Cozy Cafe Lesson Plan for Homeschool

Overview

Raddish is designed by a dedicated team of teachers and chefs who believe the kitchen classroom is the tastiest place to learn. We love watching learning come alive when kids mix math, stir science, and taste culture!

Paired with the materials found in your Cozy Cafe box, this lesson plan divides your box into 3 30-90 minute lessons you can use and adapt to support your homeschool study, pre-k – middle school. Depending on your timeframe and child's age and engagement, these can be taught together or separated for a longer lesson. Please refer to the curriculum provided in your box: recipe guides, activity cards, skill card, and introduction card. Happy cooking! Happy learning!

Lesson 1: Gourmet Grilled Cheese and The Science of Butter

Activity Time: 30-90 minutes

Learning Outcomes

- Students will learn how liquids and solids can be made to change forms.
- Younger students will make a prediction about what will happen to cream (a liquid) when it is agitated.
- Younger students will learn the term emulsion.
- Students will learn the components of butter.
- Older students will learn to prepare brown butter (or *buerre noisette*), and learn about clarified butter and the Maillard Reaction.
- Older students will experiment with temperature and time when creating brown butter.
- All students will record (in writing, through drawing, or oral presentation) what happened in their experiment.
- Students will make and share Gourmet Grilled Cheese Sandwiches.

Materials

- Recipe guide, ingredients, and tools listed within.

For Younger Students

- Small glass jar with lid
- Whipping cream
- Worksheet: Cream into Butter (attached)
- Optional- timer

For Older Students

- 1 stick butter
- Small pan with light colored interior
- Wooden spoon or heatproof spatula
- Stovetop- with adult supervision
- Worksheet: How to Make Brown Butter (attached)

- *Websites consulted to create this lesson*
  - http://scienceandfooducla.wordpress.com
  - www.luckypeach.com
  - www.modernistcuisine.com
  - https://en.wikipedia.org/wiki/louis_Camille_Maillard

1. Introduction

a. Ask students- Do you use butter in your house?
   i. When do you eat?
   ii. How do you use it?
   iii. What is it made out of?
   iv. Is it a solid or a liquid or a gas? Can you give an example of each of those states of matter?

b. Today you are going to have the opportunity to explore how butter is made and how it can change from one state to another.

2. Butter Experiments

Young Students- How to Make Butter

a. Ask students how they think butter is made. Have students share ideas.
b. Put materials for experiment out and then ask them if this changes their ideas.
c. Explain the experiment (see Turn Cream into Butter Worksheet) and ask them to predict how long they think it will take to turn the heavy cream into butter. (Young children may do better estimating time using something concrete like the time it takes to sing or listen to a song or watch an episode of a show. Or you can use a timer.)
d. Following the directions, make butter.

e. Once the students have butter ask them to explain what happened. Why did shaking turn the cream into butter? Discuss the explanation as outlined on worksheet.
f. Eat and enjoy your fresh butter! Or, you can use it for the Brown Butter Experiment or save it to make Gourmet Grilled Cheese Sandwiches!

Older Students- The Science of Brown Butter

a. Follow the worksheet "How to Make Brown Butter" and learn more about this delicious condiment!
b. Taste and compare the flavor and structural difference between melted, solid, and brown butter.

The Man Behind the Science of Browning Butter

Louis Camille Maillard (1878-1936) was a French physician and chemist. He made great contributions to the health field and understanding chemical reactions in food.

The Maillard Reaction happens when you brown a food, like searing a steak, or caramelizing onions. This series of reactions between an amino acid (the building blocks of protein) and a sugar is responsible for brown colors and many aromas and flavors in cooked foods.

For the Maillard Reaction to occur you need the following:

- Protein (meat, butterfat, etc)
- Sugar (glucose/simple sugar, fructose/from fruit, lactose/from milk, maltose/from starches)
- An increase in temperature
- Removal of water

3. Fun Bites – Science of a Great Grilled Cheese

a. Together read the Fun Bites Section of the Recipe Guide.
b. Try out one or all three of the included experiments.
c. Make sure you have some butter at room temperature so you are ready to create your Gourmet Grilled Cheese Sandwich Masterpiece!

4. Kitchen Prep

a. Read the Gourmet Grilled Cheese recipe card together.
b. Identify and gather ingredients.
c. Gather tools.
d. Read the Skill Card Spatula Skills to prepare for successful sandwich turning.

e. Discuss kitchen safety. Specifically, stove top safety (Visit Raddishkids.com/pages/safety)

5. Prepare Gourmet Grilled Cheese Sandwiches

a. Ask children to read or describe each step.
b. Together, follow the steps in the recipe.
c. Give each child a turn to slice, spread and grill.
d. While the Gourmet Grilled Cheese Sandwiches are grilling remember everything you learned from the Fun Bite Experiments. Keep a close eye on the temperature of the pan to ensure crispy bread and ooey gooey cheese.
e. When the Gourmet Grilled Cheese Sandwiches are ready, eat, taste and share!
f. Describe to your family and friends how butter is made, how it changes from a liquid to a solid, and how you make brown butter!

Lesson 2: Jumbo Oatmeal Cookie and Create Your Own Cafe
Activity Time: 90 minutes

Learning Outcomes

- Students will learn about ambiance.
- Students will practice using their observation skills either through guided imagery or a field trip.
- Students will practice with visual spatial skills in laying out a café environment.
- Students will create a vision for their Dream Café and make choices accordingly.
- Students will describe how their theme or vision affected the choices that they made.
- Students will create a plan for their Dream Café and present it either in writing, orally, or artistically.
- Students will make Jumbo Oatmeal Cookies to share with their family.

Materials

- Recipe guide, ingredients, and tools listed within.
- My Dream Café Research and Creation Worksheet (included)

1. Introduction

a. Café discussion:
   i. Have you ever been to a café?
   ii. What was it called?
   iii. What did you eat or drink?
   iv. What did you hear?
   v. What was on the walls?
   vi. Who worked there and what did they do?

2. Warm Up Activities- Choose one or both

Guided Imagery

a. Have students sit comfortably. They can put their heads down on their desks or even lie on the floor. Have students close their eyes and take three long breaths counting to four in their heads while they inhale then to four as they exhale.
b. Tell students that for this activity you will ask them questions. Rather than answer them aloud, they should just imagine and picture the answers in their head. After you are done the activity they can describe what they imagined.

c. Verbally "walk" students through a café. For example, you are walking down the sidewalk and spot a café. A sign outside invites you to come inside. *What does the sign say*? You open the door and notice delicious aromas. *What are they?* As you step further inside many sounds reach your ears. *What are they*? Continue to walk students through the café asking about all of the senses. Additional questions to ask might be: *Is there a menu? Who is there? Was the staff helpful? Was the café busy*? *What did the café look like on the inside?* Finish with having students imagine that they are drinking and eating what they ordered. *How does it taste? How does the overall experience make you feel?* Take one last look around the café then stand up and walk out the door.
d. Repeat the three long breaths from the beginning then open your eyes and come back to the classroom.
e. Have students share what their café experience was like. They can draw a picture or describe in words.

Field Trip to a Café

a. Take students to a café. You can have them decide which one they want to go to. However, they need to make a case for why they like that particular one.
b. Ask students the same questions as above in the guided imagery. Have them use all of their senses to experience their surroundings.
c. They can take notes while they are there about everything that they notice or even draw a picture or take photographs of what they see.
d. Tell them that their job is to absorb as much of the ambiance as possible and then evaluate what parts of the experience is appealing to them and what parts are not.

3. Fun Bites- Café Culture

a. Together read the Fun Bites Section of the Recipe Guide.
b. Did your Guided Imagery or Field Trip to a café include any of the *Reasons to Visit a Café* that were listed?
c. Review the definition of *ambiance,* the way the café looks and feels.
d. What was the ambiance like in the café that you imagined or visited?

4. Create your Dream Café

a. Now that you have imagined or visited a café it is time to create your own perfect version!
b. Use the My Dream Café Brainstorm and Creation worksheet (included) to think of all the details. Choose one way to showcase your café.

5. Kitchen Prep

a. Read the title page together.
b. Identify and gather ingredients and tools.
c. Discuss kitchen safety, in particular oven safety. (Visit Raddishkids.com/pages/safety)

6. **Prepare Jumbo Oatmeal Cookies**
    a. Ask children to read or describe each step.
    b. Give each child a turn measuring, stirring, etc.
    c. While the Jumbo Oatmeal Cookies are baking create the ideal ambiance for your friends and family. Maybe put on some music or add colorful napkins to the table.
    d. Once the Jumbo Oatmeal Cookies are ready Eat, Taste and Share!
    e. While you are eating, share your Dream Café with your friends and family. Perform your commercials, hand out flyers or display your dioramas.

Lesson 3: Hearty Minestrone Soup and Menu Math
Activity time: 60 minutes

Learning Outcomes

- Students will learn the culinary terms: ingredient, quantity, serving size and yield.
- Students will learn a math game to practice the idea of grouping in multiplication. (Using repeated addition, arrays, and counting by multiples to do multiplication).
- Older students will learn a math game to practice the idea of remainders in division.
- All students will use tools and strategies, such as manipulatives or sketches, to model problems.
- Students will identify and know the value of coins and show different combinations of coins that equal the same value.
- Students will create a menu and make math problems to give to a friend.
- Students will make Hearty Minestrone Soup.

Materials

- Recipe guide and ingredients and tools listed within.
- Raddish Cozy Café Menu (included- print both pages and fold together to make a menu
- Raddish Cozy Café Menu Questions (included - set 1 for younger students and set 2 for older students)
- A variety of coins and bills
- Paper and pencil
- 1 or 2 dice depending on difficulty level
- Raisins or other small counters like dry beans or buttons
- Cookies and Raisins Game Instructions (included)
- Paper and pencil

Resources consulted for this lesson plan

- 50 Problem Solving Lessons By Marilyn Burns
- Menu Math by Scholastic

1. Introduction

a. Read the Fun Bites- Solving for Servings Section of the Recipe Guide.
b. Review the culinary terms: ingredient, quantity, serving size and yield.

c. Pick a favorite family recipe or open a cookbook to a recipe and see if you can find the ingredients, quantity, serving size and yield from the information provided.
d. Tell students that if they want to make a recipe, or run a café they need to know how to use a variety of math skills. Today you are going to use some of those skills to answer questions about menus and play some math games!

2. Menu Math

a. Take time to review the Raddish Menu. Familiarize students with the kinds of information, language, organization and price structure. *For younger students you can change the prices to much simpler values.
b. Read through the menu questions with the students to check for understanding. Then watch to see what strategies they use to solve the questions. Have them share their strategies as it may really help another student whose methods aren't working as well.
c. Allow students paper and pencil, coins, and other manipulatives to conduct math problems. Use a calculator as a cash register to double check the math.
d. Extension Ideas
    i. Use take out menus to create more math questions.
    ii. Have students make their own menus and math questions.

3. Cookies and Raisins- Multiplication Game

a. Gather all the necessary materials.
b. This game helps students link their additive thinking to multiplicative thinking. It provides an introduction to the concept of multiplication by using what is familiar to students: repeated addition.
c. Play a round as demonstration. Make sure to draw the "cookies" (number of groups) first. Then roll again to place the "raisins" (the number in each group) into the "cookies".
d. Talk through your sequence. Ex: "I have 4 cookies with 3 raisins in each cookie. How should I figure out the answer?" Allow students to give different strategies. Some younger students may count all the raisins by ones. Older ones may do repeated addition 3+3+3+3=12. Or count by 3's 3,6,9,12. All of these are good ways to get the correct answer. Make sure to also use the multiplication words: "there are 4 groups of 3." Finally, close the example with a multiplication sentence 4X3=12.
e. Now it's the students' turn. Give them the Cookies and Raisins Instruction Sheet (included)
f. Some questions to ask while students are working:
    i. What does the first roll of the die tell you to do?
    ii. What does the second roll of the die determine?
    iii. Describe your mathematical illustration.
    iv. How many groups do you have? How many are in each group?
    v. How will you record your work as an addition sentence?

vi. How will you record your work as a multiplication sentence?
vii. **How is multiplication like addition?**

g. Older Students can use two dice to work up to their 12 times tables!

4. **Kitchen Prep**
   a. Read the title page together.
   b. Identify and gather ingredients and tools.
   c. Discuss kitchen safety, in particular stove top and oven safety. (Visit Raddishkids.com/pages/safety)

5. **Prepare Hearty Minestrone Soup**
   a. Ask children to read or describe each step.
   b. Give each child a turn, slicing, stirring, etc.
   c. Once your Hearty Minestrone Soup is cooked gather your family and friends together to Eat, Taste and Share!
   d. While you have everyone together you could teach them your new math games and invite them to play!

Making Homemade Butter:

How to Turn Cream Into Butter

What You Need

- Heavy whipping cream
- A medium sized mason jar with a tight fitting lid

Steps:

1. Fill your jar half-way with cream.
2. VERY carefully tighten the lid.
3. Shake, shake, shake!

What's Happening?

Use all your senses to observe what's happening and how the cream is changing properties. In the beginning you'll **hear** a lot of liquid sloshing around. After a few minutes of shaking, you won't hear anything, and your cream will be very, very thick. You'll **see** it probably fills the entire jar. **Taste and smell** it! **This is whipped cream!**

Keep shaking... the cream will change pretty quickly now. You'll actually be able to **see** the butter start to form. Liquid will start to separate from the mound. **This is buttermilk**. You can use it to make pancakes! Finally, you'll end up with a lump. **That's butter!** Spread it on toast, salt it, season it (with lemon zest or thyme), and enjoy!

If you aren't eating the butter right away, rinse it under cold water to help preserve it. This is fresh butter, so it won't last as long.

Why?

Milk and cream are oil-in-water emulsions. An emulsion is a mixture of two liquids that normally do not mix. Butter is the opposite – it's a water-in-oil emulsion. When you churn butter, the globules in the cream break open to release the entrapped fat molecules. The fat molecules clump together and mix to form larger fat globules. They come together to form solid fat droplets. This processes pushes out the liquid portion, creating the remaining buttermilk. The solid portion becomes the butter.

Making Homemade Butter:

How to Make Brown Butter

What is Brown Butter?

Butter contains butterfat, milk solids and water. Once it is melted the milk solids (white) and butterfat (yellowish) separate. The water is there but you can't see it until you heat the butter and the water will change to its gaseous state of steam and evaporate.

If you stop heating the butter at this point and pour out the yellow butterfat that is floating on top of the white milk solids, you have *clarified butter*. This product has a higher smoke point which means that you can use it for cooking at higher temperatures without it burning.

For browned butter you leave the milk solids in and continue heating. The milk solids will begin to brown and toast. The butter will go from light brown to dark brown quite quickly. When it is deep brown with a nutty aroma you have done it! In French cooking this brown butter is called *buerre noisette*.

Uses for Brown Butter

You can use brown butter on your morning oatmeal, on pasta, or even in chocolate chip cookies. Let it cool and mix with cinnamon and sugar for toast that is out of this world!

How to Make Brown Butter

Making brown butter is all about timing, being watchful and knowing when to take the pot off the heat. Chefs use brown butter to pump up the flavors of their dishes. Follow these steps and you too can create delicious flavorful dishes!

What You Need

- 1 stick of butter
- wooden spoon or heatproof spatula
- pot with a light colored inside such as stainless steel

Steps:

1. Cut butter into chunks.

2. Put pot on stove over medium heat and add butter chunks.
3. Use utensil to stir to help the butter melt.
4. Keep stirring occasionally as steam rises. (This is the water evaporating and is a necessary step in the Maillard Reaction.)
5. Watch and stir occasionally. Move aside the foam so you can see the milk solids in the bottom of the pot.
6. You will start to see a yellowing then gold then brown. It happens pretty fast! When it is a rich caramel color, remove it from the heat and keep stirring for another minute. This is important because the heat in the pan is continuing the cooking process.
7. Let the brown butter cool to room temperature.
8. Stir it again to mix the browned milk solids back into the butter fat.
9. Store it in an air tight contained at room temperature or in the fridge. It also freezes well.

My Dream Café Brainstorm

Use the questions below to help you plan and design your Dream Café.

1. Does your café have a theme?
    a. Is it for working people, tourists, neighbors, kids or teens, etc?
    b. Is it all about a kind of music?
    c. Is it about a certain type of cuisine or beverage?
    d. Is it about dinosaurs or flowers etc?
    e. What is your café name?
2. Does your café have a color scheme?
    a. What colors would you use? Are they complimentary or contrasting?
    b. Where would you use the colors? Chairs, walls, napkins, plates?
    c. How do you think those colors would make people feel? What kind of an ambiance would they create?
    d. How else will you decorate? Art? Music? Painted windows etc?
3. What size is your café?
    a. What shape is the space? Long and narrow, L shaped etc?
    b. How many tables/seats do you want to fit in?
    c. How much space will there be between people? How does that affect the ambiance?
4. What will you serve to your customers?
    a. What drinks will you serve? Hot and cold?
    b. What food will you serve? None? Snacks? Breakfast and lunch?
    c. Will you have a signature drink that is special to your café? What would it be?
5. How many employees will you need?
    a. What jobs need to be done? Making drinks (barrista), taking money (cashier), cleaning, etc?
    b. What hours will you be open? You may need to hire more than one person for each job if you are open a long time every day.
6. Will your café be environmentally friendly?
    a. What can you do in your café to protect the environment?
    b. What sort of materials will you use? Actual plates versus paper?
    c. How will you deal with trash? Recycling? Compost?

Dream Café Creation

Now that you have a clear idea of: who your café is for, what it will look/sound/smell like, and what food and drink you will serve, it is time to put your plan into action!

Below are some suggestions on how you can share your Dream Café with your friends and family. Choose one or more!

1. Draw a floor plan for your café.
    a. Using a birds eye view (from above), draw in tables, chairs, service counters, trash bins, doors, etc.
    b. Color it in to fit your plan.
    c. Make sure you include the entrance and washrooms.
2. Make a menu.
    a. Write the names of your food and drinks complete with descriptions.
    b. Set a price for them. (Older kids can do research about the cost of ingredients, and supplies like cups, coffee machines, etc.)
    c. Design a logo for your menu and draw the on your cups.
3. Set up a real café in your classroom/house.
    a. Set up one or more tables as you would like them to be in your Dream Café.
    b. Use your color scheme.
    c. Play music that creates the ambiance you are interested in.
    d. Make one or two drinks and/or snacks that you would serve.
    e. Take your customers orders at a counter or their table.
    f. Add up costs and bring them a bill and make change.
4. Set up a doll size café in your classroom/house.
    a. Do the above on a simpler, smaller scale.
5. Create a commercial for your Dream Café
    a. Make a 30 second commercial to invitee people to come to your Dream Café.
    b. Be sure to include information about:
        i. Where you are located.
        ii. What you serve.
        iii. Any specials.
        iv. Maybe have music playing to give a sense of your ambiance.
6. A few other ideas
    a. Create a diorama.
    b. Make a flyer or café brochure.
    c. Write a review of your café as if you were an important restaurant critic.

REVIEWS FROM OUR CUSTOMERS:

Delicious homemade food!

Warm ambiance and friendly staff!

Unique food choices!

Best place in town for a milk steamer!

Raddish Cozy Café

Where family and friends share good food together.

Cozy Concoctions

Hearty Minestrone Soup……..$2.50

Gourmet Grilled Cheese……..$4.00

Sausage in a Blanket……..$3.50

Pasta in Brown Butter Sauce……$4.50

Big Deserts

Jumbo Oatmeal Cookie……..$2.00

Monstrous Ice Cream Sundae……$3.25

Warm Drinks

Hot Chocolate……..$1.00
Whipped Cream or Marshmallows +.50

Cinnamon Apple Cider……..$1.00

Milk Steamers ~ our specialty!
Chocolate Fudge……..$2.75

Cinnamon Spice……..$2.25

Vanilla Crème……..$2.50

Maple Swirl……..$3.00

Raddish Cozy Café

Questions Set 1

1. How many items on the menu are drinks? _____
2. Which drink costs the least? _____
3. Which drink costs the most? _____
4. How many items are desserts?_____
5. Which dessert costs the most? _____
6. What Cozy Concoction costs the least? _____
7. Luke orders the Hearty Minestrone Soup and a Chocolate Fudge Milk Steamer. How much does it cost him? _____
8. Maria orders Gourmet Grilled Cheese and a Hot Chocolate. What does her meal cost?_____
9. Jorge spends $3.50 on a Cozy Concoction. What does he buy?
   _____
10. What costs more: a Monstrous Ice Cream Sundae or a Sausage in a Blanket?
    _____
    a. How much more? _____
11. What would you like to order?
    _____
    _____
    a. How much would it cost? _____
    b. If you paid with a $10.00 bill would you get any change?_____
    c. How much? _____

Raddish Cozy Café

Questions Set 2

1. What fraction of all the items on the menu are drinks?_____

2. If a family of four each ordered a Cozy Concoction and a drink what would be the least expensive order? _____

3. Hudson orders a Cozy Concoction and a Hot Chocolate with Marshmallows. His meal costs $6.00. Which Cozy Concoction did he order?

   _____

4. You have $6.00 to spend at the Raddish Cozy Café!
   a. Do you have enough to order a Cozy Concoction, a Warm Drink and a Big Dessert? If so what are your options? How much does it cost all together?

      _____

      _____

   b. Did you get to order what you wanted? If not what would you choose? What would the total cost be?

      _____

      _____

5. What fraction of the items on the menu are desserts? _____

6. Yoshi orders Gourmet Grilled Cheese, a Jumbo Oatmeal Cookie, and a Maple Swirl Milk Steamer. Tanya orders Sausage in a Blanket, Monstrous Ice Cream Sundae and Hot Chocolate with Whipped Cream.
   a. Who pays more? _____
   b. How much more? _____

7. All Marco wants is a Sausage in a Blanket so he orders 3 servings.
   a. Will he pay more or less than $10.00? _____
   b. Explain how you know this.

      _____

Cookies and Raisins Multiplication Game

Objective: Practice multiplication.

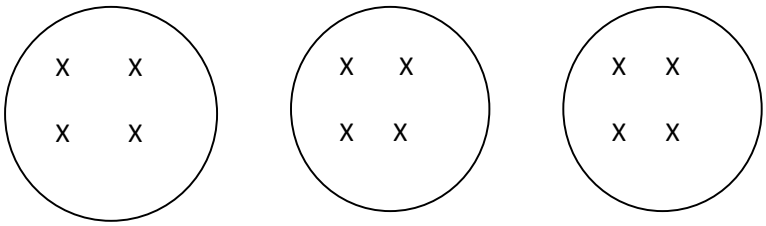
Players: 1

Materials:

- One die
- Paper and pencil

How to play:

1. Fold the paper so that there are 4 sections on each side for recording.
2. Roll the die. Draw the corresponding number of cookies in the first section of the recording sheet. Make sure your cookies are big enough to fit up to 6 raisins inside of them.
3. Roll the die again. Put the corresponding number of raisins in each cookie.
4. Record the addition sentence, the word sentence, then the multiplication sentence.
5. Repeat steps 2 through 5 three more times until four rounds have been played and recorded. You can flip the paper over and do four more on the other side.



4 + 4 + 4 = 12
3 groups of 4
3 x 4 = 12