FACS State Course Name: Food Science

Unit: Lipids

Lesson: Comparing Cooking Oils

Competencies/Purpose:
Students will be able to see the different types of oil you can cook with the different properties that makes each one a useful oil to cook with.

Time Needed: 90 minutes

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FACS Standards (Colorado and National):
N9.3.2 Analyze nutritional data. (HPE02.06.a,HPE02.06.b)(MAT03.03.a)(PWR2.2.a)(RWC04.10.c)
N9.3 Evaluate nutrition principles, food plans, preparation techniques and specialized dietary plans

Colorado Academic/Model Content Standards (CDE):
N9.3.2 Analyze nutritional data. (HPE02.06.a,HPE02.06.b)(MAT03.03.a)(PWR2.2.a)(RWC04.10.c)

Objectives- Upon completion of this lesson, students will:
Students will determine through discussion which oil is the best to use based on what they have researched and experienced about the oils.
Students will participate in expert groups and research a type of oil and its properties to share with other members of the class.
**Instructional Strategies:**

- Assigned Questions
- Brainstorming
- Case Study
- Computer Assisted Instruction
- Concept Attainment
- Concept Mapping
- Conducting Experiments
- Cooperative Learning
- Debates
- Demonstration
- Drill & Practice
- Discussion
- Field Trip
- Inquiry
- Interviewing
- Journal Writing
- Laboratory Groups
- Learning Centers
- Lecture
- Peer Learning
- Problem Solving
- Reading for Meaning
- Research Projects
- Role Playing
- Simulations
- Storytelling
- Think, Pair, Share
- Tutorial Groups
- Writing to Inform

**Tools, Equipment & Supplies:**

- **XX Computers** *(access to computers, students in groups.)*
- Construction Paper
- Markers, Scissors, etc.
- Paper
- Printer(s)
- Other

**Resources:**

- **XX Handouts**
- Textbook pgs. Click here to enter text.
- Multimedia Click here to enter text.
- Overhead Masters
- Workbook pgs. Click here to enter text.
- Other Click here to enter text.

**Key Terms:**

- **Mono-unsaturated fats**- fats that have one double-bonded carbon in the molecule; lower LDL (bad cholesterol) and raise HDL (good cholesterol)
- **Poly-unsaturated fats**- fats that have more than one double-bonded carbon in the molecule; typically liquid at room temperature
- **Saturated fats**- fats in which the carbon atoms are saturated (all bonded) with hydrogen atoms. Often solid at room temperature
- **Omega Acids**- fatty acids that are found in oils and help the body to grow

**Introduction of Lesson:**

**Prior Information:** Prior to this lesson, students should have learned about mono and poly-unsaturated fats, saturated fats, omega acids, and the needs and benefits of all of these. This lesson would be a good supplement to a lecture on properties and composition of oils.

**Set:** List two types of cooking oils. What is the benefit of using different types of oils?
Exploring the Content (Lesson):

1. Discuss the warm-up. This is also a good time to review the information about the different forms of fats. During this time handout the worksheet that students will need to fill out or have them pull out paper to create their own.

2. Describe the assignment Oils are extracted from seeds, nuts and the flesh of fruits. A variety of different oils are used by different people for several reasons. In groups students will be researching the oil they are assigned and then they will be sharing with others. Separate them into expert groups (there are seven oil types) and after the research is complete, they will be taking their expert knowledge to another group and share. In these groups the students will be discussing which of the oils is the best and why?

3. Complete the research. There is a series of helpful websites the students could use (see attached). These could be posted on a teacher resource page or written on a board. During this time it is important to verify that the students are obtaining the correct information before they share with others.

4. Once research is complete, students will separate into groups so there is one expert for each of the oils in the group. Students will share their information, write down the others’ information and then begin discussing.
   a. In your group, you need to discuss and decide which oil is the best and why. Discuss different areas of information, personal experience and debate until you come up with a majority vote. Be ready to discuss your decision with the class.

5. After the discussion is complete, ask each group to share their chosen oil and why they chose it. This can lead to more discussion on other cooking oils, prices of oils, and more. In reality, there is not a #1 best oil for you. Each has different properties, benefits and drawbacks. There are some that are better for certain things and some you should avoid (or are too pricey) but there is not one and only answer.

Review/Summary:
In reality, there is not a #1 best oil for you. Each has different properties, benefits and drawbacks. There are some that are better for certain things and some you should avoid (or are too pricey) but there is not one and only answer.
Assessment:
The students should be able to have a discussion about this topic and use the information that they gained from their search. In your group, you need to discuss and decide which oil is the best and why. Discuss different areas of information, personal experience and debate until you come up with a majority vote. Be ready to discuss your decision with the class.

Sponge: Looks up recipes that use the different types of oils and explain why that oil was chosen for that recipe (smoke point, flavor, etc).

Modifications:

FCCLA Integration:
Culinary Arts