Brain Food 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 Brain Food box, this lesson plan divides your box into 4 60-90 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: Teriyaki Bowl & Migration

Activity Time: 90 minutes

Learning Outcomes

- Students will learn about migration.
- Students will brainstorm why they think both people and animals migrate.
- Students will compare and contrast similarities and differences between reasons for migration.
- Students will observe animals in their environment and research their migration patterns.
- Students will learn how to prepare salmon – a fish that makes a tremendous migration -- into a delicious and nutritious meal.

Materials

- Paper and markers for brainstorm.
- Notebook for students. Minimum 6 page notebook with half blank, half lined sheets is ideal.
- Optional kid friendly picture book about animal migration, such as *Going Home- The Mystery of Animal Migration* by Marianne Berkes
- Recipe guide, ingredients and tools listed within.

1. Introduction

a. Ask students to think of family or friends that have moved. Chart the reasons why those people moved and brainstorm other reasons someone might move.
b. Ask students if they know what the term migration means? Record their responses and see if the students can create their own meaningful definition. (People- the movement of people from one place to another to live or work. Animals- the movement of groups of animals for reasons such as feeding or breeding.)
c. Have students brainstorm a list of animals that they know that migrate. What motivates animals to migrate?
d. Do people move for the same reasons as animals? Are there any other connections or similarities and differences between human and animal needs?

2. Animal Migration Research Book

a. **Animal Observation**- Over the course of two days have the students record all of the animals and insects they see on television, in magazines and books, in your yard, the park, etc., on the first page of their notebook.
b. **Choose and research**- Choose five of those animals and write their names at the top of each page of the notebook. Then research on the Internet or at the library why those animals migrate. Questions to consider: where do they migrate from and to? Are the animal migration routes or destinations changing due to human or climatic impact? You may want to consider researching salmon as one of the animals, as their migration journey is truly remarkable.
c. **Draw, Title and Teach-** Have students draw pictures of the animals they researched, or create maps of their migration paths. Encourage students to create a title for their migration book and create a cover complete with author. Provide an opportunity for them to teach other family members or friends about the migration information they have learned.

3. Kitchen Prep

a. Read the title page.
b. Identify and gather ingredients.
c. Gather tools.
d. Discuss kitchen safety. (Visit Raddishkids.com/pages/safety) Create kitchen rules together. Ex. No Running, Oven Safety, Knife Safety

4. Cook!

a. Ask children to read or describe each step.
b. Together, read about the "Traveling Salmon" on the recipe guide.
c. Give each child a turn chopping, measuring, whisking, etc.
d. Once the Teriyaki Bowl is ready, taste and share.

Lesson 2: Quinoa Pizza Poppers and Super Protein!
Activity Time: 90 minutes

Learning Outcomes

- Students will learn why protein is important for their health.
- Students will write about, draw and discuss the benefits of protein.
- Students will cook quinoa, a grain that is high in protein and has a long history of feeding people so they can work at an optimal level.

Materials

- Recipe guide, ingredients and tools listed within.
- Markers, crayons, or paints.
- Paper, pens, pencils.
- Protein Superhero worksheet.

1. Introduction

a. Look at the recipe guide and meet Team Protein.
b. Discuss the 6 players on the team (meat, fish, eggs, dairy, beans, nuts and seeds.)
c. Brainstorm examples in each category. What are your favorites? Why?
d. How does protein help our bodies? Learn more about protein at Kids Health: http://kidshealth.org/kid/stay_healthy/body/protein.html.
e. Create a chart of the benefits of protein. Then ask students what they think would be the effects if they didn't eat protein.

2. Create your very own Protein Superhero

a. Choose a favorite protein to create a Protein Superhero. Have students work through the attached Protein Superhero worksheet.
b. Afterwards, they can draw, paint, or dress up and act-out their Protein Superhero!

3. Kitchen Prep

a. Read the title page together.
b. Identify and gather ingredients.
c. Gather tools.
d. Discuss kitchen safety, in particular stove top safety. For example, elbows held high while stirring.

4. Prepare Quinoa Pizza Poppers

a. Ask children to read or describe each step.
b. Give each child a turn cutting, measuring, mixing, etc.
c. Ask students if they can identify the protein in the recipe?

5. Quinoa Pizza Pop Time!

a. Taste and share your pizza popppers.
b. Teach other family members about the Protein Superheroes, focusing on why they are important and how they help us.

6. Bonus!

a. Research the Ancient Inca civilization to learn more about the role quinoa played in their daily lives. Why do you think it was called *chisaya mama* or "mother of all grains?"

Lesson 3: Smart Start Blueberry Pancakes and Focus Fun!

Activity time: 90 minutes

Learning Outcomes

- Students will learn about blueberries and their effect on memory.
- Students will learn about the parts of a whole grain.
- Students will play games that practice memory and language skills.

Materials

- Recipe guide, ingredients and tools listed within.
- Blindfold.
- Blueberries.
- Deck of playing cards.

1. Introduction

a. Blindfold students. Give them a blueberry to observe and taste. Ask them to identify and describe it.
b. Remove the blindfold and ask students to study it again. Then, describe the blueberry aloud as if this was the first time they had ever seen it. How does the description change with the addition of more senses?
c. Refer to recipe guide for discussion on benefits of blueberries. Conduct additional research as desired, or share below:

i. *Blueberries are especially important for memory function because they contain flavonoids. Flavonoids help protect the body's cells from damage and reduce inflammation. Blueberries contain a particular flavonoid called anthrocynadin which give them their deep rich color. These special anthrocynadins can cross the brain blood barrier and tend to locate in the parts of the brain responsible for memory and learning.*

d. Eat some blueberries and test your memory with the games found below.

2. Game #1- Categories

a. Choose a category. For example, berries.
b. Have each student take a turn naming a kind of berry until someone gets stuck or repeats an item already named.
c. How many items in your category could you name?
d. Choose a new category. For example, vegetables or cars or sports. Repeat. (This is a great game for car rides. It also helps build vocabulary and create language memory scaffolding systems.)

3. Game #2- Cooking with Concentration

a. Observe, pay attention, and use your memory to make matches in this game of concentration.
b. Set up the game:
    - Lay out cards face down in rows to form a rectangle. (For young children start with 5 sets of pairs, then add on as they become more comfortable.)
    - Make sure cards are not touching.
    - Decide who goes first.
    - *This game is designed for two players but you can play alone to improve your memory.

Player 1	Player 2
Choose a card and turn it over. Chose another card and turn it over. If the two cards are a match (two bottles of olive oil) take the two cards and start a stack. If it is a match you get another turn. If the cards are not a match then turn them back over and it is the next players turn.	Choose a card and turn it over. If it is a match for one of the cards **player 1** turned over, then try to remember where that matching card was and turn it. If the first card turned over was not a match for one turned over before then choose another card to try and make a pair. Keep taking turns like this until all the cards are matched.
Winning the Game The player with the most matching pairs is the winner! Pay attention when it's not your turn. The cards the other player flips over could be the match for which you're looking.	

4. **Kitchen Prep**
    - **a.** Read the title page together.
    - **b.** Identify and gather ingredients.
    - **c.** Gather tools.
    - **d.** Discuss kitchen safety. (Visit Raddishkids.com/pages/safety) Create kitchen rules together. Ex. No Running, Oven Safety, Knife Safety

5. **Prepare Pancakes**
    - a. Ask children to read or describe each step.
    - b. Give each child a turn cutting, measuring, mixing, etc.

6. **Pancake Pop Quiz**
    - a. Once the pancakes are ready, taste and share!

b. While your eating, ask the students to name as many of the ingredients and kitchen tools from the recipe as they can remember, without peeking. On your mark, get set, go!

Lesson 4: Edible Equations, Scoop and Solve and Easy Estimation

Activity time: 45 minutes

Learning Outcomes:

- Students will learn about the history of teaspoon and tablespoon measurements.
- Students will investigate with measuring spoons and discover equivalencies.
- Students will identify difference between exact measurements and estimation.
- Students will identify appropriate situations for estimation vs. exact measurement.
- Students will learn and practice the mathematical term *referent*. A referent makes measurement tasks easier by establishing a benchmark for a certain measure.

Materials:

- Edible Equations activity card.
- Measuring spoons.
- Jar (size depends on age of student, smaller for younger children) filled with dried beans or jellybeans. You don't have to count them!
- Sticky notes
- Optional but very helpful story book that demonstrates estimation: *Betcha* by Stuart J Murphy.
- Excellent resource for parents to understand the importance of estimation in math learning. http://mylearningspringboard.com/why-teaching-both-estimation-and-accuracy-is-important-in-math-instruction/

1. Edible Equations and Scoop and Solve

a. Ask students if they think it is important to measure exactly when they are cooking? (Yes when they are baking because of the need for chemical reactions to make cakes rise, etc. No when they are cooking and creating flavors in dishes.)
b. Work through the equation activities on the activity card.
c. Discuss other equivalencies that you use both in and out of the kitchen.

2. How many beans in the jar?

a. Display the jar and invite students to examine it to *guess* how many beans are inside.
b. Have students write down how many beans they think there are in the jar. Discuss answers rational.

c. What is the difference between guessing, estimation, and exact count? Estimation involves using a strategy or method to make an educated guess.
d. If you have *Betcha* this is a great time to read it and discuss different estimation strategies.

3. Discussion: to Estimate or not to estimate?

a. Is estimating always okay? Are there scenarios when it's not? (ie, dispensing medicine)
b. What are the benefits of estimating? (ie, saves time; sometimes impossible or impractical to make an exact count)
c. Have students work together to discuss the following situations. Students may have arguments for either an estimate or an exact count. Encourage students to explain their thinking.
    i. It is your birthday and your father is making cupcakes for your party. He needs to know how many cupcakes to make?
    ii. You are at the movies with a friend and want to give them half of your popcorn.
    iii. You want to buy new shoes and a shirt. You have $25 and you need to know if you have enough money before you get to the checkout.
    iv. You and your friend decide to take turns on the swing so that you both get the same amount of time. You are not wearing a watch.
d. Revisit the bean jar. To estimate rather than guess how many beans are inside, you must employ a strategy.
e. Demonstrate one of the students' responses, or model this one: Take one tablespoonful of beans out. This is called a *referent*. Allow students to count the removed beans. How many more teaspoonfuls or cupfuls of beans remain in the jar? What's a reasonable estimate for the amount in the entire jar? How did obtaining a referent help us?
f. Have students use their estimation strategy and make a new estimate. Derive an efficient way to count the beans in the jar.
g. Celebrate by enjoying a jellybean treat or cooking a dish with the dried beans.

My Protein Superhero!

My protein is: _____

Its superhero name is: _____

It has these super powers: _____

_____

_____

My super protein has this weakness: _____

_____

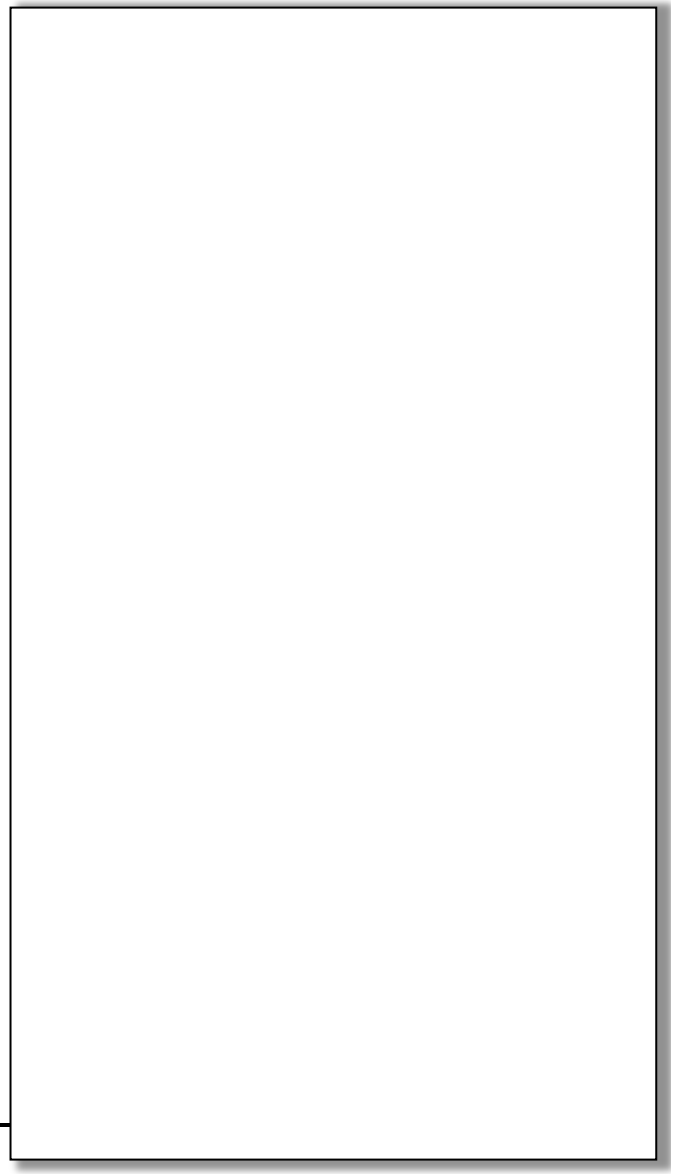
My super protein's enemy and best friends are: _____

_____

_____

My super protein has a secret identity. Undercover, he/she is disguised as:

_____



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