SCHOOL FRUIT AND VEGETABLE NUTRITIONAL PROGRAM + MILK

FRESH STORY | MILK

INTERMEDIATE

FEED YOUR BONES

From the largest, your thighbone, to the tiny bones in your ears, your skeleton is made up of over 200 bones. What are bones mostly made of? Calcium – a hard, silvery-white mineral that gives your bones (and your teeth) strength. How do you add calcium to your body? From your food. Milk is an all-natural food made by dairy cows and contains those bone-building, teeth-strengthening nutrients your body needs, especially calcium. Good food can't do it all, though – keep on moving and exercising to help build and maintain strong bones and muscles.

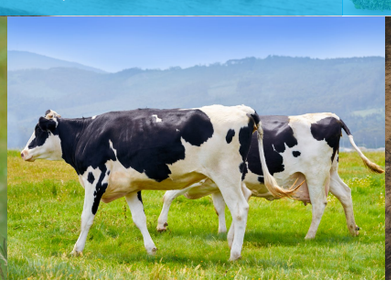
CALCIUM-RICH FOODS

YOGURT, PLAIN (3/4 CUP): 237 MG

MILK (1 CUP): 300 MG

ALMONDS, DRY ROASTED (1/4 CUP): 94 MG

BROCCOLI, COOKED (1/2 CUP) : 33 MG



HOW DOES A DAIRY COW SPEND HER DAY?

EATING:

Eating is a very important part of making milk. A dairy cow grazes on pasture, and the farmer gives her nutrient-balanced feed throughout the day.

CHEWING HER CUD:

A cow spends hours of her day chewing her cud. She is a ruminant, which means her stomach is divided into four compartments called chambers. The tough grass and hay that she swallows mixes with water in her first stomach chamber to form a softer cud, then she burps this up to be chewed and swallowed again.

WALKING AROUND:

Cows are herd animals. Walking around and socializing with other cows is an important part of a dairy cow's routine (so is resting – they also spend a lot of their day lying down!).

MILKING TIME:

Dairy farmers bring their cows into the milking parlour at least twice a day. Most cows find being milked relaxing and eagerly wait for their turn.

NUTRITIOUS FEED → HEALTHY COWS → QUALITY MILK → STRONG BONES

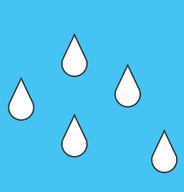
Like all mammals, a dairy cow's body produces milk for her calf. Dairy cows make a lot of milk: one dairy cow usually produces about 30 litres from her daily milkings – enough milk to fill more than 100 average glasses every day. To have the energy to make that milk, dairy cows need to eat well. Like you, they need to eat different kinds of food to maintain a balanced diet.

IN A SINGLE DAY, ONE DAIRY COW CAN EAT:

28 kg (about a wheelbarrow full) of carbohydrates, such as hay (dry feed), silage (wet feed), and grain.

2 kg of high-protein feed made of corn, barley, clover, alfalfa hay, oats, or soybean meal.

Vitamins, minerals, and salt.



A full bathtub of water to wash down all that food.

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TEACHER ACTIVITIES

LANGUAGE ARTS ACTIVITY: MAKING CONNECTIONS

Curriculum Connection: Language Arts - grades 4 to 7: Exploring stories and other texts helps us understand ourselves and make connections to others and to the world.

Post this sheet with the front side showing so that students can use the information to further enhance their understanding of themselves and make connections to others and to the world. For example, ask them to think about books they've read that use a dairy farm as a setting. Or, do they have a connection to an interesting fact they read on the student side of the sheet? Ask them to tell their connection stories by sharing in pairs or small groups, and in personal writing. Sharing ideas orally or through writing encourages understanding of self.

SCIENCE LAB AND APPLIED DESIGN, SKILLS, AND TECHNOLOGIES ACTIVITY: MOOOLICIOUS SMOOTHIES

Curriculum Connection: Science - grades 4 to 5: Planning and conducting. Make exploratory observations using the senses. Safely manipulate materials. Make simple measurements using non-standard units. ADST - grades 6 to 7: Cooking.

Divide your class into groups of three to make Mooolicious Smoothies or frozen yogurt. You will need a 2-litre container of milk and a 650-gram tub of yogurt (try a BC-made yogurt with fruit), depending on class size.
Makes 3 servings

Ingredients
2 +Milk cup of milk (use your +Milk cup as a measuring cup)
1 +Milk cup of yogurt (use your +Milk cup as a measuring cup)
1/2 tsp. vanilla extract
1 large Mason jar for each group

Directions
1. Pour milk, yogurt, and vanilla into the Mason jar and secure tightly with the lid. Shake the Mason jar until ingredients have mixed, 2-3 minutes.
2. Serve immediately OR freeze for 1 ½ hours. Scoop out frozen yogurt mixture and serve in the +Milk cups.

Try a blind taste test when all the groups have finished (use the +Milk cups as taster cups). Have students reflect on the process. What tools could you use to make the process easier?

PHYSICAL AND HEALTH EDUCATION ACTIVITY: THE CALCIUM CHALLENGE

Curriculum Connection: Physical and Health Education - grades 4 to 5: Food choices support active lifestyles and overall health. Grades 6 to 7: Practices to promote health and well-being; influences on food choices.

Students (ages 9 to 18) need 1,300 milligrams of calcium every day for their bodies to operate at their best. Milk is the top source of calcium in the Canadian diet, and one cup of milk (or fortified soy beverage) contains 300 mg of the mineral. There are other foods that are also rich in calcium:

Yogurt – plain (3/4 cup): 237 mg
Canned salmon – with bones (1/2 can): 240 mg
White beans – canned (1 cup): 191 mg
Almonds – dry roasted (1/4 cup): 94 mg
Soybeans – cooked (1 cup): 170 mg
Orange (1 whole): 50 mg
Broccoli – cooked (1/2 cup): 33 mg

Using the information above, "Feed Your Bones" and "Calcium-Rich Foods" on the student side of the sheet, and the BC Dairy Association's interactive Calcium Calculator™ (www.bcdairy.ca/nutritioneducation/calciumcalculator/), have your class answer the following questions:

Are you getting enough calcium in a day?
What are some things you can do to get more calcium?

MATH QUESTIONS

Curriculum Connection: Mathematics - grades 4 to 7: Reasoning and analyzing. Use reasoning to explore and make connections. Estimate reasonably. Develop mental math strategies and abilities to make sense of quantities. Model mathematics in contextualized experiences.

A typical dairy cow produces 15 litres of milk per milking. If a dairy cow is milked twice a day, every day for one month, how many litres of milk does it produce?
Answer: 15 L x 2 = 30 L 30 L x 30 days = 900 L One dairy cow produces 900 litres per month (or 930 litres for 31 days).

If a dairy farmer has 95 cows, how much milk would the farm produce in one month?
Answer: 900 L x 95 = 85,500 L The dairy farm would produce 85,500 litres of milk per month (or 88,350 litres for 31 days).

If each person drinks 4 litres of milk per week, how many people could one dairy cow provide for in one month?
Answer: 4 L x 4 = 16 L 900 L ÷ 16 = 56.25 A dairy cow could provide milk for 56 people in one month.

If you drank one 4-litre jug of milk per week, how many litres would you drink in a year?
Answer: 4 L x 52 weeks = 208 L You would drink 208 litres in a year.

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