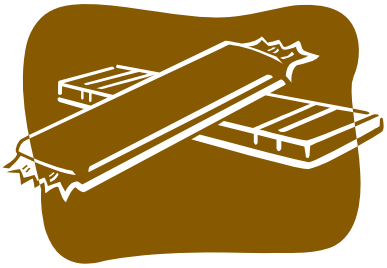
Chocolate Mania

4th Grade Theme Unit



By: Joel Luckey, Nikki Pearson, and Natalie Aschenbrenner

Including
Non-dominant culture cooking lesson: Spanish v. American Hot Chocolate
Interdisciplinary Drama/Puppetry Lesson: Gross Motor
Outside Sources: Gross Motor, Fine Motor, and Computer

Bulletin Board Narrative

Our bulletin board is an interactive board that includes critical thinking and problem solving puzzles for students to work on. We made it attractive and fun in a chocolate way by framing it with chocolate chips! To offer more incentive for students to work on the puzzles in their spare time we posted that anyone completing all 5 puzzles correctly (within a set amount of time) will receive a prize. This bulletin ties nicely to our unit by including chocolate in all of the components, but it also contains standards from many subjects including Math and Science. Our goal was to develop a bulletin board that was appealing to the eye and automatically drew students toward it when they entered the room. In addition, we wanted it to function as a teaching tool to strengthen critical thinking and problem solving skills. The interactive portion of it offers a ready made task for those times when students have finished their work and are waiting to begin the next lesson. Finally, we feel that in many ways it is difficult to include enrichment activities for high achieving students. Our bulletin board offers puzzles that can be worked on by the below average student as well as the average student. But, at least two of these puzzles would challenge even a high achieving fourth grader. The opportunities here are not easy, and they are that way for a reason. The fun is in the challenge and the reward is to be earned.

Pretest Assessment - 4th grade

By: Natalie Aschenbrenner, Nikki Pearson, and Joel Luckey

1. The parts of a story include:
    a. Exposition, Rising action, Climax, Falling action, Resolution
    b. Setting and Plot
    c. Beginning, Middle, and End

2. The climax of the Three Little Pigs occurs when…
    a. The pigs build their houses
    b. The Wolf eats the first two pigs
    c. The Wolf is tricked into jumping down the chimney

3. To compare means to…
    a. Tell how two things are similar
    b. Tell how two things are different
    c. Analyze an object

4. Write the following sentence in cursive.
   I love school so much I want to be a teacher!

5. What is body language in you own words?

6. If a snicker doodle recipe calls for 2 cups of sugar and all you have is a ½ measuring cup how many times would you need to fill it to get the amount of sugar that you need?
    a. 4 times
    b. 10 times
    c. 2 times

7. 60 x 10=
    a. 60
    b. 600
    c. 6000

8. Round 7,852 to the tens place.
    a. 7,900
    b. 8,000
    c. 7,850

9. Use properly the word bargain in a sentence.

10. Define the word predicament.

Post test Assessment - 4th grade

By: Natalie Aschenbrenner, Nikki Pearson, and Joel Luckey

1. Identify the parts of the story in Chocolate Fever:

   Exposition

   Rising action

   Climax

   Falling action

   Resolution

2. Compare and contrast Henry's feelings about chocolate from the beginning of story to the end of the story.

3. Write a sentence about your favorite part of the story in cursive.

4. During your oral book report about Chocolate Fever how would you convey exciting parts of the story using your body language?

5. If a chocolate pudding recipe calls for 2 cups of milk and all you have is a 1/4 measuring cup how many times would you need to fill it to get the amount of milk that you need?

6. 700 x 10=

7. Round 7,852 to the tens place.

8. Explain how you would bargain for more allowance money.

9. Describe a predicament that you have been in while in the fourth grade.

MANCHESTER COLLEGE
Education Department

LESSON BY: Joel Luckey, Natalie Aschenbrenner, and Nikki Pearson

LESSON: STORYTELLING
LENGTH: 1 HOUR
AGE OR GRADE INTENDED: 4TH GRADE

ACADEMIC STANDARDS:

4.7.9 Engage the audience with appropriate words, facial expressions, and gestures.

4.7.7 Emphasize points in ways that help the listener or viewer follow important ideas and concepts.

4.7.2 Summarize major ideas and supporting evidence presented in spoken presentations.

PERFORMANCE OBJECTIVES:

Given the book title *Chocolate Fever,* students will write a one page summary of a familiar story.

Using their summaries as a guideline, students will retell their assigned portion of the story for 5 or more minutes.

ADVANCED PREPARATION BY TEACHER:

Contact a professional storyteller to provide a demonstration for the class.

Copy handouts of the important features of a good storyteller

Assign specific chapters to students for storytelling

PROCEDURE:

INTRODUCTION: A professional storyteller will be in the room when class begins. She will tell her story, giving students an excellent example of how this project should be done. After she has finished, students will discuss as a group which features of the storytelling made it truly successful.

STEP-BY-STEP: The teacher will hand out a paper that includes all of the traits of a good storyteller. She will use the story the class just heard as a reference and explain to students the importance of tonal fluctuation, hand gestures, and facial expression. She will briefly refer to the section in their social studies text that discussed traditions the week before and tie storytelling to that lesson as a point of reference. Students will then be given their assigned chapter from the book they have all been reading, *Chocolate Fever*. They will then reread and summarize that chapter in a one page paper. They should be sure to pay close attention to any dialogue that they could use in their presentations. When students have completed their summaries they will divide into groups of two or three and begin practicing with one another. Students will spend fifteen minutes critiquing each other and trying to grasp exactly how they want to present their

material. They should not be allowed too much time, because their summaries should not be memorized. Students will then perform their chapters in chronological order according to the book, so that the entire story is retold in a new format.

CLOSURE: Students will discuss as a class the things that they liked and disliked about the activity. The teacher should encourage the discussion by asking questions such as, "Appraise your own performance in relation to that of your peer's, and decide what aspects you think make a better or worse presentation". (Bloom's) "Analyze which storytellers held your attention the best, and formulate a theory as to why they were so interesting". (Bloom's)

Gardners: Visual/spatial, interpersonal

ADAPTATIONS:

Some students may have extreme difficulty in front of a group due to shyness or speech problems. These students can be given shorter parts, supporting parts, or help come up with props to enhance the storytelling.

ENRICHMENT:

Students who really like this activity can form a group that works with the teacher one day a week after school to prepare a storytelling presentation for the Parent's Night Talent Show.

SELF-REFLECTION:

The teacher should think about student involvement. Did they enjoy the activity? Even if they were uncomfortable, did their presentation skills improve? Did they take it seriously or simply fulfill the requirements to get it over with?

MANCHESTER COLLEGE
Education Department

Lesson Plan by: Joel Luckey, Nikki Pearson, and Natalie Aschenbrenner

Lesson Title: Chocolate Freeze **Length**: 45 minutes
Age or grade intended: 4th

Academic Standards:
4.5.1 Work cooperatively with others to obtain a common goal.
4.7.2 Interact with classmates and friends in physical activities.

Performance Objectives:
1. Given verbal or visual directions, the student will play by the game rules with 100% accuracy.
2. When the student is not the chocolate monster ("it") or is not "chocolatized" (frozen) during the game, the student will work at least once with other students to "un-chocolatize" (unfreeze) students who have been chocolatized (tagged).

Advanced Preparation by Teacher:
Acquire a Hershey's chocolate t-shirt for the person who is "it" to wear.
Create a chocolate monster mask for the "it" person to wear.
Have a timer or clock with hands.
Reserve the area in which the game will be played.

Procedure:
Introduction/ Motivation:
Ask the students if they have ever read the book *The Chocolate Touch* by Patrick Skene Catling. For the students who have never read the book, give them a brief summary:

> Once there was a boy named John who was addicted to chocolate. One day when he was walking to his friend's house, he found a little coin. He kept walking along and found a candy store. When the storekeeper welcomed him, he told John the coin John has is the only kind of money he takes. John buys a box of chocolate with his coin, and when he goes to bed he rips open the box to find one single chocolate. The next day when he is brushing his teeth, the toothpaste turns into chocolate. Next, his breakfast turns into chocolate. Then his trumpet, lunch, pencil, a doctor's spoon, and finally, his mother and others turn into chocolate.
> (Adapted from:
> http://www.germantownacademy.org/academics/ls/superreader/title/C/chocolatetouch.htm book review by Andrew S.)

Ask the students what they would do if everything they touched turned into chocolate. Example Questions:

- What would you touch? Would you touch everything?
- How much of the chocolate would you eat?
- Do you think people would be scared of you? Would you be scared?

Introduce the game "Chocolate Freeze".

Tell the students it is very similar to freeze tag. There is one person who is "it" or the chocolate monster. The chocolate monster wears the Hershey t-shirt and the chocolate monster mask. Everyone else has to stay away from the chocolate monster because whoever the chocolate monster tags turns into a chocolate statue that cannot move. When a student turns into chocolate they have thirty seconds to be "un-chocolatized" (unfrozen) or the student melts and is out of the game. If all the students turn to chocolate or melt then the chocolate monster wins. Students must work together to keep each other from being "chocolatized" (tagged or turned into chocolate). If there is more than one chocolate monster, they should work together to "chocolatize" everyone.

If students do not understand, have students volunteer to help model the game visually.

Ask for volunteers to be the chocolate monster/s.

Play some upbeat background music while the students play the game. Help facilitate the timer for when students turn to chocolate statues. If it is too hard to keep track of all the students turning to chocolate designate a student helper to help.

Closure:

Ask the students what is was like to be "chocolatized". Ask the chocolate monster/s what is was like to turn people into chocolate. Thank the students for playing cooperatively.

Adaptations:

If the game is too easy for the students, let the students play the game again with two or three people being chocolate monsters.

If a student is in a wheel chair, pair that student up with another student who can run. Then the able student can push the student in the wheel chair. The chocolate monster will have to skip instead of run when trying to "chocolatize" the student pushing and the student in the wheelchair.

If a student is blind, then the chocolate monster will wear a beeper. Then the blind student will be able to hear the chocolate monster's location.

Gardner's intelligences:

Kinesthetic- running/skipping

Verbal- directions
Visual-The chocolate monster wears a costume and the students freeze when they are tagged. Also game directions can be modeled by students.
Rhythmic- background music (optional)
Mathematical: timing thirty seconds
Interpersonal: interacting with other students to “chocolatize” or “un-chocolatize” students

MANCHESTER COLLEGE
Education Department

Lesson Plan by: Natalie Aschenbrenner, Joel Luckey, and Nikki Pearson

Lesson: **Candy Bar Design Campaign** (Fine Motor) Length: **45 minutes**
Age or Grade Intended: **4th Grade**

Academic Standards:
Physical Education 4.1.3 – Demonstrate complex patterns of movement in applied settings.
Physical Education 4.5.1 – Work cooperatively with others to obtain a common goal.

Performance Objectives:
Given a variety of materials, each group of students will create one candy bar wrapper.

Advanced Preparation by Teacher
Gather materials in gallon size Ziploc baggies to be distributed to each group
Decide on a method of dividing students into groups of two
Photocopy instruction sheets with examples
Paper bags prepared with type of chocolate candy bar inside

Procedure:

Introduction/Motivation: The teacher will pass out a small paper bag that has been stapled shut to each student. The students will be instructed not to open the bag, but to use their senses to identify what is inside (not taste). They will smell, feel, listen to, and visually observe their bags and then infer what might be inside. Once everyone has had time to guess, the students will open them and will once again be instructed not to use their sense of taste. Now students will look at the candy wrappers closely, observing the details. What is written on the wrappers? What colors are used? What attracts you most to the wrapper? What does it feel like? Does it smell? Once students have made their observations they will be allowed to eat the candy while brainstorming the slogans of several different candies. The teacher will write these on the board. The lesson will be introduced as the teacher asks, "If you owned your own candy company, what would you make there? What would you call it? How would you wrap it?

Step-by-Step Plan: The teacher will have color cards in a hat. Each student will draw a card and then find a place to sit with their partner, whose color card matches theirs. The teacher will pass out the instruction sheet and explain that they will be designing their own candy bar wrapper and a slogan for their ad campaign. Students will be instructed to begin brainstorming with their partner while the teacher passes out the Ziploc baggies full of materials to be used (Construction paper, aluminum foil, protractors, markers, scissors, pencils, rulers, etc.). The teacher will then observe the class as they create and make comments to help them come up with more ideas. Such as,

"Compare your two favorite candy bars and see if you can come up with a new one." (Bloom's Synthesis) "Design something that will attract the attention of your friends." (Bloom's Synthesis) "Be sure to combine the ideas that you and your partner are coming up with, two heads are better than one." (Bloom's Analysis)

Closure: When all students have finished work on their project, they will be allowed to share their wrapper and campaign slogan with the class. Each group will then "Publish" their work by placing their creations on the bulletin board reserved for that purpose. As students return to their seats the teacher will guide them into their math lesson by asking them to work on a recipe for their candy bars.

Adaptations: Instructions will be written out in more detail for hearing impaired students, so that they will be able to follow along no matter where they have located in the room with their partner. Physically handicapped students will be paired with able students so that there is someone to utilize scissors and markers for them if necessary while still incorporating their ideas.

Self-Reflection: The teacher will decide if the students remained on task during the activity. If not, what can be done in the future to help with that? Were students eager to share their work? Was the bulletin board a good place to display their creations?

Gardner's Multiple Intelligences:
Visual / Spatial Intelligence
Interpersonal Intelligence
Bodily / Kinesthetic Intelligence

Source:
http://www.mce.k12tn.net/chocolate/charlie/charlie_and_the_chocolate_factor.htm

Manchester College
Education Department

Lesson By: Joel Luckey, Nikki Pearson, Natalie Aschenbrenner

Lesson Title: Puppetry of the *Chocolate Touch*
Length: Three one hour class periods
Age or Grade Level: 4th grade
Subject: Dramatic Play and Language Arts

Academic Standards:
4.7.1 Ask thoughtful questions and respond orally to relevant questions with appropriate elaboration.

4.5.4 Write summaries that contain the main ideas of the reading selection and the most significant details.

4.7.7 Emphasize points in ways that help the listener or viewer follow important ideas and concepts.

4.7.9 Engage the audience with appropriate words, facial expressions, and gestures.

4.7.13 Deliver oral summaries of articles and books that contain the main ideas of the event or article and the most significant details.

Objectives:

1. When in groups of four, students will summarize their assigned chapters highlighting all of their characters' main roles in those chapters.
2. When acting out their scripts, students will dramatize with appropriate gestures using at least two body movements.
3. When acting out their scripts, students will dramatize using at least two appropriate vocal tones.

Advanced Preparation by the Teacher:
Get materials. Make a felt mask of John Midas and make a monologue of the *Chocolate Touch*.

Materials: felt, scissors, markers, string, glue, paint sticks (to connect their masks to), staples

Procedure:

Introduction:

The teacher wears a mask made of felt portraying John Midas (the main character of *Chocolate Touch*) and acts out a monologue to the story.

Tell the students it is their turn to do the acting.

Step by Step Plan:

1. Break the students in to groups of four.

2. Assign each group two consecutive chapters from the book.
3. Tell the students they are going to make masks of felt and act out the two chapters their group was assigned.
4. Students take 15 minutes to plan and write out their script based on their chapters.
5. Remind the students to emphasize the main points of each chapter.
6. Then provide the materials for them to make masks.
7. (The next class period) Allow the students 15 minutes to practice their scripts and drama. Remind them to use appropriate vocals and gestures when acting out their characters.
8. Have groups for chapters 1-6 act out their plays in sequentially.
9. After each group acts out their chapters give the class 3 minutes to ask questions and make responses.
10. (The third class period) Repeat steps 8 and 9 only for chapters 7-12.

Closure:

Thank the students for their participation. Encourage their attempts to be actors and actresses.

Adaptations:

*Wheel chaired bound students can be pushed by another student. His or her group may need an extra member.

*Students with learning disabilities may use note cards to prompt their memory.

*Gifted students may memorize their scripts.

*Students with speech impediments may be allowed to hand in a script to be narrated by the teacher or may be allowed to narrate shorter scripts.

Gardner Intelligences:

Visual: acting out in front of class

Verbal: Saying their scripts and hearing others' scripts

Kinesthetic: Acting out their scripts

Interpersonal: working in groups

Source for making felt masks: http://www.mce.k12tn.net/reading2/touch-activity6.htm

All other ideas by: Joel Luckey, Nikki Pearson, and Natalie Aschenbrenner

Manchester College

Education Department

LESSON PLAN by: Joel, Nikki, Natalie

Lesson: Story mapping Chocolate Fever **Length:** 5 class sessions

Age or Grade Intended: 4th

Academic Standard

- **Language Arts**

  4.2.2 Use appropriate strategies when reading for different purposes.

  4.2.1 Use the organization of informational text to strengthen comprehension. Use graphic organizers, such as webs, flow charts, concept maps, or Venn diagrams to show the organization of the text.

  4.2.7 Follow multiple-step instructions in a basic technical manual.

  Example: Follow directions to learn how to use computer commands

Performance Objective:

- After reading assigned section of Chocolate Fever students will interpret in their own words two out of the three computer story map questions correctly.

Advanced Preparation by Teacher:

1. Create a step by step procedure that can be posted at the computer center for students to access the story map online**.**
2. Pre assign groups

Materials: 5 Computers, Chocolate Fever book

Procedure:

Intro/Motivation

During the Chocolate unit children will be reading, the book in several different ways. They will complete buddy reading, small group readings, as well as sustained silent readings. Each day students will read 1-2 chapters with a partner or group setting as well as 1 chapter silently.

Step-by-Step

1. Groups go to designated reading group. Buddy read, group read (with teacher), silent read, or computer.
2. When a group of 4-5 students is at the computers the will complete a section of the story map each day. (Starting on Tuesday because on Monday they haven't read any of the book yet)
3. Tuesday during Computer time students will complete the character map
    a. Print off, share, turn in.
4. Wednesday during Computer time students will complete the setting map.
    a. Print off, share, turn in.
5. Thursday students will complete the conflict map.
    a. Print off, share, turn in.
6. Friday the students will complete resolution map.
    a. Print off, share, turn in.

Closure

Each day after they have completed their sections students will wait until another person has completed their section and then share their sections. If students complete this early they will be encouraged to discuss the book by making connections with other books and experiences they have had.

Adaptations/Enrichment

Students that struggle reading on their own can complete the reading at home and the Chocolate Fever reading can count for their nightly reading time assignment.

.

Resources

http://www.readwritethink.org/materials/storymap/

Manchester College
Education Department

Lesson By: Joel Luckey, Nikki Pearson, Natalie Aschenbrenner

Lesson Title: Chocolate Sculptures
Length: 1 hour
Age or Grade Level: 4th grade
Subject: Art and Math

Academic Standards:

4.5.1 Measure length to the nearest quarter-inch, eighth-inch, and millimeter.

4.5.3 Know and use formulas for finding the perimeters of rectangles and squares.

Objectives:

4. Given an appropriate ruler, the students will measure the perimeter of a rectangle to the nearest quarter of an inch with 100% accuracy.
5. Given an appropriate ruler, the students will measure the perimeter of a rectangle to the nearest millimeter with 100% accuracy.
6. Given an appropriate ruler, students will measure the length of the sculpture to the nearest quarter of an inch with 100% accuracy.

Advanced Preparation by the Teacher:

Get a variety of chocolate candy and organize it on a table in the classroom. Make sure desks are sanitized and students have a place to wash their hands. Prepare an overhead or a computer projector to display the pictures of chocolate sculptures to the class.

Materials: clean placemats (paper or plastic), chocolate candy (tootsie rolls, small chocolate bars, chocolate frosting, M&M's, Hershey kisses, etc...), rulers (with inches and millimeters), scales (measures by gram), and digital camera.

Procedure:

Introduction:

Ask students if they have ever heard of the *Genius Book of World Records* (Knowledge). Ask the students for any interesting facts they have learned from it (Knowledge and Comprehension). Show the students the pictures of the chocolate life size car and of the 2000 pound chocolate Valentine heart. Discuss the different dimensions of the chocolate car and heart (Analysis and Evaluation).

Step by Step Plan:

11. Tell the students it is their turn to make a sculpture from chocolate.
12. Show the students the display of chocolate candies they can use. Give students a limit of chocolate candies they can use (depends on materials). **Tell the students they can pick two pieces of candy to eat, but they may not eat any other chocolate during class.**

13. Have all students wash their hands while passing out placemats.
14. Tell students to manipulate the chocolate candies into their desired sculpture but their sculpture must have a rectangular or square foundation/base. (Synthesis) Remind students their sculpture must be appropriate for class.
15. When all students are finished (within 20 minutes), direct students to get into pairs.
16. Tell them to each measure the height and length of their sculpture to the nearest quarter of an inch and then to the nearest millimeter. Tell them to record their measurements on notebook paper. (Knowledge and Application)
17. Tell the students to find the perimeter of the base of their sculpture to the nearest quarter of an inch and then to the nearest millimeter. Remind them to record. (Application)
18. Then have students weigh their sculptures on the scale and find the sculpture's weight to the nearest gram. Remind them to record. (Application)
19. Have students compare their measurements with their partner's measurements of height, length, perimeter, and weight. Tell them to record who's is taller, longer, smaller, heavier, etc…(Analysis and Evaluation)
20. Take pictures of each student's sculpture to display on the bulletin board and class web page.

Closure:

Collect students' recordings. Thank the students for not eating more chocolate than directed and for participating. Tell the students you are going to display the pictures of their sculptures on the bulletin board and on the class web page.

Adaptations:

*Have sugar-free chocolates for a student with diabetes.

*Students with limited fine-motor skills can have their partner mold the chocolate as they give directions.

*Gifted students can find more precise measurements of their sculptures. They can write their measurements using fractions and decimal numbers.

Gardner Intelligences:

Visual: Pictures of chocolate car and valentine, student sculptures

Verbal: Directions

Mathematical: Measuring sculptures

Kinesthetic: Making sculptures

Interpersonal: Working in Pairs

Intrapersonal: Making individual sculptures

Source of pictures: http://www.pastrywiz.com/valentine/valentines09.htm

http://www.pastrywiz.com/chocolate/chocolate19.htm

All other ideas by: Joel Luckey, Nikki Pearson, and Natalie Aschenbrenner

Manchester College

Education Department

LESSON PLAN by Joel Luckey

Lesson: Big Rock Candy Mountain **Length: 35 Min**

Age or Grade Intended: 4th

Academic Standard

- **Music**
    1. 4.5.1 Create an original piece
    2. 4.8.1 Identify the historical period to which a famous work studied in class belongs.

Performance Objective:

When in groups of 3-4, student will compose 1 stanza that entails 3 descriptive characteristics to add to the *Big Rock Candy Mountain*.

Advanced Preparation by Teacher: Obtain a copy of the Original Big Rock Candy Mountain song

Materials: CD, Large Post it paper

Intro/Motivation

Play song. Play it again as the class claps the beat. Discuss with the class what a great place Big Rock Candy Mountain is. Ask them what types of places they can imagine.

Step-by-Step

1. In small groups 3-4 create a word web, using a large post it note, of things they would add to Big Rock Candy Mountain.
2. After five minutes, the groups will share and make a giant web for the entire class.
3. Post web where everyone can see.
4. In their groups they will then compose a new stanza for the song.
5. Once the students have composed their stanza they will practice singing it while clapping the beat.
6. Each group will perform their stanza in front of the entire class.

Closure

Listen to the song a final time. Then in sequence with the whole class clapping, each group will perform their stanza to the beat.

Adaptations/Enrichment

Students the struggle in writing will be allowed to dictate to another student their portion of the stanza.

Resources

www.myschoolonline.com

Manchester College
Education Department

Lesson By: Joel Luckey, Nikki Pearson, Natalie Aschenbrenner

Lesson Title: The Bigger the Better
Length: 45 min.
Age or Grade Level: 4th grade
Subject: Math

Academic Standards:

4.1.4 Order and compare whole numbers using symbols for "less than" (<), "equal to" (=), and "greater than" (>).

Objectives:

1. Given a set of two different whole numbers the student will correctly identify which number is greater than the other number for at least 9 out of ten sets.
2. Given a set of two different whole numbers the student will correctly identify which number is less than the other number for at least 9 out of ten sets.

Advanced Preparation by the Teacher:

Get materials

Materials: Snicker king size candy bar, Snicker regular size candy bar

Procedure:

Introduction:

Show the Snicker king size candy bar and Snicker regular size candy bar to the class. Ask which candy bar the students would prefer to have when they are really hungry and why? (If a student does not like Snickers tell the student to pretend it is a candy bar he or she likes). Continue to prompt students until they get the idea of picking bigger candy bar for more to eat.

Step by Step Plan:

21. Draw the "less than" (<), and "greater than" (>) symbols on the board.
22. Tell the students to picture the "<" as an open mouth. Add teeth to the mouth to help the students visualize the symbol as a mouth.
23. Ask the students what side of the mouth would face the piece of food it is going to eat.
24. Tape the candy bars to the board with the "<" facing the correct way.
25. Tell the students the mouth is hungry and it wants to eat some numbers.
26. Write two different whole numbers on the board. Have the students decide which way the open mouth goes so it eats the bigger number. Explain to the students the mouth is eating the number greater than the other number. And that the lower number is less than the greater number. Practice the terms "greater than" and "less than" until students understand and can associate them with the correct symbol.

27. Break students into groups of four.
28. Give each group two sets of cards with whole numbers on them and two cards with "<" on it.
29. In each group two students will each have a set of whole number cards. The other two students will each have a card with the symbol "<" on it.
30. The students with the whole number cards will simultaneously flash through their cards as the other two students race to show the correct direction of the "mouth" (<).
31. After 10 minutes have the students switch cards in their group so the other two students get to race.

Closure:

Thank the students for their participation. Tell them the cards to play the game will be located in the activities closet for playing with later during free time. Give them all a small bite size Snicker.

Adaptations:

*Students with learning disabilities will work in groups of three so the slower student does not have to race to get the answer.

*Academically strong students can learn to use the "equal" (=) symbol. Also, they can learn to use the symbols for decimal numbers.

*Students with no hands or slow motor skills can orally say which number is greater or less than.

Gardner Intelligences:

Visual: Candy bars and (<) symbol as a mouth,

Verbal: Saying their scripts and hearing others' scripts

Mathematical: Whole numbers and symbols

Kinesthetic: Flashing through cards

Interpersonal: Group game and class discussion

Intrapersonal: Individually racing against the other student

Adapted from: Debbie Haren
http://www.lessonplanspage.com/MathGreaterLessThanCandyBarsIdea34.htm

MANCHESTER COLLEGE
Education Department

LESSON BY: Joel Luckey, Nikki Pearson, and Natalie Aschenbrenner

LESSON: Computer
LENGTH: 45 minutes
AGE OR GRADE: 4th grade

STANDARDS

- Technology Standard #13 – Appropriately operate technological devices and machinery.

PERFORMANCE OBJECTIVES:

- Students will navigate through one Cadbury Learning Zone game to completion within the designated time period.

ADVANCED PREP. BY TEACHER:

- Reserving the computer lab

PROCEDURE

- Intro: Pull kids in by giving them all a Cadbury egg. Be sure there are no chocolate allergies in your class. Ask students to brainstorm (Bloom's) about the ways that math might be used in making chocolate. Ask how chocolate and history are related. Ask them to predict how chocolate companies came about (Bloom's). Record their ideas on the board in a KWL Chart.

- Step-by-Step: Students will be shown how to individually log on to Cadbury Learning Zone. There are three web quests including, math, history, and environment. Students may choose the lesson they wish to learn about and begin by clicking the icon for that portion of the quest. The task is simple. Students are given short informational strips to read and then questions to answer. The questions are mathematical, testing toward comprehension, and require a lot of thought. Once the student produces the correct answer, they are allowed to continue with the lesson. An example question is provided. Students are given 45 minutes to an hour to make it through as many of the components as possible.

- Closure: Everyone will return to class and take turns adding to the KWL chart all of the things they now know about chocolate. Conclude by having students journal what they think about the activity they did on the computer and how they felt about it. Have another Cadbury egg to take home for all of the hard work!

ADAPTATIONS

- Students having difficulty working on the computer can get help from another students who is very computer literate and finishes their section quickly. Students may also be allowed to work in groups.

ENRICHMENT

- Students who are very interested can find further information relating to anything "Chocolate" and write a one-page report for 10 extra credit points.

SELF REFLECTION

- Did students learn while playing on the computer? Would this material be presented better in a different way? Is there anyone who hasn't mastered using a computer to execute these basic skills?

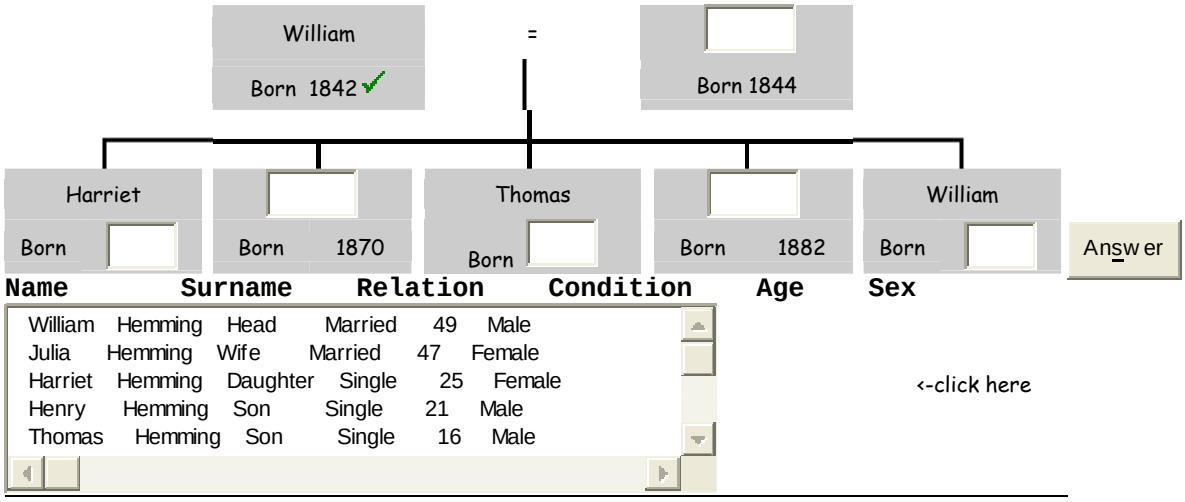
GARDNER'S

- Logical/ Mathematical – Most types of intelligences should do well with computer webquests, but those who function logically do better with computers in general.

Website: http://www.cadbury.co.uk/EN/CTB2003/

(Example)

Use the list below to complete the family tree for the Hemmings. Remember these details were written down in 1891.



Name	Surname	Relation	Condition	Age	Sex
William	Hemming	Head	Married	49	Male
Julia	Hemming	Wife	Married	47	Female
Harriet	Hemming	Daughter	Single	25	Female
Henry	Hemming	Son	Single	21	Male
Thomas	Hemming	Son	Single	16	Male

<-click here

MANCHESTER COLLEGE

Education Department

Lesson Plan By: Natalie Aschenbrenner, Joel Luckey, and Nikki Pearson

Time: 1 Hour

Age Intended: 4th grade

Standards: Social Studies (Geography)

Locate Indiana on a map of the United States; indicate the state capital, major cities, and rivers in Indiana; and be able to place these on a blank map of the state.

Objectives:

Students will indicate their knowledge of Indiana by creating an edible map and labeling the capital**,** 4 major cities**, the** 2 major rivers **and representing at least** 2 regions where a specific crop is produced**.**

Advance Preparation

Provide peanut butter, milk, powdered sugar, white corn syrup, icing, chocolate chips, nuts, M&M's and any other edible material that sounds fun.

Recipe: 2 c. peanut butter

2 ½ c powdered milk

2 ½ c powdered sugar

2 c white corn syrup

Procedure:

Introduce the lesson by bringing a teacher-created edible map of Indiana. Have students guess what it is. Discuss the different features and what they represent.

Tell students about the map that they are going to create. Give them ideas to get them thinking, such as; you could use red Twizzlers to make your rivers or blue icing. You could use candy corn to represent abundant corn crops in some regions. Tell them to be creative. Explain that they will be divided into groups of four. Also, explain while they are still quiet that they need to include a legend with their map. Tell students that in order to do a good job they need to do some research and become familiar with the physical features of Indiana. They may use the maps provided and their textbook to do so.

Students will spend 10 minutes looking at the maps that are handed out and going through their textbooks looking for information and gathering their thoughts. When each student has at least four ideas of their own written down they will be

divided into groups. Each group will have a set "station" in the classroom, and will be responsible for getting 1 ingredient to all of the stations (so that the teacher doesn't spend the whole day passing things out).

Give each group a copy of the recipe. They will use the first four ingredients to create their base, and then decorate physical areas and landmarks with the additional supplies.

This activity will take at least an hour. To close, allow each group to share their map with the class. When all are finished have them carefully put their maps in the window and head out to recess. They will be allowed to eat them during SSR.

Assessment:

Students should label the capital, 4 major cities, 2 major rivers, and 2 regions where a specific crop is produced (this aspect of the lesson is just to show them that Indiana is a huge producer of corn and soybeans).

Enrichments:

Invite the principal or a community leader down to your class for the student presentations.

Adaptations:

Students who have difficulty using their hands can be designated researchers for the project and act as foremen on the project.

Gardner's:

Visual/ Spatial, Logical/ Mathematical

Resource:

Pbskids.org/democracy/educators/tastymap.html

MANCHESTER COLLEGE
Education Department
LESSON PLAN BY Nikki Pearson, Joel Luckey, and Natalie Aschenbrennar

Lesson: ZERO-GRAVITY CANDY (Science)
Length: 1 WEEK
Age or Grade Intended: 4th grade

ACADEMIC STANDARDS:

4.1.8 Recognize and explain that any invention may lead to other inventions.

4.2.5 Write descriptions of investigations, using observations and other evidence as support for explanations.

4.6.1 Demonstrate that in an object consisting of many parts, the parts usually influence or interact with one another.

OBJECTIVES:
Given a brainstormed list of materials to work with, students will create one provable plan for an M&M dispenser that would work without gravity (on a space shuttle).

Students will write a one page explanation of how they developed their machine with no grammatical errors.

Students will transfer their plans to poster board and correctly label all parts that work together with a red marker.

ASSESSMENTS:
Each student in the group will meet with the teacher one on one and explain, using their copy of the plan created, exactly how the machine will work.

The one page paper will be graded for grammatical errors.

Teacher will check to verify that all cooperating parts are labeled.

PREP MATERIALS:
Drawing paper and pencils
Rulers
Poster board
Red markers
Student activity guidance sheet
M&M's for inspiration

PROCEDURE:
INTRODUCTION:
The teacher will begin the lesson with a series of thought provoking questions such as, "How would an M&M dispenser that worked in space be different from a model that worked on Earth?"

"What would hold the M&M's down until you wanted one?"
"What will keep the whole dispenser from floating away?"
"Will the dispenser hold candy until you need it, or deliver it to your hand or mouth?"
"If your invention delivers candy, what will get the candy moving? Will it rely on pressure – like a space pen? Will it use suction – like a space toilet, or propulsion – like a slingshot? Will it use a lever or something else?"
"If the invention delivers candy, what will start the power system moving? Will you press a button or squeeze a tube? Will it have a timer to automatically deliver a candy every 30 seconds?"

The "Background" section should be read at this point by a student to give the lesson a true to life purpose. A student can be asked to volunteer to read it.

After allowing a few minutes for discussion, bring the student's attention back and take suggestions for types of materials that could be used. These materials should be written on the board.

STEP-BY-STEP PLAN:
Students will be allowed to choose partners or work alone. Groups should be no larger than groups of four. Each individual student needs a copy of the activity sheet so that they can easily follow along, even if they are working in a group. Students will be excited to begin their projects because of the recent brainstorming session and will most likely begin work immediately (already engaged due to the introduction).
(Encourage) The teacher will tour the classroom examining the progress of individual group work and pointing out potential problems. Students will be creating extremely detailed drawings and the teacher will need to continually push those groups who try to take the easy way out. It needs to very clear that only a valiant effort will satisfy the requirement. The teacher will ask questions such as: Analyze your drawing upside down and be sure it still works due to gravity issues (Bloom's Analysis). Test your machine for different sizes of M&Ms to see if it can handle only the milk chocolate or also the almond, peanut, and now the huge ones (Bloom's Evaluation). The planning stages of this project will more than likely take three days to complete. Students will spend the fourth day transferring their completed diagrams to a large poster board and labeling all of the parts, identifying those parts that work together with a red marker. The fourth day students will write a reflection of their experience and explain in detail exactly how and why they chose to develop their machines the way that they did.

Gardner: Intrapersonal (applies to students working alone on the project), Interpersonal (benefits those students who are comfortable in a group setting), Visual/Spatial (this is a great project for students who need to draw out their ideas), Logical/Mathematical (These kids live for experimentation and love to logic through the trouble shooting)

CLOSURE:
(Engage) Students will join their groups on the last day after their writing assignments have been handed in and will be allowed to show and explain what they created. Classmates will be given time to ask questions. Each member of the group should

explain at least one attribute that was included in their candy dispenser, so that participation is shared. Students need to be commended by the teacher for a job well done and be encouraged to keep thinking along these lines for future projects.

ADAPTATIONS:
Students who have difficulty drawing or are unsatisfied with their artistic attempts might be allowed to design their project on a computer.
Students with poor writing skills will be given a lower set of criteria for the paper. A rubric will be created and students will be given the option of presenting an oral report.

ENRICHMENT:
Students who really get fired up about this assignment can be invited to create a project for the Spaceday Design Challenge. A team could be assembled to participate in the events, and students could be allowed to spend recess time inside working on projects. Information about the programs offered can be found at
www.spaceday.com/design2000/teachers/dc/index.html

Chocolate Mania
Materials List

* Internet
* Computers
* *Chocolate Fever* by Robert Rimmel (copies for whole class)
* Snicker king size candy bar and Snicker regular size candy bar
* CD with Big Rock Candy Mountain Song
* Large Post-it paper
* Drawing paper and pencils
* Rulers with inches, centimeters, and millimeters
* Poster board
* Red markers
* Student activity guidance sheet
* M&M's for inspiration
* Social Studies recipe ingredients: peanut butter, milk, powdered sugar, white corn syrup, icing, chocolate chips, nuts, M&M's and any other edible material that sounds fun
* Professional story teller for story telling lesson
* Clean placemats (paper or plastic)
* Chocolate candy (tootsie rolls, small chocolate bars, chocolate frosting, M&M's, Hershey kisses, etc...)
* Scales (measures by gram)
* Digital camera
* Spanish and American hot chocolate recipes
* Heat resistant cups (2 per student)
* Ingredients of Spanish and American hot chocolate recipes
* Felt
* Scissors
* Markers
* String
* Glue
* Paint sticks (to connect their Drama masks to)
* Staples
* Paper bags prepared with type of chocolate candy bar inside (Fine Motor Lesson)
* Hershey's Chocolate t-shirt
* Chocolate monster mask (make this)

Sources Cited:

Art:

Source of pictures: http://www.pastrywiz.com/valentine/valentines09.htm

http://www.pastrywiz.com/chocolate/chocolate19.htm

All other ideas by: Joel Luckey, Nikki Pearson, and Natalie Aschenbrenner

Computer Lesson:

Cadbury Learning Zone http://www.cadbury.co.uk/EN/CTB2003/

Cooking Lesson:

All ideas by: Joel Luckey, Nikki Pearson, and Natalie Aschenbrenner

Except recipes: Spanish- http://www.science.uva.nl/~mes/recipe/usenet/spanish-cocoa.html
American- http://www.cooking.com/recipes/static/recipe2582.htm

Drama Lesson:

Source for making felt masks: http://www.mce.k12tn.net/reading2/touch-activity6.htm All other ideas by: Joel Luckey, Nikki Pearson, and Natalie Aschenbrenner

Fine Motor:

http://www.mce.k12tn.net/chocolate/charlie/charlie_and_the_chocolate_factor.htm

Gross Motor:

Game by : Natalie Aschenbrenner, Joel Luckey, and Nikki Pearson
Book summary adapted from: http://www.germantownacademy.org/academics/ls/superreader/title/C/chocolatetouch.htm book review by Andrew S.

Literacy:

http://www.readwritethink.org/materials/storymap/

Math:

Adapted from: Debbie Haren
http://www.lessonplanspage.com/MathGreaterLessThanCandyBarsIdea34.htm

Music:

www.myschoolonline.com

Science:

Enrichment: www.spaceday.com/design2000/teachers/dc/index.html

All other ideas: Natalie Aschenbrenner, Joel Luckey, and Nikki Pearson

Social Studies:

www.Pbskids.org/democracy/educators/tastymap.html

Story Telling:

Natalie Aschenbrenner, Joel Luckey, and Nikki Pearson