

Lesson 6 - The Dairy Group

DAIRY DOES OUR BODY GOOD

Topic

Nutrition

Audience

2nd & 3rd Grades

Suggested Time

45 minutes



NJ Core Curriculum Standards 2.1 Wellness:

By the end of Grade 2, students will:

B. Nutrition

Choosing a balanced variety of nutritious foods contributes to wellness.

2.1.2.B. - **1.** Explain why some foods are healthier to eat than others.

2.1.2.B. - **2.** Explain how foods on MyPlate differ in nutritional content and value.

C. Diseases and Health Conditions

Knowledge about diseases and disease prevention promotes health-enhancing behaviors.

2.1.2.C. - **2.** Explain ways to prevent the spread of diseases and health conditions like washing your hands and covering your sneeze.

Knowledge Objective(s)

The children will learn foods that belong to the Dairy Group.

The children will learn the importance of calcium for building strong bones and healthy teeth.

The children will learn terms about dairy products like: pasteurization, homogenization, lactose intolerance, and osteoporosis.

The children will know how important it is to eat dairy each day.

Behavioral Objectives

The children will use what they have learned to choose foods from the Dairy Group that they will eat.

The children will use proper food handling when tasting cheese.

Life Skill(s)

The children will make healthy choices from the Dairy Group.

How This Activity Is Behaviorally Focused

The children choose foods that they will consume from the Dairy Group.
The children use proper hand washing

Supplies Needed

“MyPlate For Kids” Poster

Dairy by Nancy Dickmann

Dairy on MyPlate by Mari Schuh

(Choose 1 of the 2 books listed above)

Cheese Snack

Plates

Disposable gloves

Wipes

Empty milk container with Vitamin D and Homogenized printed on it (Optional)

“Dairy Foods Word Jumble” handouts

Handouts to leave behind:

“Crack the Code” - Third Grade

“Claire the Cow’s Puzzle”

Dairy Group car for MyPlate Train

Teaching Tips

Write new terms on the board.

Pre – Lesson Preparation

Hang “MyPlate” poster in front of the class.

Have all handouts.

Background Information For educator

Foods in the Dairy Group are milk, cheese, and yogurt. These foods, especially milk have protein and vitamins. But the most important thing that Dairy foods have is Calcium. Calcium does many important things in the body. It helps keep your bones strong and your teeth healthy. It helps your heart beat steady and is key in making muscles work well. Calcium helps you have healthy blood and nerves. 99% of the calcium in the body is stored in bones and teeth. If the foods we eat do not have enough calcium, then the body is going to get the calcium it needs from the bones. Then bones will become weak. If this goes on for a while, more calcium is taken out of bones than is put in and bones will break more easily. If this goes on for a much longer time, you could develop a disease called osteoporosis when you are old. Osteoporosis is when your bones are brittle and weak and are more likely to break when you fall.

It is important to start building strong bones in early childhood. The best time to build strong bones to prevent problems later is when you are a tween or a teen. But it is never too early to get started having enough calcium in your diet. You can do this by eating foods that are rich in calcium and nutrients like those found in milk. From the time you are born until you are 18 years old, bones are forming and growing. You need to eat foods like milk and cheese that have a lot of calcium each day. If you eat the right amount of foods with calcium when you are young you will have strong bones when you get older.

Another nutrient found in fortified milk is vitamin D. When you fortify milk with vitamin D, it meant that the vitamin D is added to milk. Vitamin D can also be made by the skin when the sun hits it. Vitamin D helps the body absorb and use calcium. It is important to drink fortified milk because most unfortified milk has very little vitamin D, and unfortified nonfat milk has no vitamin D at all.

Some people have trouble digesting the sugars in milk. We say that they are lactose intolerant because they have trouble digesting lactose, which is a type of sugar found in milk and other dairy foods. This happens because they don't have enough of an enzyme called lactase. Lactase breaks down lactose in the body. When you are lactose intolerant and you eat a lot of dairy food you can get an upset stomach. Lactose intolerance does not mean a person is allergic to milk.

Some dairy products can be eaten by a person who is lactose intolerant. Some people can have small amounts of milk, cheese and especially yogurt. Yogurt has good bacteria that help digest the lactose. Buttermilk, cooked milk in soups and puddings and hard cheese are other dairy products that a lactose intolerant person may be able to eat without feeling sick. But be sure to ask your caretaker before trying these foods. They will ask your doctor if it is okay. You can also try lactose free milk or calcium enriched soy or almond milk. Or get calcium from non-dairy foods like fortified orange juice, kale, collards, almonds and canned fish with bones.

99% of the world's milk supply comes from cows. Cows are big eaters. They eat about 90 pounds of food each day. Cows have one stomach with four parts. This is so they can break down the grass and hay that they eat. Our stomachs cannot break down these things. Cows that eat only grass can make 50 - 8-ounce glasses of milk a day. Cows that eat grass, corn and hay can make 100 - 8-ounce glasses of milk a day. A cow gives close to 200,000 - 8 ounce glasses of milk in her lifetime. Yes, all cows are females. California produces the most milk and cheese. Wisconsin which has always been famous for its cheese used to produce the most. Now Wisconsin makes the second most after California.

After the cow gives the milk at the farm where it lives, the milk is cooled to 45°F. It is then put in a refrigerated truck to keep it milk cold. The truck delivers the milk to the dairy plant. Milk has globs of butterfat in it when it comes from the cow. At the dairy plant, the butterfat is broken into very small pieces to make the milk creamy and smooth. This is called homogenization. If you do not do this to the milk then there would be pieces of fat in it and you would have to shake the milk each time before you drink it. After the milk is homogenized, it is heated to a high enough temperature to kill most of the bacteria. This is called pasteurization. After that it is put into cartons or jugs and delivered to the store. It takes about 2 days for the milk to go from the cow to the grocery store. At the store it must be kept refrigerated.

There are many kinds of milk. There is whole milk that has all the fat in it. There is 2% milk and 1% milk that is low-fat. Low-fat milk has some fat taken out. There is also non-fat or skim milk that has almost no fat at all. There are also flavored milks. Chocolate milk is one that a lot of people like to drink. Flavored milk has the same nutrients but most times has a lot of added sugar so it is really a sometimes food.

New Term(s) For Children & Educator

Calcium: is a mineral that helps build healthy bones and teeth and keep them strong.

Wisconsin: a state in the US that produces the most milk and cheese in this country.

Osteoporosis: is when the bones lose calcium and become weak and break more easily.

Lactose Intolerance: is when your body has trouble breaking down the sugar in milk and makes you feel sick. This is because your body does not have enough of the enzyme lactase to break down this sugar.

Dairy: is milk and milk products like cheese and yogurt.

Activity 1

1. Briefly review MyPlate by asking the children to tell you the different food groups and tell you where they are on MyPlate. Have them tell you why they are good for you. This should take no more than 5 minutes. Then tell the children we are going to talk about the Dairy Group.
2. Ask the children: “What group is the blue circle next to the plate?”

Answer: The Dairy Group

3. Ask the children: “Did you know that Wisconsin is the state in the US that makes the most milk and cheese?”

Note: If there is a map in the classroom show the children where Wisconsin is.

4. Ask the children: “Did you know that a cow can make 100 8-oz glasses of milk a day?”

Tell the children: “We are going to read a book about dairy foods.”

NOTE TO EDUCATOR: only choose 1 book to read. After reading, ask the children the questions that go with the book you read.

Dairy on MyPlate by Mari Schuh

1. Ask the children: “What kinds of foods are part of the Dairy Group?”

Answer: Milk, cheese, and yogurt.

2. Ask the children: “Dairy foods have calcium. Why does your body need calcium?”

Answer: To grow strong and have healthy bones and teeth.

3. Ask the children: “Which kind of dairy food is better for you: full-fat or low-fat?”

Answer: Low-fat

4. Ask the children to tell you ways that they can have dairy foods for a snack or with meals.

Answer will vary but can include:

- *milk and cereal*
- *low-fat cheese omelet*
- *low-fat grilled cheese*
- *soup or chili with cheese on top*
- *fruit and low-fat yogurt*
- *cheese and fruit*
- *cheese and crackers*
- *pudding made with milk*

5. Ask the children: “Does anyone know how many servings of dairy you should eat each day?”

Answer: 2 1/2

Dairy by Nancy Dickmann

1. Ask the children: "Which animals does our milk come from?"

Answer: Cows and goats.

2. Ask the children: "What are dairy foods made of?"

Answer: Dairy foods are made of milk.

3. Ask the children: "Which foods are dairy foods?"

Answer: Dairy foods are milk, cheese and yogurt.

4. Ask the children: "How do milk and dairy foods help our body?"

Answer: They help your body grow, build strong bones and teeth and keep your blood healthy.

Remind the children that some dairy foods like regular cheese and whole milk are high in fat. You should only eat a little of these foods like the cheese on pizza.

If you read *Dairy* by Nancy Dickman continue with the following question:

5. Ask the children: "Do you know what we get from the Dairy Group that gives us strong bones and healthy teeth?"

Answer: The mineral CALCIUM

After reading the book continue with these questions.

6. Ask the children: "Do you know the name of an important vitamin that is added to fortified milk?"

Answer: Vitamin D (show empty milk container with vitamin D printed on it).

7. Ask the children: "Does anyone know what vitamin D does?"

Answer: It helps our bodies to use calcium.

8. Ask the children: "Does anyone know what other vitamin is found in fortified milk?"

Answer: Vitamin A.

9. Ask the children: “Does anyone know why we need vitamin A?”

Answer: Vitamin A helps you see better and helps your skin to be healthy.

10. Ask the children: “What are some of your favorite foods from the Dairy Group?” If you need to save time only call on 4 children to share their answers

Answers will vary. If someone gives an answer with a food that is not in the Dairy Group tell them this is a good food too but it is in the (name the group).

11. Ask the children: “Does ice cream belong in this group?”

Answer: Yes ice cream is in the Dairy Group.

12. Ask the children: “What kind of food is ice cream? Can we eat it all the time?”

Answer: No. Ice cream is a sometime food.

13. Ask the children: Does anyone know why?

Answer: Ice cream can be high in fat and added sugar so it is best to not eat it all the time. Eating too much fat and sugar can make you gain weight and get cavities. Only eat ice cream sometimes.

14. Ask the children: “Is there anyone here who cannot drink milk?”

15. Ask the children: “Do you know why?”

Answer: They may be lactose intolerance. That means that after drinking milk, your body has trouble using the sugar in milk and makes you feel sick when you drink it. You may get a stomach ache. But, you can still get your calcium if you are lactose intolerant.

16. Ask the children: “Does anyone in your house have lactose intolerance?”

17. Ask the children: “What do they do about dairy foods?”

Answers may vary: Allow children to share their information. But if they don't mention it, tell them:

- *Supermarkets have special milk called Lactaid.*
- *You can also drink fortified orange juice*

- *You can eat cereal that has extra calcium added to it to be sure you get enough calcium.*
- *You can also drink soy milk to get your calcium*
- *Some people who are lactose intolerant can eat yogurt and small amounts of cheese and drink buttermilk.*

18. Ask the children: “Do you know anything else that can help build strong bones?”

Answer: Some exercises like, playing soccer, walking, running, or dancing can help make your bones strong.”

Activity 2

Hand out *Dairy Foods Word Jumble*.

Tell the children that for this activity they have to look at each line and figure out what you get when you put the dairy food with the picture of the other food. Let them work in groups.

Give the children a few minutes and see if they can do this by themselves. After a few minutes go over the Dairy Foods Word Jumble worksheet with them.

Ask the children: “Are there any other foods that contain foods from the Dairy Group that you can think of?”

Answers will vary but should include:

- *Pizza*
- *tacos*
- *quesadillas*
- *macaroni and cheese*
- *lasagna*
- *rice pudding,*

Activity 3

Tell the children we are going to taste cheese (string cheese or cheddar cheese) and see if they like it.

NOTE to Educator: Check with the teacher AHEAD OF TIME to be sure there are no children with dairy allergies or lactose intolerance.

1. Ask the children: “What is the first thing we do before we touch any food?”

Answer: Wash our hands.

NOTE to Educator: Review the 5 steps of the hand washing procedure with the children if they did not participate in the “Clean Hands” lesson.

- 1. Turn on faucet wet hands thoroughly with warm water.*
- 2. Apply soap to the hand and wrist area.*
- 3. Wash for 20 seconds. The children can time 20 seconds of hand washing by reciting “one Mississippi, two Mississippi, up to 20 Mississippi.” Remind the children to wash between fingers and under nails.*
- 4. Rinse thoroughly.*
- 5. Dry with paper towel and use it to turn off faucet.*

Pass out the cheese. Tell the children the name of the cheese and write it on the board. Ask the children if they like the cheese.

Conclusion

1. Ask the children: “What did you learn about the Dairy Group today?”

Answer will vary but should include:

- The dairy group has milk, cheese and yogurt*
- We get calcium from the dairy group*
- Milk has vitamin D added to it to help us absorb the calcium in milk (if you read the Nancy Dickman book)*
- Low-fat milk, cheese and dairy are best*
- Some people can get an upset stomach if they drink milk*
- You can get calcium from other foods like fortified orange juice or cereal*
- Ice cream is a sometimes dairy food.*

2. Ask the children: “Why is calcium important?” Wait for the children to respond.

Answer: We need calcium for strong bones and healthy teeth,

3. Ask the children: “What foods from the Dairy Group will you try to eat at home?”

Write the foods on the board.

Leave behind:

“Crack the Code” - Third Grade

“Claire the Cow’s Puzzle”

Dairy Group car for MyPlate Train

References:

Calcium & Milk. The Nutrition Source, Harvard School of Public Health at: <http://www.hsph.harvard.edu/nutritionsource/calcium.html>. Accessed February 2013

Claire the Cow's Puzzle. Retrieved on December 29, 2005 from <http://www.puzzlemaker.com/code/BuildCrissCross.asp>

MyPlate at: <http://www.choosemyplate.gov/food-groups/dairy.html>

Dietary Guidelines for Americans 2010 at: <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/PolicyDoc.pdf>
Accessed February 2013

USDA/NAL *Nutrient Database for Standard References* at: <http://ndb.nal.usda.gov/ndb/search/list>; accessed February 2013

Borget-Spaniol, M. *Eating Right With MyPlate Dairy*. Bellwether Media. MN. 2012

Adapted from *SMART FOODS ROCK* Curriculum created by NJ SNAP-Ed Union County staff.



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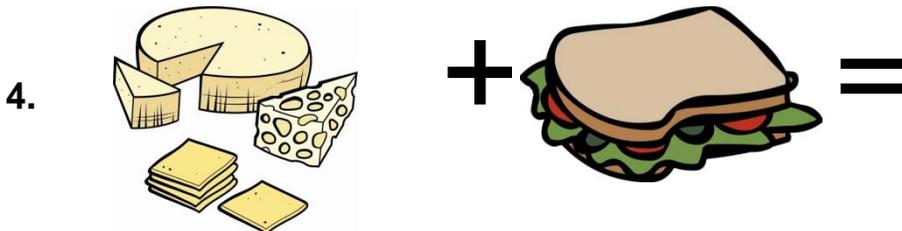
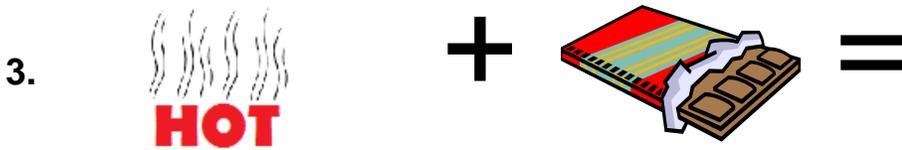
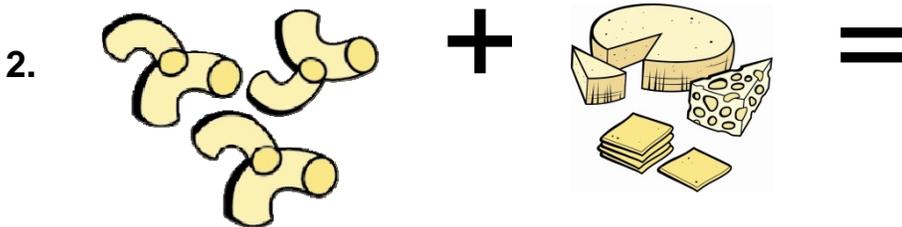
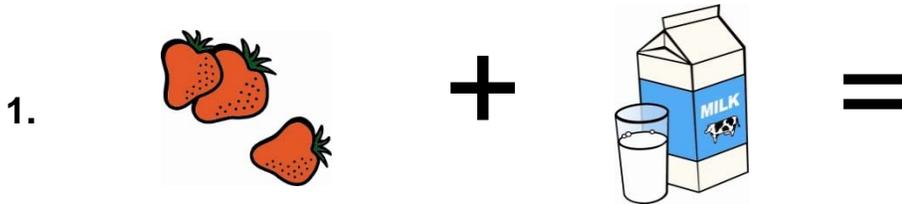
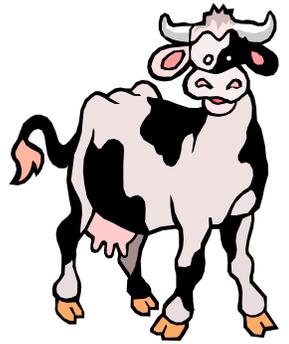
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Name: _____

Dairy Foods Word Jumble

Use the pictures below to come up with each dairy food.



6/27/14



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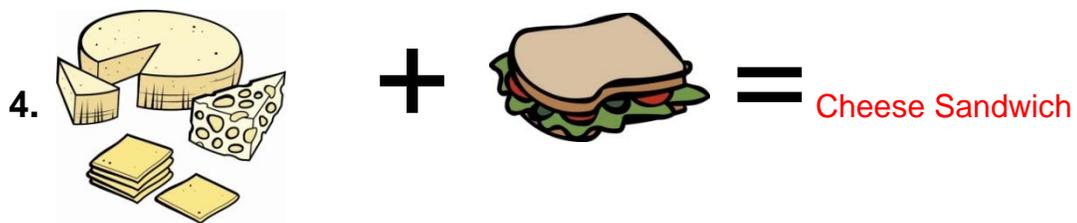
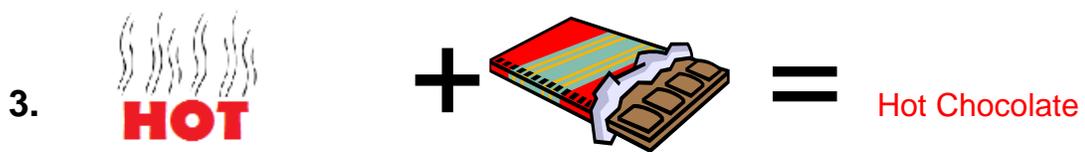
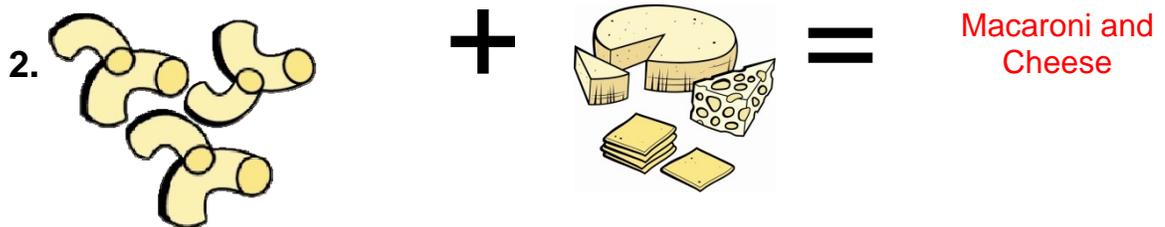
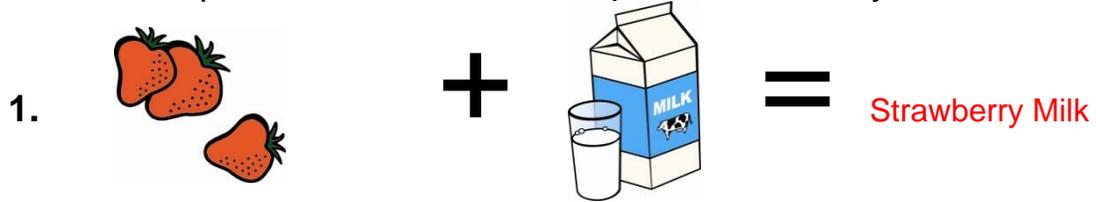
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ANSWER SHEET

Dairy Foods Word Jumble

Use the pictures below to come up with each dairy food.



Name: _____



Break the Dairy Group Code

Use the code to discover the messages below.

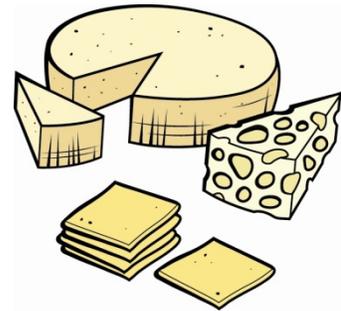
A	B	C	D	E	F	G	H	I
1	2	3	4	5	6	7	8	9
J	K	L	M	N	O	P	Q	R
10	11	12	13	14	15	16	17	18
S	T	U	V	W	X	Y	Z	
19	20	21	22	23	24	25	26	

(1) $\frac{\quad}{7}$ $\frac{\quad}{15}$ $\frac{\quad}{20}$ $\frac{\quad}{13}$ $\frac{\quad}{9}$ $\frac{\quad}{12}$ $\frac{\quad}{11}$

(2) $\frac{\quad}{3}$ $\frac{\quad}{1}$ $\frac{\quad}{12}$ $\frac{\quad}{3}$ $\frac{\quad}{9}$ $\frac{\quad}{21}$ $\frac{\quad}{13}$

(3) $\frac{\quad}{25}$ $\frac{\quad}{5}$ $\frac{\quad}{12}$ $\frac{\quad}{12}$ $\frac{\quad}{15}$ $\frac{\quad}{23}$ $\frac{\quad}{3}$ $\frac{\quad}{8}$ $\frac{\quad}{5}$ $\frac{\quad}{5}$ $\frac{\quad}{19}$ $\frac{\quad}{5}$

(4) $\frac{\quad}{25}$ $\frac{\quad}{21}$ $\frac{\quad}{13}$ $\frac{\quad}{13}$ $\frac{\quad}{25}$ $\frac{\quad}{25}$ $\frac{\quad}{15}$ $\frac{\quad}{7}$ $\frac{\quad}{21}$ $\frac{\quad}{18}$ $\frac{\quad}{20}$



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ANSWER KEY

Break the Dairy Group Code

Use the code to discover the messages below.

A	B	C	D	E	F	G	H	I
1	2	3	4	5	6	7	8	9
J	K	L	M	N	O	P	Q	R
10	11	12	13	14	15	16	17	18
S	T	U	V	W	X	Y	Z	
19	20	21	22	23	24	25	26	

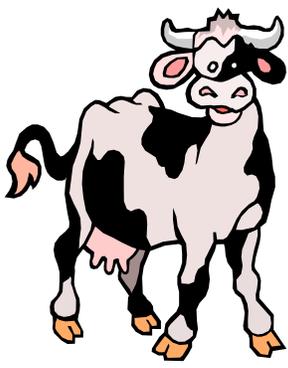
(1) G O T M I L K
 7 15 20 13 9 12 11

(2) C A L C I U M
 3 1 12 3 9 21 13

(3) Y E L L O W C H E E S E
 25 5 12 12 15 23 3 8 5 5 19 5

(4) Y U M M Y Y O G U R T
 25 21 13 13 25 25 15 7 21 18 20

Name _____



Claire the Cow's Puzzle

	BONES	THREE	MILK	CHEESE
	CALCIUM	WISCONSIN	GLASSES	

The crossword puzzle grid consists of the following numbered starting points:

- 1**: Down, 7 letters
- 2**: Down, 3 letters
- 3**: Down, 3 letters
- 4**: Across, 5 letters
- 5**: Across, 4 letters
- 6**: Across, 8 letters
- 7**: Across, 4 letters

Across

4. You should have at least ____ servings from the Dairy Group each day!
5. Dairy foods are foods that are made from _____.
6. What state makes the second most milk and cheese in our country?
7. Foods in the Dairy Group are needed for strong ____ and healthy teeth.

Down

1. What is an important nutrient in the Dairy Group?
2. The Dairy Group in MyPlate is made up of milk, yogurt and _____.
3. A cow can make up to 100 _____ of milk a day.

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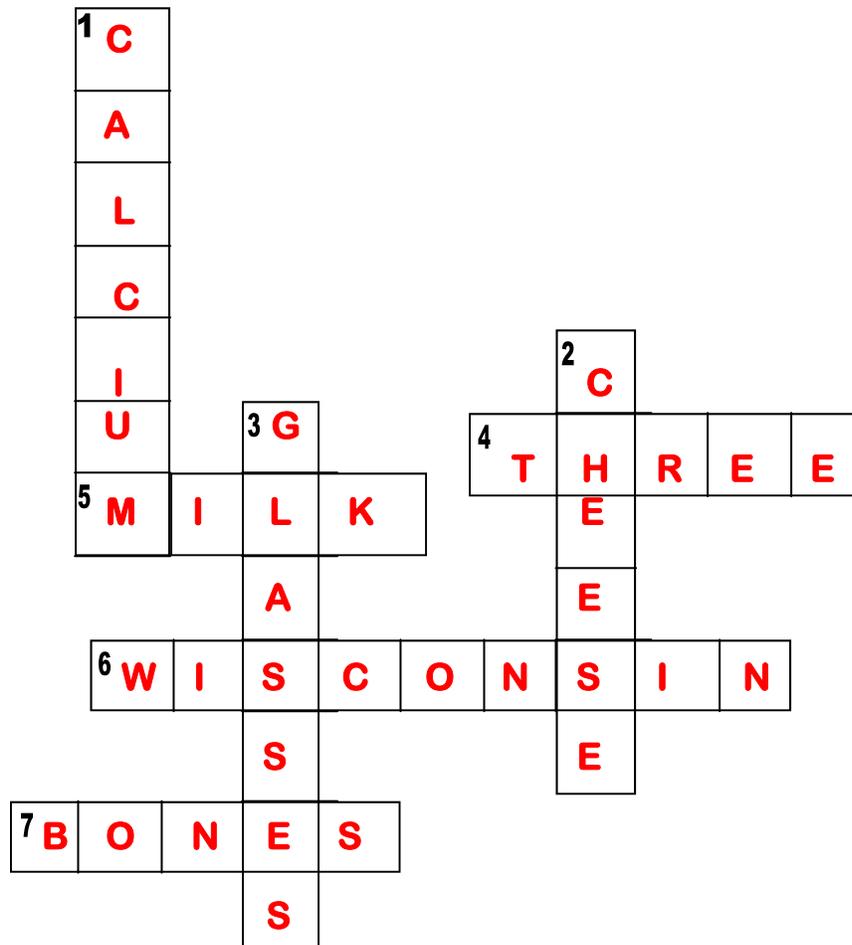
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ANSWER SHEET

Claire the Cow's Puzzle



Across

4. You should have at least **FOUR** servings from the Dairy Group each day!
5. Dairy foods are foods that are made from **MILK**.
6. What state makes the most milk and cheese in our country? **WISCONSIN**
7. Foods in the Dairy Group are needed for strong **BONES** and healthy teeth.

Down

1. What is an important nutrient in the Dairy Group? **CALCIUM**
2. The Dairy Group in MyPlate is made up of milk, yogurt and **CHEESE**.
3. A cow can make up to 100 **GLASSES** of milk a day.

The Dairy Group

