**Palate Development**

**Description**

Students will learn to identify the six flavour profiles that make up the palate and their basic combinations. After tasting each of the flavours, students will combine two or more flavours on popcorn to create combinations and to taste the balance of the flavours.

## Lesson Objectives

Students will:

* understand the importance of how flavours react on one’s palate in order to create a specific taste
* learn how flavours and seasonings combine and create memorable dishes—either bad or good—by using the taste buds
* identify common combinations of flavours found in the everyday food that they eat (e.g., coffee with sugar, sweet and sour sauce, ketchup, salt and vinegar potato chips, salted caramel)
* experiment with the taste of a variety of ingredients used to build their own flavour profiles, and
* critique and evaluate the flavours and flavour combinations that are created.

## Assumptions

* The teacher will be familiar with flavour profiles and the correct palate-related ingredients, and will use appropriate resources.
* The teacher will prepare a number of ingredients and create six tasting stations based on flavour profile classifications.
* The teacher will prepare enough popcorn for the entire class.
* Students have received orientation on the subject of kitchen and food safety.
* Workstation Set-up and Knife Skills Activity Plans have been successfully previously completed.

## Safety Considerations

* Students will practise proper use of personal protective equipment (PPE) at all times.
* Students will have received orientation on the subject of kitchen and food safety.
* Students should have some awareness of the quantities of ingredients such as salt, sour, and hot/spicy that may cause discomfort in the palate.



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## Terminology

**categories of taste**: There are six basic taste profiles or categories: acidic, salty, sweet, bitter, umami (savoury) and hot/spicy.

*mise en place*: *Mise en place* (Fr.) refers to all of the preparation needed to cook a dish.

**palate**: Palate refers to a person’s perception or appreciation of flavours.

**texture**: The texture of a food is the way that food feels in the mouth.

***umami***: *Umami* is a Japanese term denoting a category of taste in food referring to earthy or meaty flavours.

## Estimated Time

1 70-minute class

## Recommended Number of Students

Up to 24

## Facilities

Home Economics teaching lab and/or Culinary Arts teaching kitchen

## Tools

* + *mise en place* bowls for each station to hold flavour ingredients
  + labels for ingredients at each tasting station
  + tasting spoons or toothpicks
  + bowls for mixing popcorn
  + pot for making popcorn or air-popper
  + individual bags for student popcorn

## Materials

Choose two or three ingredients for each of the following tasting stations:

### Salt

* + table salt
  + other salt such as sea salt or kosher salt
  + soya sauce

### Sour

* + lemon juice—fresh, not bottled
  + lime juice—fresh, not bottled
  + 2 types of vinegars
  + powdered acid such as tartaric (cream of tartar), citric, ascorbic (vitamin C)

**Sweet**

* granulated sugar
* honey
* syrup—maple, corn, pancake
* molasses

### Bitter

* radicchio or other chicory/endive
* strong coffee
* raw vegetable such as artichoke or bitter melon
* onion skin broth—boil onion skins until dark like tea. Very bitter.

### Umami (Savoury)

* mushroom broth—simmer dry mushrooms such as shiitake or Chinese mushrooms
* brewers yeast, engevita yeast, or nutritional yeast
* parmesan cheese
* marmite or vegemite
* miso
* seaweed

### Hot/Spicy

* black pepper—front of the mouth
* white pepper, wasabi, horseradish—middle of the mouth
* red pepper—cayenne, chili flakes, hot sauce

Popcorn seeds for popping Oil

Butter

## Resources

Draz, John, and Christopher Koetke. *The Culinary Professional. 3rd ed*. Goodheart-Willcox, 2017. Pages 837–845.

Gisslen, Wayne. *Professional Cooking for Canadian Chefs*. 8th ed. John Wiley & Sons, Inc., 2014. Hoboken, New Jersey.

Labensky, Sarah, Alan Hause, and Priscilla Martel. *On Cooking*. 7th Canadian ed. Pearson Canada, 2017

# Demonstrating Skills And Knowledge

## Procedure

1. Prior to class, the instructor will arrange and label flavour ingredients in six stations around the room by types of flavours (6).
2. Prior to class, the instructor will prepare individual bags of popcorn for each student.
3. The teacher may want to start the class off with a quick discussion about the difference between eating and tasting. Eating is simply the act of ingesting foods and takes no thought or creativity. Tasting, however, requires concentration, visualization, creativity, and

experience. Like painters who develop their sight and musicians who develop their hearing, chefs must develop their sense of taste and smell to create flavours that are pleasing to

the palate. Flavours must be added deliberately to achieve the desired taste and texture. Flavours can be similar or contrasting.

1. Teachers may also choose to share the physiology of tasting as well. The saying that we eat with our eyes first is a very real statement that pre-loads the brain to either enjoy or reject what is about to be consumed.
2. Students will rotate through the six kitchen displays and look at and/or taste all of the ingredients.
3. Afterwards, students will be provided with a bag or container each containing 250 mL of popped popcorn.
4. Students will be expected to create and name their own flavoured popcorn. Each student must use at least two ingredients.
5. Students will present their popcorn name and creation to the class and share samples if desired.
6. While sharing the popcorn, encourage the class to have a discussion about the variety of flavour combinations that have been created and differences in personal taste preferences.

## Evaluation Guidelines

Students will receive a formative evaluation based on:

* + positive and active participation
  + completion of the activity
  + each criteria of the palate activity is met
  + student’s utilization of creativity when creating their own flavour profile, and
  + whether correct food safety practices have been followed.

**Participation and enthusiasm are crucial. Assessment should be very objective. Risk-taking and exploration should be encouraged in order for the students to have fun with this activity.**

## Extension Activities

1. **The importance of the palate**: Palate production will be an ongoing objective in all cooking labs.

A class discussion around how other influences can make a great chef or not (e.g., smoking and chewing gum will detract from the ingredient flavour).

1. **Career exploration**: Chefs, cooks, wine tasters, brewmasters, spirit makers, food designers, food critics, and writers are all professionals who use their sense of taste as an integral part of their job.
2. **Health and nutrition**: Provide a basic understanding of how these flavours can assist in replacing salt when seasoning, if looking for an alternative to sodium