

Activity: Chocolate Mousse

Materials

For one station

- 2 4.25 oz bars of chocolate (60-70% cocoa)
- 1 stainless steel mixing bowl
- 1 bottle of water
- 1 wire whisk
- 1 plastic table cover
- 1 measuring cup
- 1 hot plate
- 1 ice bath
- 1 measuring cup

Recipe

Break 8oz chocolate bar into small pieces and add 1/2 cup of water. Warm until melted, stir continuously to form an emulsion. Place the bowl containing the melted mixture over an ice bath and whisk until a foam forms. Be careful not to over whip the mixture - it will harden.

Introduction

This activity may be used to reinforce concepts introduced in the "Classification of Matter" diagram. The chocolate begins as a solid mixture. The water is a liquid compound. The mousse that is created by whipping air into the melted mixture of chocolate (emulsion) and water is a foam.

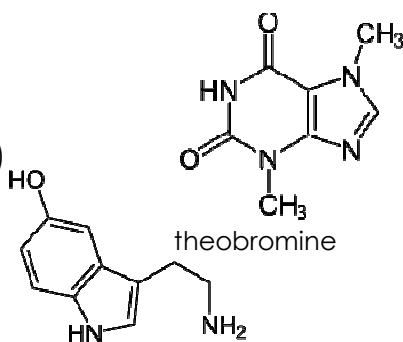
General Information

1. What is dark chocolate?
 - a. chocolate liquor: cocoa solids and cocoa butter (percentage varies)
 - b. produced from the cocoa bean cotyledon
 - c. also contains fat (stearic acid – saturated fat) and sugar (glucose and fructose)

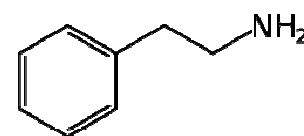
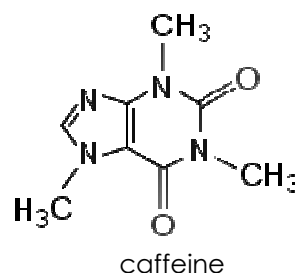
2. What are some chemicals in dark chocolate?

- a. xanthines
 - i. theobromine (1%)
 - ii. caffeine (<0.1%)

- b. serotonin (neurotransmitter)
- c. histamine
- d. salsolinol



serotonin



- e. phenethylamine (related to amphetamines – a mood elevator)
- f. telemethylhistamine, spermine, p-tyramine, 3-methoxytyramine, tryptamine, spermine

3. What is an emulsion?

An emulsion is a mixture of two immiscible (not mutually soluble, unmixable) liquids. One liquid (the dispersed phase) is broken into small quantities that are spread throughout the continuous phase (e.g. butter, milk)

4. What is a foam?

A substance that is formed by trapping many gas bubbles in a liquid or solid