

Title:	Comparing Edible Communities
Author: Organization: Location:	Scott McQuerry Blue Springs School District Moreland Ridge Middle School
Grade Level:	6-8
Time Allotment:	Three (3) or more 45-minute class periods
Overview:	Students will explore the components of a community by creating analogies between aspects of a community and ingredients within a recipe. The cohesion among community areas will be demonstrated by students as they attempt to create cookies from various recipes that have missing ingredients. Students will realize that the removal of one ingredient directly influences the entire product. This action is analogous to the removal of any vital aspect of a community. As one community area disappears, others are directly influenced.
Subject Matter:	Community Awareness, Food/Consumer Science
Learning Objectives:	The students will be able to: <ul style="list-style-type: none"> • Create analogies between two different objects. • Generate a product from a recipe • Analyze the components of a recipe. • Apply information gained from experimental means into a higher-order assessment
Standards:	Missouri Science Standards Addressed: http://www.dese.state.mo.us/divimprove/curriculum/webframeworks/05SC.PDF <ul style="list-style-type: none"> • Organize data, information, and ideas into useful forms for analysis or presentation (Process Standard 1.8) • Plan and make written, oral, and visual presentations for a variety of purposes and audiences. (Process Standard 2.1) • Reason inductively from a set of specific facts and deductively from general premises (Process Standard 3.5) • Identify tasks that require a coordinated effort and work with others to complete those tasks (Process Standard 4.6)
CUBE components:	Picture This! Module I: What is Community?

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<p>Materials:</p>	<p>For a class of 30: (recipe ingredients are based on student groups of four) Access to Internet Copy of “Chocolate Drops” Two copies each of “Student Recipe #1-5” Pencil and Paper for each child 10 Measuring spoons and cups 10 sheets of wax paper 10 large bowls Candy bar Can of soda 8 boxes of vanilla wafers 7 cups walnuts 10 cups powdered sugar 2 cups cocoa 2 ½ cups orange juice 22 tbs honey</p>
<p>Prep for Teachers:</p>	<p>Cue the computer to the website. Prepare six copies each of the “Student Recipe #1-5” handout. Obtain the necessary ingredients for the “Chocolate Drops.” Make a batch of “Chocolate Drops” for the students to observe. Place several samples of the ingredients in containers for the students to directly observe.</p>
<p>Introductory Activity:</p>	<p>Cookies made from the “Chocolate Drops” recipe will be passed out to each of the students. The cookies may need to be divided for all students to have a sample. The students will be asked to quickly write down how the cookies tasted. It will be important for the students to keep these notes for future reflection.</p> <p>While the students are enjoying their treat, the instructor will show slides from the website link Intro Lesson Images taken from the Picture This! Module I exercise. The title of the module is entitled “What is Community?” The instructor will read the following script to the classroom:</p> <p><i>Before you begin cue up Slide 1. Every city is special. Finding out what makes it special is like a puzzle. Finding out what you can do to keep it special is part of being a responsible citizen. You will have to use your science skills of deduction and testing to solve problems of what makes some places special.</i></p> <p><i>Cue up Slide 2. It’s hard to talk about community and really define what ideas you have unless you make sure that everyone is talking about the same thing. You may</i></p>

	<p><i>have one picture in your head, but another picture is coming out of your mouth.</i></p> <p>Cue up Slide 3. <i>You have heard the saying, ‘A picture is worth a thousand words.’ Throughout this project, we are going to try to use words, pictures and actual activities to make the meaning clear. We’ll take a look at some pretty ordinary things like street signs, homes, cars, and grocery stores and let you decide – “What is community?”</i></p>
<p>Learning Activity:</p>	<p>After reading the script, the instructor will lead the class to the computer lab for the students to access the following website: www.cubekc.org/architivities/lessons/edible_comm.html. The contents of this website can be presented to the class as a group if a computer lab is not possible. The instructor will inform the students that they will be creating analogies between pictures on the website and the ingredients within a recipe. For many students, the concept of analogies may be difficult to understand. The following activity may help to define an “analogy.”</p> <p><i>Hold up a candy bar and a can of soda in front of the class. Ask the students if they can find any similarities within these two objects. Many students will say that they make them hyper, gives them energy, etc. Discuss these ideas in class and inform them that they are making <u>analogies</u> between these two obviously different structures.</i></p> <p><i>Have the students come up with more examples of analogies on their own. Some students will merely describe various forms of candy as sources of energy. Encourage students to think of examples beyond items that supply energy/sugar. Pick out objects in the room and ask the class to come up with various analogies.</i></p> <p><i>As you move through the room, pick objects that a similar structure or function. Students may simply choose objects that “look like” or “resemble” an object. This would be acceptable. For a greater challenge, however, ask the students to identify analogous functions between the two objects. This requires more thought. Repeat this process until it appears the class is comfortable with the concept of analogies.</i></p> <p>Remind the students that they will be creating analogies between the pictures on the website with ingredients within a recipe. It might be beneficial to walk through each of the pictures and identify each of the community locations that these pictures represent. In addition, the</p>

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	<p>ingredients of the recipe should also be presented to the students, to assist them in the construction of their analogies.</p> <p>The following chart describes the pictures and community locations for each of the pictures. These images are found when clicking on the link Learning Activity Images.</p> <ol style="list-style-type: none"> 1. Construction areas 2. Police Station 3. Water tower 4. Electrical Station 5. School 6. Road 7. Street Sign 8. Car 9. Grocery Store 10. Park 11. City Hall 12. Homes 13. Trash Can 14. Post Office 15. Bank 16. Retail Store <p>The following list describes a small portion of the possible analogies that exist between the recipe ingredients and the community pictures.</p> <ol style="list-style-type: none"> 1. The color of orange juice is the same as the color that construction workers use while they work. 2. The protective shell around the walnut is like the police, who provide protection to the community. 3. The water tower holds drinking water like the honey container holds honey. 4. The color of powdered sugar is the same as the color of a home. 5. A box contains lots of vanilla wafers much like a school contains lots of students. 6. The brownish color of this city hall building is a lot like the color of cocoa. <p>The instructor will collect the student-generated analogies and will place the students into groups of four. At this time, the instructor will reinforce the concept that it takes a collection of buildings, streets, signs, and other items to make a successful community.</p>
Culminating	Each student group will receive a different copy of the “Student Recipe” and

<p>Activity:</p>	<p>will be given access to the various ingredients that will be needed. Each of the recipes is different in that each is missing one of the ingredients.</p> <p>The instructor will ask each student group to follow their recipe exactly. When completed, the student groups will showcase their cookies on a plate along with their recipe. Students will be allowed to sample each of the different cookies and reflect on how they taste in relation to the cookie they sampled in the Introductory Activity. At this time it may be helpful to pull out the student notes from the Introductory Activity for the students to reflect upon the taste of the original chocolate drop.</p> <p>After all of the cookies have been tasted, the instructor will ask the students if any of these new products tasted similar to the first one they tasted. None of these new creations should taste similar to the original.</p> <p>The analogy of these altered recipes to the community pictures should be stated at this time. The students will be told, “All of your recipes were similar to the one that created the original cookie. However, each of your recipes was missing a vital ingredient. How did the missing ingredient affect the overall result?”</p> <p>The students should state that their products tasted much different than the original cookie that the instructor passed out. Whenever an ingredient is missing from the recipe, the end product will be changed, possibly for the worse. This fact is analogous to a community. If one aspect of a community is removed, then the area or neighborhood may encounter problems.</p> <p>For example, if we removed schools from a community, it would have terrible effects. (Even though the students may disagree with you!!!) The children would still have to go to school; however, they would have to be bused to a different area, which would require every student to get up much earlier than they already do! Plus, there would be the extra cost in transporting students much farther away.</p> <p>For a conclusion, the instructor will once again identify the analogy between the faulty recipes and the community connections. For assessment purposes, the instructor may choose any of the following Cross Curricular Extensions to determine the student mastery of these concepts.</p>
<p>Evaluation/ Teacher Reflection:</p>	<p>A – 90-100% of the analogies correctly identify the correlation between both objects</p> <p>B - 80-89% of the analogies correctly identify the correlation between both objects</p>

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	<p>C – 70-79% of the analogies correctly identify the correlation between both objects</p> <p>D – 60 -69% of the analogies correctly identify the correlation between both objects</p> <p>F – 50 -59% of the analogies correctly identify the correlation between both objects</p>
<p>Cross Curricular Extensions:</p>	<p>Math – Working from the example provided in the Culminating Activity, instruct the students to imagine their community without a school. Therefore, the students would have to go to a different school in a neighboring district. To make the scenario easier to calculate, inform the students that each of them would have to walk to their current school building in the morning. From this location, school buses would arrive and transport them to their new school every morning. In this instance, they will need to calculate the extra cost in transporting them to a different school as compared to the distance between their homes and the school.</p> <p>Using the Internet, students can locate the nearest school outside of their district. The actual school may need to be provided by the instructor. Most search engines contain a “Yellow Pages” or “Location Finder” program that the students can utilize. Instruct the students to use these tools to determine the mileage a bus would have to make each day from their current school to their new school. The students can compare this distance with the distance between their home and current school. There should be a large difference.</p> <p>The instructor could then have the students calculate how much gasoline would be needed to transport all of the students to the new school and back. The school district’s transportation department could provide a wealth of information.</p> <p>Language Arts – Have the students choose one or more aspects of a community to remove. Instruct the students to write an explanatory essay on how the removal of these community areas would affect their way of life. For example, what would a normal school day be like if each student would have to get out of bed at least one-two hours earlier to be transported to another school? How would they be affected? The students may describe the occurrences of a typical day under these circumstances.</p> <p>Social Studies –Again, working with the scenario of removing schools from the students’ community and the transportation issues that would follow, the instructor could focus on the role of public transportation and students. With the educator’s assistance, records can be obtained from the transportation department that will document the history of public transportation within the</p>

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	student's own district. Additionally, students could identify older members of the community to interview. Students could conduct a comparative study as to the conditions of public transportation from two different eras.
Community Connections:	Have the students take pictures of various items throughout their own communities. Discuss each area's role/importance to community members. Student groups could then generate a concept map of the pictures on poster board. Each connection between the pictures should contain some form of textual information describing the relationship between the two community areas. The instructor can then contact an area library and ask if the concept maps could be displayed for the public to observe. To tie the exhibit into an educational focus, the students could generate a scavenger hunt worksheet to go along with each poster. Patrons at the library could then utilize the exhibit with their children.

Chocolate Drops (TEACHER RECIPE)

66 vanilla wafers (approximately one box)
1 cup walnuts
1 cup powdered sugar
¼ cup cocoa
1/3 cup orange juice
3 tbsp honey
½ cup powdered sugar (for topping)

Put vanilla wafers in a bag, crush, then place in a large bowl. Crush walnuts and add to bowl. Stir in 1 cup sugar and cocoa. Add orange juice and honey. Shape into balls and coat with additional powdered sugar.

Student Recipe #1

66 vanilla wafers (approximately one box)
1 cup walnuts
¼ cup cocoa
1/3 cup orange juice
3 tbsp honey

Put vanilla wafers in a bag, crush, then place in a large bowl. Crush walnuts and add to bowl. Stir in cocoa. Add orange juice and honey. Shape into balls.

Student Recipe #2

66 vanilla wafers (approximately one box)
1 cup walnuts
1 cup powdered sugar
¼ cup cocoa
3 tbsp honey
½ cup powdered sugar (for topping)

Put vanilla wafers in a bag, crush, then place in a large bowl. Crush walnuts and add to bowl. Stir in 1 cup sugar and cocoa. Add honey. Shape into balls and coat with additional powdered sugar.

Student Recipe #3

66 vanilla wafers (approximately one box)
1 cup walnuts
1 cup powdered sugar
1/3 cup orange juice
3 tbsp honey
1/2 cup powdered sugar (for topping)

Put vanilla wafers in a bag, crush, then place in a large bowl. Crush walnuts and add to bowl. Stir in 1 cup sugar. Add orange juice and honey. Shape into balls and coat with additional powdered sugar.

Student Recipe #4

66 vanilla wafers (approximately one box)
1 cup powdered sugar
1/4 cup cocoa
1/3 cup orange juice
3 tbsp honey
1/2 cup powdered sugar (for topping)

Put vanilla wafers in a bag, crush, then place in a large bowl. Stir in 1 cup sugar and cocoa. Add orange juice and honey. Shape into balls and coat with additional powdered sugar.

Student Recipe #5

1 cup walnuts
1 cup powdered sugar
1/4 cup cocoa
1/3 cup orange juice
3 tbsp honey
1/2 cup powdered sugar (for topping)

Crush walnuts and place in a large bowl. Stir in 1 cup sugar and cocoa. Add orange juice and honey. Shape into balls and coat with additional powdered sugar.

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