much of the costly conching unnecessary. It can be hard to find chocolate without lecithin.

**Buttery** - The best chocolate uses only cocoa butter, not other vegetable oils and fats.

**Snappy** - Well-tempered chocolate will break with a snap.



## Melts on your face, not in your purse

Cocoa Butter is a fat found in chocolate. It is what gives really yummy chocolate its calories. It melts at just under human body temperature, which is why chocolate melts in your mouth. It is also why cocoa butter is used in cosmetics - lipsticks, creams, and soaps - the cocoa butter maintains its shape in the package but melts when applied to the body.

Some claim that the sugar in chocolate does not promote tooth decay because the melting cocoa butter takes it away, but... keep brushing just to be sure.



## Needs Salt

If the liquid is to become cocoa powder, more cocoa butter is removed and alkaline salts are added. This process called Dutching allows the cocoa to be soluble in water or milk. It is cooled, hardened and ground into a powder.



## You didn't throw away that butter did you?

If the chocolate liquor is to become a chocolate bar, cocoa butter (which they just took out) and flavorings are added. It then goes through a process called conching, wherein the chocolate liquor and additives are aerated and agitated in a big container for 12 hours to 4 days. Conching gives fine chocolate its smoothness, taste, aroma, and feel. It is then tempered by heating and cooling several times to establish the proper crystalline structure. It can now be heated and poured into a mold, cooled, removed, and packaged as a chocolate bar.

Status: assuming you've been assembling this puzzle the "right" way, you've now placed 270 pieces!

