Boss' Healthy Buddies

4TH GRADE
LESSON: Calories
SC STANDARD: 4.ATO.3

W WOFFORD
It's your world.

CALORIES

OBJECTIVES:
- Understand what a calories is and how they hurt or help your body
- Discuss how calories are "made" and how they represent fat, carbohydrates, and protein
- Explain where to find calories on the food label
- Discuss "good" and "bad" calories

LET'S GET STARTED! (10 MINUTES):
- Allow students to name some foods that they think have calories in them
- Explain the definition of a calorie and how it affects your body as a whole
- Explain the meaning of a calorie and how it represents fat, protein, and carbohydrates as a whole
- Help students understand the meaning of "good" calories and "bad" calories
- Point out where calories can be found on a food label
- Discuss the fact that all foods have calories in them, but the amount may change

ACTIVITY (15 MINUTES):
- The activity for this lesson will help students practice the algebraic concept of writing an equation and using a letter or symbol to represent the unknown. It will also help student practice solving multi-step problems using the four operations.

WRAPPING UP (5 MINUTES):
- Review what a calorie is and have students restate what a "good" calorie versus a "bad" calorie is with a couple of examples
- Hand out Boss' Backpack Bulletin with weekly reminders and goals

SC STANDARDS:
- 4.ATO.3 Solve multi-step, real-world problems using the four operations. Represent the problem using an equation with a variable as the unknown quantity.

MATERIALS:
- Food Label handout
- Calorie Place Value worksheet
- Boss' Backpack Bulletin
- Pencils

LET'S GET STARTED!

- Today's lesson is going to be about calories! Ask the students to name some foods that have calories in them (this is a trick question because all foods have calories)
- Start by explaining what calories are, how they help energize the mind and body, and that there are certain foods that have good calories and certain foods that have bad calories

DIALOGUE BOX

- Today we are going to talk about calories! Can anyone name any foods that they think have calories in them?
- Well, all foods have calories in them. Calories are used as energy to help fuel your body, similar to how a car has to have gasoline to fuel your car! Without the fuel, your car would not move, and without calories, our bodies would not move!
- If you do not get enough calories in the day, your body cannot function properly; your heart would not beat and your brain would not work the way it is supposed to!
- Someone your age needs about 1,500 calories per day. That may seem like a lot, but you need all of those calories to function and be healthy!
- Sometimes if you eat way more calories than you are supposed to, you can start gaining weight, which is unhealthy.
- So, remember that the magic number is to try and stay around 1,500 calories per day!

Discuss where calories "come from" and how calories is a term that represents the amount of fat, protein, and carbohydrates in certain foods.

DIALOGUE BOX

- The definition of a calorie is a measure of energy in food that comes from fat, protein, and carbohydrates.
- The way calories are determined for foods are by counting and adding up the individual calories for fat, protein, and carbohydrates.
- Think of it this way: fat has 9 calories for 1 gram, protein has 4 calories for 1 gram, and carbohydrates have 4 calories for 1 gram.

DIALOGUE BOX

- If you are eating a food that has 2 grams of fat, 2 grams of protein, and 10 grams of carbohydrates, you would need to add all of the individual calories together to get the calorie number for the entire thing.

- So, you would start by adding 9 + 9 (2 grams of fat), which = 18 calories.

- Then you would do 4 + 4 (2 grams of protein), which = 8 calories of protein.

- Lastly, you would say 4 x 10 (10 grams of carbohydrates), which = 40 calories.

- At the very end, you will add up all of the calories that represent fat, protein, and carbohydrates; so, 18 + 8 + 40, which = 66 calories in one serving of that specific food.

- Now you try: "Count up the total number of calories in one serving of food that has 2 grams of fat (remember its 9 calories in 1 gram), 4 grams of protein (4 calories in 1 gram), and then 10 grams of carbohydrates (remember there are 4 calories in 1 gram).

- The answer would be 74 calories.

Now start discussing the differences between "good" calories and "bad" calories with examples of each.

DIALOGUE BOX

- Like I mentioned earlier, calories can be found in any type of food you may eat or buy at the grocery store. About 90% of the time, you can find the amount of calories in a food on the food label.
- This becomes a problem though when it comes to fruits and vegetables. Fruits and vegetables do have calories in them, but because they do not necessarily come in a package, they do not have a food label on them.
- On other packaged foods, the food label can be found on the side of bottom of the box or bag that your food comes in. Calories will always be one of the first things on the food label. So, next time you go to the store with your parents, pick something up off of the shelf and try and find the amount of calories in that food for one serving.
- Always remember that you are supposed to eat around 1, 500 calories in one day, and what happens to your body if you eat way too much or not enough calories.

ACTIVITY

- The activity for this lesson will help students practice the algebraic concept of writing an equation and using a letter or symbol to represent the unknown. It will also help student practice solving multi-step problems using the four operations.

- Each student will be given a Calorie Chart with pictures of multiple lunch items. Underneath each picture is the amount of calories each lunch item contains. Students will use the chart to create an equation to help determine how many calories John had for lunch

- The unknown will be represented as "X"

DIALOGUE BOX

- Today we are going to practice making equations that help us solve for an unknown number. Last year we learned that in math sometimes we use letters and symbols like "X" and "Y" to represent numbers we haven't figured out yet.

- For example, If we didn't know what 2+2 was we could write the equation X=2+2. Then, we could solve the equation and determine that X=4

- Today we are going to be writing equations and we will also be practicing using the four operations. Can anyone tell me the order we solve the four operations? (Multiplication, Division, Addition, Subtraction, the acronym My Dear Aunt Sally may help students remember)

- An equation with the four operations might look like this X=2 * 4 +2. Let's solve this equation together.

- The answer we get is X=10

- Let's practice using equations and the four operations to help John figure out how many calories he had for lunch

WRAPPING UP

- Hand out Boss' Backpack Bulletin for them to do this week, and with the weekly goal on it. Tell students that on their Bulletin there will be examples of "good" calories and "bad" calories so that they can remember and watch out for those foods at home.

- There will also be a word problem on the Bulletin asking students to calculate the total number of calories in one serving of food.

DIALOGUE BOX

- Your goal this week is going to be eating more good calories and eating less bad calories!

- Remember, good calories come from foods that fill you up, keep you energized, and help your brain function correctly.

- Bad calories come from foods that do not fill you up and are not healthy for you. These are foods like chips, cookies, cakes, donuts, crackers, etc.

- There will be reminders at the top of Boss' Backpack Bulletin that will give examples of foods with good calories that you should try and foods with bad calories that you should look out for.

- Write down all of the good calorie foods that you tried this week, and also write down the bad calorie foods that you stayed away from this week!

- There will also be a word problem at the bottom of the page where you will calculate the total number of calories in one serving of food.
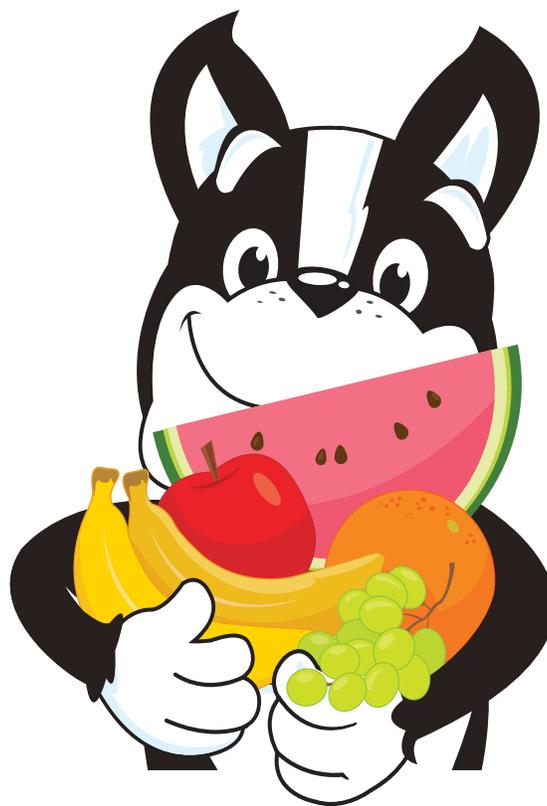
CALORIE PLACE VALUE

John wants to know how many calories he had for lunch. He decides he is going to make an equation to help him figure it out. He wants to represent the number of calories with the letter "X." Using the attached calorie chart, help John solve for "X" and calculate how many calories he had for lunch. He had 1 turkey and cheese sandwich, 5 baby carrots, and 1 banana.
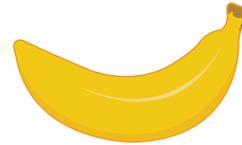
X= _____ +_____ * _____+_____

X=
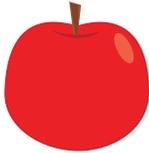
1 apple
85 Calories

1 peanut butter and jelly sandwich
327 Calories

1 banana
105 Calories

1 bag of chips
150 Calories

1 orange
80 Calories

1 blueberry muffin
200 Calories

12oz soda
150 Calories

1 baby carrot
4 Calories

1 bowl of cereal
110 Calories

1 turkey and cheese sandwich
230 Calories

1 small bag of nuts
170 Calories

1 serving of broccoli
50 Calories

BOSS' BACKPACK BULLETIN

Your goal for this week is to try and eat more good calorie foods, or GO foods, and less bad calorie foods, or WHOA foods!

Good Calorie Foods	Bad Calorie Foods
- All fruits - All vegetables - Foods made with whole wheat - Low-fat milk - Lean meats - Fish - Eggs - Low-fat or Greek yogurt - Natural peanut butter - Nuts and seeds - Rice cakes - Whole grains (wheat, rice, corn, oats)	- Chips - Cookies, brownies, and cakes - Fruit gummies - Soda, fruit juices, and sports drinks - Chocolate and candy - Whole milk - Flavored milk - White grains (white rice, white flour, white tortillas, etc.) - Fried foods and fast food - Sugary cereals - Ice cream

Some of the good calorie foods you tried this week:

_____

_____

_____

Some of the bad calorie foods you gave up this week:

_____

_____

FOOD LABEL

Nutrition Facts

Serving Size 2 Crackers (14g)
Serving Per Container 21

Amount Per Serving

Calories 60   Calories from Fat 15

Calories

	% Daily Values*
Total Fat 1.5g	**2%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 70mg	**3%**
Total Carbohydrate 10g	**3%**
Dietary Fiber less than 1g	**3%**
Sugars 0g	
Protein 2g	
Vitamin A	0%
Vitamin C	0%
Calcium	0%
Iron	2%