

Chocolate Honour

Instructor Sheet



Student Questions:

1. Describe the process by which cocoa beans are turned in to chocolate.
2. List six health benefits of chocolate.
3. Discuss the differences between milk chocolate, sweet chocolate, bitter chocolate, white chocolate and carob.
4. List 10 uses of chocolate in recipes.
5. State the proper storage for chocolate
6. Discuss the properties of chocolate at:
 - a) cold temperatures
 - b) warm temperatures
 - c) hot temperatures
 - d) very hot temperatures
7. Make two of the following:
 - a) Chocolate egg
 - b) Chocolate bunny
 - c) Chocolates with soft centres
 - d) Chocolate Brownies
 - e) Chocolate chip cookies
8. Demonstrate the correct way of melting chocolate.
9. Answer the question posed in Judges 14:18
10. Research the ethics of chocolate production and distribution. Present your findings and the way Christians should behave in relation to them, using the method of your choice (oral presentation to a group, PowerPoint, essay, article, skit, poem, poster or other suitable method).

Suggested Answers:

1. Cacao tree pods are harvested, split open and the cocoa beans and pulp are removed. They are heaped into piles to ferment for a week to bring out the flavour. The beans are then dried in the sun before being shipped to chocolate factories. The beans are cleaned and roasted to further enhance the flavour. They are then hulled and the nib or inside of the bean is separated. The nibs are pressed to extract chocolate liquor – that is raw chocolate – and cocoa butter. Drinking chocolate is made from dried cocoa powder, but eating chocolate is made by mixing cocoa mass (dried liquor) with sugar and cocoa butter. Eating chocolate was introduced by Fry and Sons in 1847
You tube:
2. Chocolate health benefits:
 - a) has been shown to help prevent dental caries. (MIT 1978) The cocoa bean contains tannins, which act as anti-bacterial agents in the fight against tooth decay. Also, the high fat content helps to protect the surface of the tooth enamel from the decay-producing effects of sugar.
 - b) contains more Vitamin B1, B2, A, Iron, Phosphorus Potassium, Calcium, and protein in a typical serving than many snacks such as carrots, yogurt, apples, grapes, and cottage cheese. (Boynton 1982)
 - c) mood elevator – contains a chemical called PEA (phenylethylamine) which is naturally produced in the body when we are happy or in love, as well as certain carbohydrates that raise serotonin levels in the brain, which leads to a general feeling of well-being
 - d) Although it contains a number of stimulants such as caffeine and theobromine, chocolate doesn't cause over-stimulation symptoms. 1oz of milk chocolate only contains about the same amount of caffeine as one cup of decaffeinated coffee!
 - e) Cocoa and chocolate, when added to a healthy diet, provide antioxidants which reduce the oxidation of LDL (bad cholesterol), and so limit a process that leads to narrowing of the arteries in the heart. Cocoa beans do contain lots of flavonoids (an anti-oxidant also found in red wine, tea, fruits and vegetables).
 - f) Chocolate increases HDL cholesterol (the good cholesterol that protects the heart against coronary heart disease). It contains 3 main fats, one mono-unsaturated fat (oleic acid) and two saturated fats (stearic acid and palmitic acid). Oleic acid is the same mono-unsaturate that is found in olive oil, and is known to be good for the heart. Saturated fats are generally bad for the heart, but stearic acid is thought to be possibly different in this respect, and may slightly increase HDL.
3. Types of chocolate:
 - a) **Milk chocolate** – 10% chocolate liquor, 12% milk solids, sugar, cocoa butter & vanilla.
 - b) **Sweet chocolate** – 15 – 35 % chocolate liquor, sugar, cocoa butter & vanilla.
 - c) **Bitter chocolate** - Hardened chocolate liquor.
 - d) **White chocolate** - milk solids, sugar, cocoa butter & vanilla (no cocoa liquor).
 - e) **Carob** – made from the fruit of the carob plant instead of the cacao tree.

Uses of chocolate in recipes:

 - i. Cakes
 - ii. icing (frosting)
 - iii. cookies (pinwheels, choc chip etc)
 - iv. pain au chocolate
 - v. brownies
 - vi. decoration (chocolate leaves, curls etc.)
 - vii. chocolate sauce (or custard)
 - viii. chocolate rice or corn crisp
 - ix. chocolate ice cream
 - x. chocolate cheesecake

also: chocolate mousse, chocolate éclairs, chocolate fudge, smores, chocolate meringues, chocolate muffins, chocolate tortes
4. Chocolate must be stored in a cool dry place, although it can be successfully frozen!
5. Properties of chocolate
 - a) At cold temperatures (below 55°F), chocolate has a higher “snap” value and will “sweat” if brought too quickly to room temperature
 - b) At warm temperatures (above 85°F) chocolate may “bloom” or be covered in a white film caused by cocoa butter rising to the surface
 - c) At hot temperatures, chocolate melts (90° - 220° F) or will burn (above 220°F)

6. Chocolate recipe:
<http://recipes.cadbury.co.uk/recipes/pages/home.aspx>

Chocolate Brownies. Chef: Jane Milton

You will need a saucepan, spoon, scales, cookie pan and cooling rack.
Preparation time 15 minutes. Cooking time 45 minutes. Makes about 40 pieces.

125g plain chocolate
150g butter
285g caster sugar
3 eggs
1 x 5ml vanilla extract_
150g broken pecan nuts
225g chocolate chips
125g strong plain flour

Preheat oven to Gas 4/180c.

Line a shallow rectangular baking tin with aluminium foil and grease lightly Melt chocolate and butter in a pan.

Remove from heat and add sugar- stir until well mixed.

Add eggs one at a time, then vanilla, nuts and chocolate.

Stir in flour and pour into prepared tin.

Bake for 45 minutes.

A skewer inserted into the centre of the tray should come out slightly sticky- if it comes out clean your brownies are overcooked and will be dry not fudge like.

Allow to cool. Remove from tin, cut and dust with icing sugar.

Chocolate Chip Cookies. Chef: Nestle® Toll House ®

You will need a bowl, spoon, scales, cookie pan and cooling rack.

Preparation time 15 minutes. Cooking time 9 minutes. Makes about 60 cookies.

225 g all-purpose flour
1 teaspoon baking soda
1 teaspoon salt
225 g butter, softened
180 g granulated sugar
180 g packed brown sugar
1 teaspoon vanilla extract
2 large eggs
350 g NESTLÉ® TOLL HOUSE® Semi-Sweet Chocolate Morsels
125 g chopped nuts

PREHEAT oven to 375° F.

COMBINE flour, baking soda and salt in small bowl. Beat butter, granulated sugar, brown sugar and vanilla extract in large mixer bowl until creamy. Add eggs, one at a time, beating well after each addition. Gradually beat in flour mixture. Stir in morsels and nuts. Drop by rounded tablespoon onto ungreased baking sheets.

BAKE for 9 to 11 minutes or until golden brown. Cool on baking sheets for 2 minutes; remove to wire racks to cool completely.

PAN COOKIE VARIATION: Grease 15 x 10-inch jelly-roll pan. Prepare dough as above. Spread into prepared pan. Bake for 20 to 25 minutes or until golden brown. Cool in pan on wire rack. Makes 4 dozen bars.

SLICE AND BAKE COOKIE VARIATION:

PREPARE dough as above. Divide in half; wrap in waxed paper. Refrigerate for 1 hour or until firm. Shape each half into 15-inch log; wrap in wax paper. Refrigerate for 30 minutes.* Preheat oven to 375° F. Cut into 1/2-inch-thick slices; place on ungreased baking sheets. Bake for 8 to 10 minutes or until golden brown. Cool on baking sheets for 2 minutes; remove to wire racks to cool completely. Makes about 5 dozen cookies.

* May be stored in refrigerator for up to 1 week or in freezer for up to 8 weeks.

7. Chocolate should always be melted in a bowl over a pan of water, over direct heat, or very slowly in a microwave, stirring frequently.
8. Youtube recommended videos:
9. Judges 14:18 - Before sunset on the seventh day the men of the town said to him, "What is sweeter than honey? What is stronger than a lion?" Samson said to them, "If you had not ploughed with my heifer, you would not have solved my riddle." (NIV)
10. From articles/references sheet (separate document)