



## **Festive Feast 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 Festive Feast box, this lesson plan divides your box into 3 45-90 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: White Winter Chicken Chili and The Science of Snow**

Activity Time: 45 minutes

#### **Learning Outcomes**

- Students will learn why no two snowflakes are alike.
- Students will learn the various and changing properties of water.
- Students will discuss that changes in weather occur from day to day and across seasons, affecting Earth and its inhabitants.
- Students will learn that the properties of substances can change when substances are mixed, cooled, or heated.
- Students will learn that a six sided figure is called a hexagon (2D) or hexagonal prism (3D).
- Students will learn that snow forms from ice crystals.
- Students will learn about crystallization while making a snowflake.
- In snowy climates, students will conduct snow density experiments and calculate ratios of snow to water.
- Students will make and share White Winter Chicken Chili.



## Materials

- Recipe guide, ingredients, and tools listed within.
- Skill Card- Serving
- For Borax crystal snowflakes
  - Borax detergent booster
  - Wide mouth jar
  - Boiling water
  - Pipe cleaners
  - String
  - Pencil or stick
  - Scissors
  - Measuring cup
  - Tablespoon
  - Optional – food coloring and magnifying glass
- Optional reading materials:
  - Snowflake Bentley by Jacqueline Briggs Martin. The man who first photographed snowflakes and proved that no two were alike.
  - The Story of Snow: The Science of Winter's Wonder by Mark Cassino and Jon Nelson
  - The Snowy Day by Ezra Jack Keats
  - Millions of Snowflakes by Mary McKenna Siddals
  - Snow by Uri Shulevitz
  - The Secret Life of a Snowflake: An Up-Close Look at the Art and Science of Snowflakes by Kenneth Libbrecht

## Websites consulted for this lesson:

- <http://blissfullydomestic.com/life-bliss/how-snowflakes-form-homeschool-lesson-plan/112666/>
- [www.goodreads.com](http://www.goodreads.com)
- [http://www.brighthubeducation.com/preschool-lesson-plans/95419-teaching-preschoolers-about-snowflakes/?cid=parsely\\_recyoun](http://www.brighthubeducation.com/preschool-lesson-plans/95419-teaching-preschoolers-about-snowflakes/?cid=parsely_recyoun)
- [www.inscc.utah.edu/~tgarrett/Snowflakes/WASHARX\\_files/Snowflake%20Lesson%20Plans.pdf](http://www.inscc.utah.edu/~tgarrett/Snowflakes/WASHARX_files/Snowflake%20Lesson%20Plans.pdf)
- [www.highlightskids.com/science-questions/how-do-snowflakes-form-different-shapes](http://www.highlightskids.com/science-questions/how-do-snowflakes-form-different-shapes)
- [www.thesmarthappyproject.com/hexagon-geometry-snowflake/](http://www.thesmarthappyproject.com/hexagon-geometry-snowflake/)
- [www.astro.uchicago.edu/cara/southpole.edu/flaky.html](http://www.astro.uchicago.edu/cara/southpole.edu/flaky.html)

## I. Introduction

- a. Ask students- What do you think of when you hear the word snow?
  - i. Have students partner up and take turns calling out ideas.



- ii. You can prompt with questions about winter activities, temperature, animals, shelter, seasons etc.
- iii. Have you ever looked at a snowflake up close? Can you describe it?
- b. Have you ever heard that no two snowflakes are alike?
  - i. Do you think that is possible? Why or why not?
  - ii. How do you think snowflakes get their shape?
  - iii. Where do you think snowflakes come from?

### **Background Info: What is a Snowflake and how does it form?**

Snowflakes are groups of ice crystals that form in clouds. When water vapor converts into ice without first becoming liquid water, a snow crystal appears. As more vapor condenses it sticks to the first crystal and grows branches making an amazing six sided (hexagonal) shape. When it gets heavy enough, it falls out of the cloud. As it falls it sticks to other ice crystals and becomes a snowflake.

Each ice crystal is made in a different part of the cloud. The ice crystals fall to the ground in different paths. This is why no two snowflakes look alike.

One kind of snow crystal, a stellar snow crystal, begins with the formation of a small hexagonal plate. It gets larger as branches grow from each of the corners of the plate. As it falls through the clouds, the crystal experiences different temperatures and different humidity each change makes the arms grow a bit differently.

The path the crystal takes through the clouds determines the exact shape. All six branches took the same path so they formed at the exact same time making a complex symmetrical shape.

### **Learn More:**

- Watch this video of snowflakes forming! [www.snowcrystals.com/videos/videos.html](http://www.snowcrystals.com/videos/videos.html)
- Basic snowflake forms: [https://www.nasa.gov/pdf/183517main\\_snowcrystals.pdf](https://www.nasa.gov/pdf/183517main_snowcrystals.pdf)
- Molecular structure of snowflakes: [www.thesmarthappyproject.com/hexagon-geometry-snowflake/](http://www.thesmarthappyproject.com/hexagon-geometry-snowflake/)

## **2. Make Your Own Snow Crystal**

- a. Gather together the materials needed (listed above). Borax can be dangerous to ingest and can irritate eyes, so adult supervision is necessary.
- b. Follow the Grow A Crystal Snowflake worksheet (included)
- c. Have students create their own crystals.



- i. Help younger students with hot water.
  - ii. Point out to students the six sided shape and get them to tell you the name- hexagon.
  - iii. Encourage older students to make more complex symmetrical hexagonal shapes and add branches.
  - iv. Have students make predictions about what will happen to their snowflakes overnight.
- d. Optional- conduct further snow science lessons
- i. Snow density- [www.astro.uchicago.edu/cara/southpole.edu/flaky.html](http://www.astro.uchicago.edu/cara/southpole.edu/flaky.html)
  - ii. Symmetry- [www.physicscentral.com/experiment/physicsathome/snowflake.cfm](http://www.physicscentral.com/experiment/physicsathome/snowflake.cfm)

### **3. Fun Bites – Seasonal Celebration**

- a. Pick a date to invite friends and family to your Winter Celebration.
- b. Decorate your table using the suggestions here and your Homemade Crystal Snowflakes.
- c. Read the Skill Card – Serving – and prepare to take care of your guests.

### **4. Kitchen Prep**

- a. Read the White Winter Chicken Chili recipe card together.
- b. Identify and gather ingredients.
- c. Gather tools.
- d. Discuss kitchen safety. Specifically, stove top safety (Visit [Raddishkids.com/pages/safety](http://Raddishkids.com/pages/safety))

### **5. Prepare White Winter Chicken Chili!**

- a. Ask children to read or describe each step.
- b. Together, follow the steps in the recipe.
- c. Give each child a turn to measure, pour and mash.
- d. While the White Winter Chicken Chili is cooking finish setting the table for your White Winter Celebration. Optional- Display your snow crystals on a bare branch in a vase.
- e. When the White Winter Chicken Chili is ready, eat, taste and share!
- f. Describe to your family and friends how snow is formed, why it is symmetrical and each crystal is different.



## Lesson 2: Festive Fondue Desert and Switzerland Studies

Activity Time: 90 minutes

### Learning Outcomes

- Students will learn the geography term landlocked.
- Students will learn the political term neutral.
- Students will find Switzerland on a map and learn that it is part of the European Continent.
- Students will distinguish between land and water on maps and locate general areas.
- Students will describe how location, weather, and physical environment affect the way that people live, including the effects on their food and recreation.
- Students will research Switzerland using a variety of sources (books, the internet, videos, possible interviews)
- Students will have a choice in how they present what they have learned about Switzerland (in writing, orally, or in pictures).
- Students will make Festive Fondue to share with their family.

### Materials

- Recipe guide, ingredients, and tools listed within.
- World map or atlas.
- Switzerland Research Outline Worksheet (included)
- Map of Europe- printable from <http://www.worldatlasbook.com/europe/europe-political-map.html>
- Optional:
  - Swiss chocolate like Toblerone or Swiss cheese
  - Yodeling music
  - Story books about Switzerland
    - Heidi by Johanna Spyri
    - Dogs in the Dead of Night by Mary Pope Osborne- a Magic Treehouse Book
    - Asterix in Switzerland by Goscinny and Uderzo
    - Describes many things that originally came from Switzerland Look What Came from Switzerland by Miles Harvey
    - Stories of William Tell

### Websites consulted for this lesson

- Well organized information about the geography, people, government and economy of Switzerland [www.ed-u.com/sz.html](http://www.ed-u.com/sz.html)
- [www.atozkidstuff.com/Switzerland.html](http://www.atozkidstuff.com/Switzerland.html)



- How to yodel video [https://www.youtube.com/watch?v=T4\\_HZQ29Gnk](https://www.youtube.com/watch?v=T4_HZQ29Gnk)
- [www.travelforkids.com/Funtodo/Switzerland/switzerland.htm](http://www.travelforkids.com/Funtodo/Switzerland/switzerland.htm)
- [www.discovery.com/dscovrd/tech/why-does-swiss-cheese-have-holes/](http://www.discovery.com/dscovrd/tech/why-does-swiss-cheese-have-holes/)

## I. Introduction

- a. Optional- taste snacks from Switzerland such as Toblerone chocolate or Swiss cheese. Why does swiss cheese have holes? [www.discovery.com/dscovrd/tech/why-does-swiss-cheese-have-holes/](http://www.discovery.com/dscovrd/tech/why-does-swiss-cheese-have-holes/)
- b. Show students a map of Europe. Discuss:
  - i. What area of the world are you looking at? – Europe is one of 7 continents
  - ii. What do you know about the area you are looking at?
  - iii. Have you been to any of these countries?
  - iv. Do you know anyone from any of these countries?
- c. Give students clues to help them figure out which country you'll be exploring. Students can work together or be competitive figure it out first.
  - i. It is only about half the size of the state of South Carolina.
  - ii. The highest mountain in Europe is found there.
  - iii. The International Committee of Red Cross (ICRC) which protects and assists victims of war was first established in this country.
  - iv. It is home to about 450 varieties of cheese.
  - v. It is the country where the World Wide Web was invented.
  - vi. It has 4 official languages. (German, French, Italian, Romansh)
  - vii. It is landlocked. (Enclosed or nearly enclosed by land. It doesn't have a coastline on a sea or ocean.)
  - viii. It is politically neutral. Which means that this country didn't take part in World War I or II and it is bound by international treaty to be neutral (not take sides) towards all sides in all future wars.
  - ix. The people that live in this country eat the most chocolate per person in the world.
  - x. Some of the most popular sports in this country are skiing, snowboarding and mountaineering.
  - xi. It is East of France, North of Italy, West of Austria and South of Germany.
  - xii. The capital city is Bern.
  - xiii. The country is Switzerland!
- d. Tell students they will have the opportunity to learn more about this country, its geography and culture.

## 2. Switzerland Studies

- a. Gather together books and other resources about Switzerland.
- b. Provide students with the Switzerland Studies worksheet (included).
- c. Choose how many areas you want your students to research and assist them in research.



- d. Discuss ways to showcase leanings.

### **3. Kitchen Prep**

- a. Read the title page together.
- b. Identify and gather ingredients and tools.
- c. Discuss kitchen safety, in particular stove top safety. (Visit [Raddishkids.com/pages/safety](http://Raddishkids.com/pages/safety))

### **4. Prepare Festive Fondue Dessert**

- a. Ask children to read or describe each step.
- b. Give each child a turn measuring, stirring, etc.
- c. Once the Festive Fondue Dessert is ready, Eat, Taste and Share!
- d. While you are eating your Festive Fondue Dessert, share with your friends and family what you have learned about Switzerland. Perform your commercials or hang your art for display.



### **Lesson 3: Holiday Breakfast Bake and Nutrition Breakdown**

Activity time: 60 minutes

#### **Learning Outcomes**

- Students will learn that sources of stored energy take many forms, and food is one of them.
- Students will identify, sort, and classify objects by attributes and identify objects that do not belong to a particular group.
- Students will sort food into food groups.
- Students will combine foods to create a balanced meal.
- Students will explain what makes a balanced meal and why it is important for their bodies to eat this way.
- Students will learn the terms nutrition, portion, and nutrients.
- Students will make a Holiday Breakfast Bake.

#### **Materials**

- Recipe guide, ingredients and tools listed within.
- Grocery Store Flyers or magazines for cutting out pictures of food
- Scissors
- Glue
- Index cards or strips of paper
- My Kitchen Kid Plate (included)
- Essential Nutrients Worksheet and Q+A (included)

#### **Websites consulted for this lesson plan**

- [www.nourishinteractive.com](http://www.nourishinteractive.com)
- [www.meriam-webster.com/dictionary](http://www.meriam-webster.com/dictionary)
- For online game versions of food group sorting [www.healthyeating.org/Healthy-Kids?Kids-Games-Activities/My-Plate-Match-Game.aspx](http://www.healthyeating.org/Healthy-Kids?Kids-Games-Activities/My-Plate-Match-Game.aspx) or [www.foodafactoflife.org.uk/Activity.aspx?siteId=14&sectionId=61&contentId=55](http://www.foodafactoflife.org.uk/Activity.aspx?siteId=14&sectionId=61&contentId=55)
- [www.choosemyplate.gov](http://www.choosemyplate.gov)
- Video- The 6 Major Nutrients! (4:42)  
<https://www.youtube.com/watch?v=CiOBhgxdhYo>
- <http://healthyeating.sfgate.com/6-essential-nutrients-functions-4877.html>





## **I. Introduction**

- a. Provide students with food magazines or grocery flyers. Have them cut out many pictures.
- b. Once students have a large number of pictures to work with, ask them to sort the pictures into categories of their own choosing.
- c. Have them label their categories. How were these categories chosen? What attribute of the food made it fit into that category? For example, students may have created a green category and broccoli is in that category because of its color.
- d. Challenge students to think of another set of categories and re-sort their pictures.
- e. Finally, it's your turn to make the categories. Have students sort their pictures into your categories.
  - i. Fruits and vegetables
  - ii. Protein
  - iii. Whole Grains
  - iv. Dairy
  - v. Sweets – optional
- f. Tell students that today you are going to be learning about nutrition. Nutrition is the process of eating the right kind of food to grow properly and be healthy.

## **2. Teaching the Food Groups, Portions, and Nutrients** **About Food Groups**

- a. Have students read the Fun Bites- All-In-One Breakfast section of the recipe guide.
- b. Show students the My Kitchen Kid Plate (included). Ask them what they notice.
  - i. Which are the largest groups? Older students can use fractions and percentages to describe.
  - ii. Which is the smallest group?
  - iii. What if you combine fruits and vegetables? How much is it then?
  - iv. What is this plate trying to tell us? Why do you think this is important?
- c. Explain that in order to stay healthy we have to eat a balance of foods from all the food groups, but that certain groups are most important.
- d. Check for understanding:
  - i. Would it be healthy if I just ate foods from the fruit and vegetable group?
  - ii. Would it be healthy if every day I always eat the same particular food from each group? For example, only carrots, brown bread, tuna, and cheese?



### **About Portions**

Portion is a measured serving of a given food. As a rule of thumb, a portion is what fits into the palm of a hand. This is very useful because the portion for a 4 year old is different than that for a 12 year old. The number of portions a day varies depending on age, gender, and activity level. Recommendations for how many servings of all food groups broken down by age and gender can be found at: [www.choosemyplate.gov](http://www.choosemyplate.gov)

Children should eat at least 5 portions of fruit and vegetables every day. All different types of fruit and vegetables count, ie fresh, dried, juiced, canned. Variety is important too. Different fruits and vegetables give us different vitamins and nutrients that our body needs.

### **About Nutrients**

A nutrient is a substance that is important for the body's growth and health. Nutrients are found in the food we eat. We need to eat a variety of foods because one food does not have all the nutrients. There are 6 essential nutrients. An essential nutrient is a nutrient that the body cannot make on its own and must be procured from food. Carbohydrates, fats, proteins, vitamins, minerals, water are the 6 essential nutrients.

## **3. Create a Balanced Plate**

### **Younger Students**

- a. After discuss food groups, portions, and nutrients, give students a paper plate or piece of paper with a plate drawn on it.
- b. Challenge them to make a meal that has a balance of those four food groups.
- c. Have them glue cut out pictures onto the plates.
- d. Have students describe to a friend what their meal is and what makes it balanced.
- e. Does their partner agree that it includes all four of the food groups in balance? Why or why not? Is anything missing?

### **Older Students**

- a. Invite students to research nutrients in greater depth. Have students fill in the Six Essential Nutrients Worksheet and answer the questions there. Some suggested resources:
  - i. Youtube video (4:42) <https://www.youtube.com/watch?v=CiOBhgxhdhYo>,
  - ii. <http://healthyeating.sfgate.com/6-essential-nutrients-functions-4877.html>
- b. Now, the students can make their balanced plate accounting not only to the food groups but also the six essential nutrients.

### **Extensions**

- Make 3 plates (breakfast, lunch, dinner) of balanced meals with variety. Follow the portion guidelines.



- Have students create a menu and shopping list for a day's or a week's worth of meals.
- Have students actually make one of the meals and serve it to their friends or family.
- Have students assess meals from restaurants to see if they are balanced.
- How could you teach other people about eating a balanced diet?

#### 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](http://Raddishkids.com/pages/safety))

#### 5. **Prepare Holiday Breakfast Bake**

- a. Ask children to read or describe each step.
- b. Give each child a turn, dicing, layering, etc.
- c. Once your Holiday Breakfast Bake is assembled and chilling, display your balanced meal plates and/or review your six essential nutrients worksheet.
- d. Once your Holiday Breakfast Bake is cooked gather your family and friends together to Eat, Taste and Share!
- e. While you have everyone together teach them what you have learned about what a balanced meal is and why it is important for our health. Older students can describe how and why individual ingredients in the Holiday Breakfast Bake provide some of the essential nutrients our bodies need.

## *Grow a Crystal Snowflake*

1. Cut a pipe cleaner into 3 equal sections.
2. Twist the sections together at their centers to make a six sided (hexagonal prism) snowflake shape. You can add other smaller bits of pipe cleaner to add complexity and design. Remember to make the snowflake symmetrical!
3. Tie a piece of string to the end of one of the pieces of pipe cleaner and tie the other end to the pencil. Make it the right length for it to hang into the jar without touching the bottom.
4. Fill the jar with cold water to measure how many cups it holds. Use the ratio 1 cup of water to 3 tablespoons of borax to determine how many tablespoons of borax will be necessary.
5. With adult supervision fill the wide mouth jar with boiling water to just below the top.
6. Add borax one tablespoon at a time to the boiling water. Stir each spoonful until it is dissolved. It is fine if some borax settles to the bottom of the jar.
7. This is the time to add food coloring if you want.
8. Hang the pipecleaner snowflake into the jar so that the pencil rests on the top of the jar and the snowflake hangs in the liquid and is completely submerged.
9. Leave the jar undisturbed for 5 hours or overnight.
10. After removing the snowflake from the solution let it dry on a paper towel.

# Switzerland Research Outline

## Research

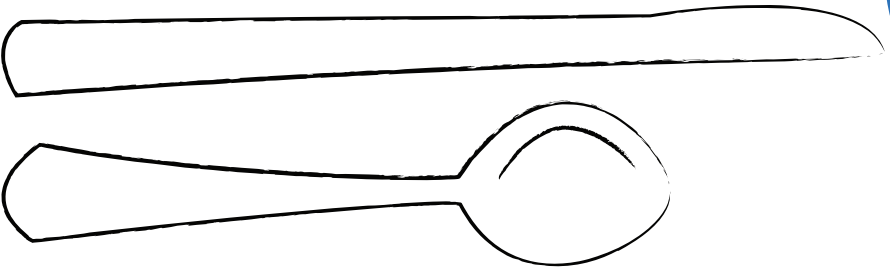
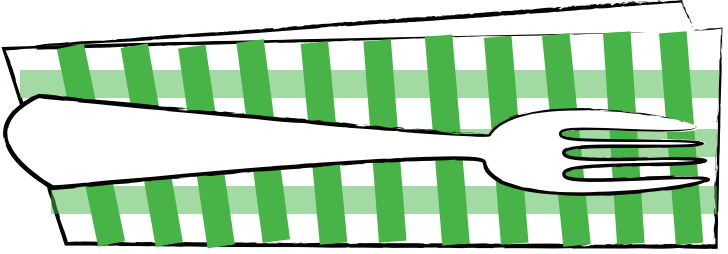
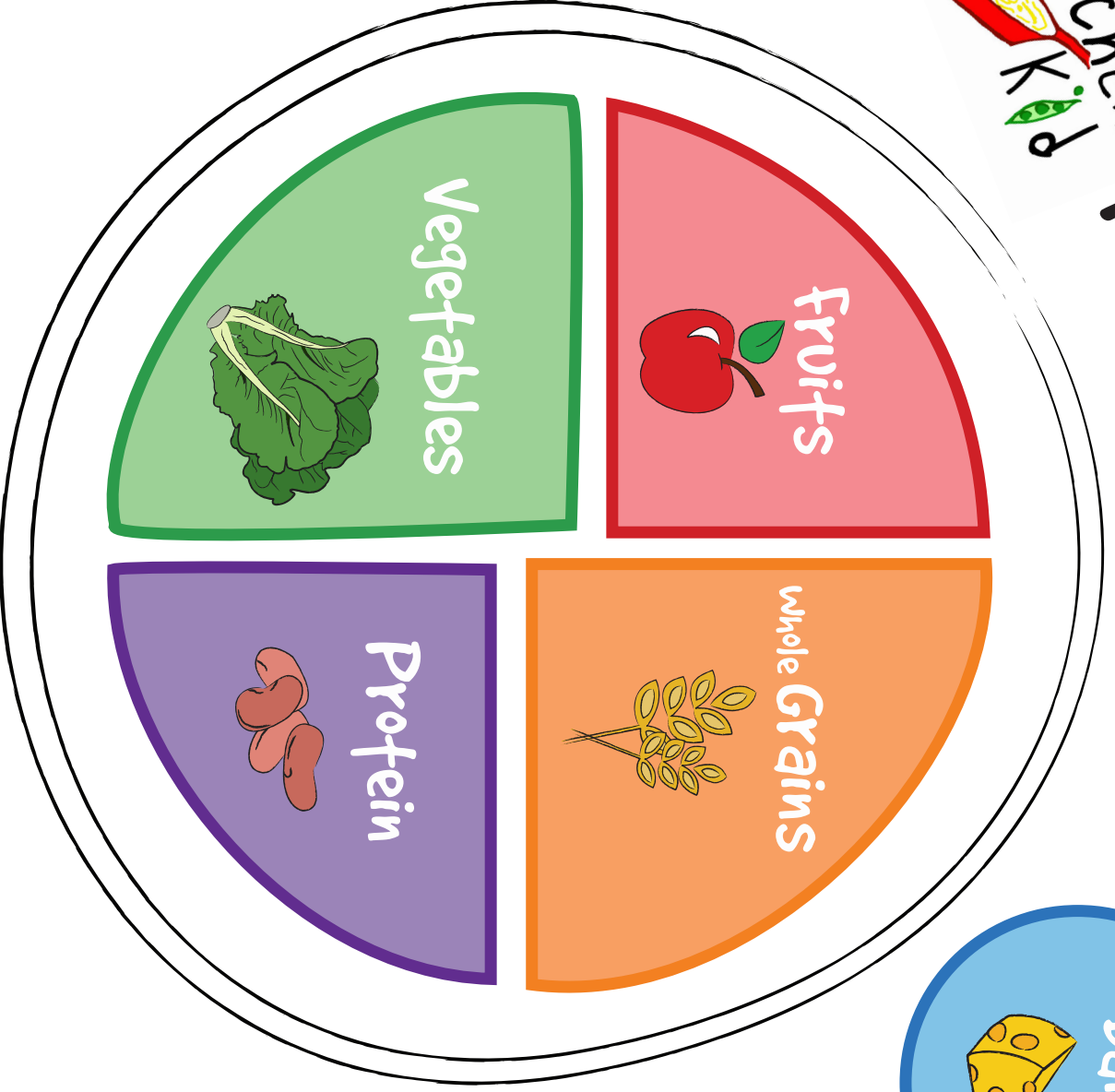
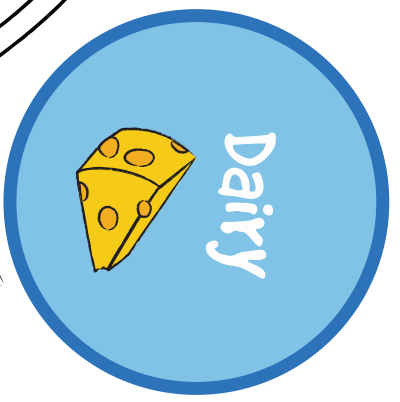
Choose \_\_\_\_\_ of these areas to research and report on. These ideas are just to get you started.

1. Geography:
  - a. Landforms- mountains, lakes, plains etc.
  - b. What is the capital?
  - c. Climate- what is the weather like at different times of year? Why?
  - d. What does landlocked mean? How does it affect Switzerland?
2. People
  - a. What languages do people speak? Why those languages?
  - b. What jobs do people have? Is there are specialty or concentration of particular careers?
  - c. What is the population?
  - d. Famous Swiss people- artists, explorers, mathematicians, authors, legends?
3. Food
  - a. What is grown and produced in Switzerland?
  - b. Are the Swiss known around the world for any of their products? Why?
  - c. Swiss dishes- besides Fondue are there any other famous Swiss recipes?
4. Animals
  - a. Farming- what animals and products are found? Why?
  - b. Wild animals- where do they live? In the mountains? Valleys? Are they endangered?
  - c. Pets and domestic animals- what dog breeds are from Switzerland.
5. Other
  - a. Music- yodeling or popular music
  - b. Architecture- does Switzerland have its own style?
  - c. Transport- trains
  - d. Clocks and watches- importance of time?
  - e. Money- what currency do they use and why?
  - f. Education- what is going to school like in Switzerland?
  - g. Religion- What religions are practiced in Switzerland?
  - h. Cars- what companies make cars in Switzerland?
  - i. Sport- what sports are played?

## Show what you have learned about Switzerland by:

- Complete a map of Switzerland  
<http://d-maps.com/m/europa/suizterland/suisse/suisse08.gif>
- Make a work of art in the style of a Swiss artist
- Make a Swiss recipe to be enjoyed by your family and friends.
- Create a travel brochure or poster to excite people about going to Switzerland.
- Write and act out a play telling the story of a Swiss explorer or legend.
- Star in a commercial about a famous Swiss product.
- Teach your family and friends about yodeling and put on a show.

MY Kitchen Kid Plate



## The Six Essential Nutrients

<b>Nutrient</b>	<b>Why is it important?</b>	<b>Example foods</b>

## Six Essential Nutrients Research Questions

1. What are the six essential nutrients?
2. What are the macro nutrients?
3. What are the micro nutrients?
4. Which kind of carbohydrate contains starch and fiber?
5. What positive thing do complex carbohydrates do for us?
6. What are some examples of complex carbohydrates?
7. What does our body get that it needs from proteins?
8. What is a good source of protein for vegetarians?
9. What is the most concentrated form of energy?
10. List the two different types of fats? How are they different?
11. What are the two types of vitamins? Give an example for each.
12. True or false: Minerals are naturally occurring substances not produced by living organisms?
13. Why is water so important? How much should we drink each day?



## Answers: Six Essential Nutrients

### Answers

1. Carbohydrates, proteins, fats, vitamins, minerals, water
2. Carbohydrates, proteins and fats
3. Water, minerals, vitamins
4. Complex
5. Lessens the chance of cardiovascular disease
6. Rice, oatmeal, grains, cereal, pasta
7. Amino acids which maintains our muscles, bones, blood and body organs.
8. Eggs, legumes (like lentils)
9. Fat
10. Saturated (solid at room temperature), unsaturated (liquid at room temperature)
11. Water soluble (B,C), fat soluble (A,D,E,K)
12. True
13. Regulating body temperature, waste removal, cushioning joints and spinal cord. 8, 8oz glasses