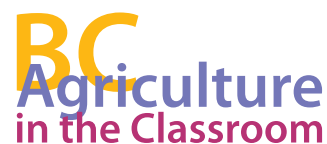
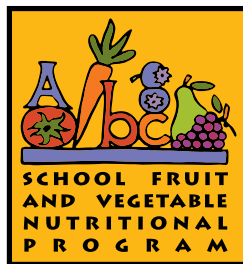


GET TO KNOW YOUR SCOOPS



BCSFVNP INFORMATION
AND ACTIVITY SHEETS
FOR TEACHERS



GET TO KNOW YOUR SCOOPS

- and the fruits and vegetables on the BCSFVNP

Since launching the BC School Fruit & Vegetable Nutritional Program (BCSFVNP) we've discovered that when students see their friends eating (and enjoying) a snack, they are more likely to try it themselves – even a healthy one. They ask questions about the new food they are enjoying. Where did it come from? How was it grown? Why is it blue? Teachers found that sharing the fresh snacks in the classroom piqued interest, opening an avenue for sharing ideas and discussion too – an unexpected teachable moment. This led us to creating classroom product information and activity sheets we named The Scoop and Double Scoop on This Week's Snack.

The Scoops are designed to aid primary grade teachers in leading discussions as students observe the colour, shape, texture, flavour, smell and taste of their snack. Facts, trivia, history, and how the fruit or vegetable is grown and harvested are presented in a fun and engaging manner. We also broaden the discussion by introducing a related agricultural topic such as hot house growing, the cold chain, and the secrets found in soil.

In The Double Scoops middle grade students go beyond the snack to meet the growers. Each sheet profiles a BC grower and offers exercises and agriculture-related activities while connecting to the math, language arts and social studies curriculums.

Using their Sensational Snack Notes students of all grade levels can explore all five taste sensations for any (or all) of the snacks creating a 'sensational snack' score for their most (or least) favourites. And, primary students can have fun at the end of the school year using our Fortune Tellers to quiz each other on what they've learned from their Scoops and about the snacks they've eaten.

We created the Scoops to be engaging, fun, interactive and versatile to suit a variety of teaching styles and classroom settings. Each Scoop focuses on an individual product so you can decide if, when and how to best use it in your classroom. Some teachers create photocopies for their students to work on independently or in groups or simply use their master copy to pull out select content to read from and display to their class. Teachers also tell us that the Scoops' strong visuals and interactive approach are ideal for downloading and displaying on a classroom digital projector or Smart Board. We invite you to 'Get to Know Your Scoops' and enjoy using them in your classroom.

Thank you for your part in sharing the wonderful things agriculture has to offer alongside our BC grown fresh fruits and vegetables with your students. Thanks to you the BCSFVNP and BC agriculture will keep on growing strong.

Your BC Agriculture in the Classroom Team

WORKING TO BRING BC'S AGRICULTURE TO OUR STUDENTS

aitc.ca/bc

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- Scoop – Apple Slices & Tamarac Fresh Cut Foods /Food Producers
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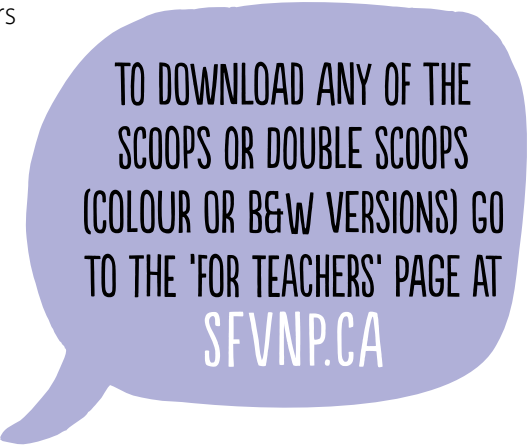
- Scoop – Sugar Snap Peas & Predator Bugs

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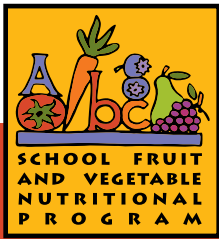
- Scoop – Prune Plums & A Year in the Life of an Orchard
- Double Scoop – Jora Dhaliwal, BC Tree Fruits plum grower

Additional Activities

- Sensational Snack Notes
- Fortune Tellers



TO DOWNLOAD ANY OF THE
SCOOPS OR DOUBLE SCOOPS
(COLOUR OR B&W VERSIONS) GO
TO THE 'FOR TEACHERS' PAGE AT
SfVNP.ca



The Scoop on this Week's Snack!

A is for Awesome...

The apple really is an awesome and delicious fruit. Originating in the Middle East more than 4,000 years ago, apples were a symbol for love and beauty in ancient Greek mythology. The **crab apple** is the only apple native to Canada. European explorers brought apple grafts to Canada and in 1859 the Hudson's Bay Company planted the first apple trees in mainland British Columbia. These fruit-bearing orchards were as good as gold for hungry prospectors seeking their fortunes during the gold rush. Today about 75% of all BC orchard land is planted with apple trees.

While some apple trees can reach over 40 feet tall, most farmers now grow varieties that are much shorter and trained on horizontal wires making it easier to harvest their fruit. While many orchard fruits are machine harvested, every apple is picked by hand. During fall harvest, apples are hand picked into picking bags hung from the shoulder and when full, carefully emptied into wooden bins.

Which 'grown in BC' apple are you snacking on today?



Ambrosia - A variety with a pink/red blush. Honey sweet, crunchy, very juicy and aromatic.

Spartan - A small red apple with a sweet, tangy taste.

Fuji - A big apple that's super-sweet, firm and crispy crunchy.

Braeburn - An excellent keeping red apple that's sweet, yet tart, firm, crispy and juicy.

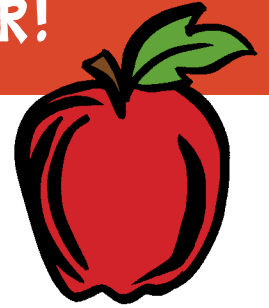
Red Delicious - Oval with bright red skin, this apple is sweet and mildly tart, crispy and juicy.

McIntosh - A smaller apple that's rich, tangy, firm and crispy with distinctive red skin on green colouring.

Honeycrisp - Sweet as honey and extraordinarily crispy. Mostly red over a yellow background.

Orin - This pale yellow apple is very juicy with a mild flavour blend of pineapple and pear.

Golden Delicious - A medium firm, lovely golden apple that's sweet and flavourful.



Did you know that the apple is a member of the rose family? There are thousands of varieties of apples grown around the world - each with their own unique characteristics. Summer apples, those that ripen early in the season, while just as sweet as fall fruit, are softer and less juicy. Fall apples, like Fuji and Ambrosia, have a more intense flavour. As the weather becomes cooler they become even crispier and juicier.



Good Farming = Good for the Land = Good Food = Good for all of us!



A farmer knows that if she puts good things into her soil and animals they will be healthier and more productive. Her farm is both her home and her livelihood. **Healthy crops and livestock = good business.** Farmers know that they are borrowing the land from future generations to provide us with food today.

Farmers learn a lot from one another. They share ideas and use methods that have worked for generations. At the same time, farmers are always looking for new and sustainable ways of producing healthy and delicious foods while respecting the natural environment.

These are some of the positive things farmers do to grow food for you. Can you think of any others?



Use farmer-friendly bugs to chase after crop-damaging insects. Pest management is a positive way of controlling pest insects.



Use companion planting as a natural way of diverting pest insects.



Use crop rotation to keep the soil healthy and full of nutrients. By changing the type of crop each season, a farmer gives the soil a chance to regain its nutrients for the next crop. Crop rotation is also used to reduce disease.

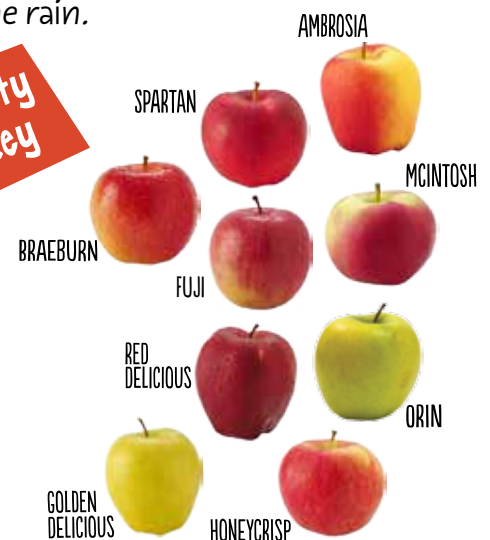


Recycle. Farmers use crop wastes, manure and other organic waste to add nutrients to the soil. This helps the land to grow more food.



Protect the soil from erosion. Farmers grow hedges around their fields as a natural way of preventing nutrient-filled topsoil from being blown away. Mulching and composting also enrich the soil and stop it from being washed away in the rain.

Apple Variety Answer Key

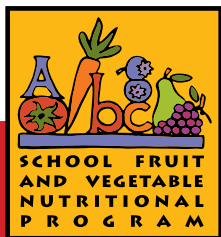


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BC Agriculture in the Classroom

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The Scoop on this Week's Snack!

Fresh Apples in a Snap - a Delicious Idea...

The sliced apples you're snacking on today are from Tamarac Fresh Cut Foods in Kelowna BC. Russ and Tony and their families have been apple growers for a long time – over 50 years! During apple harvest, each apple is hand picked at peak maturity, sorted, graded and packed. Some apples are too small to make the grade. They still taste great and are just as crunchy, but consumers want bigger apples for snacking and baking. Russ and Tony didn't want to waste these delicious small apples – what should they do?

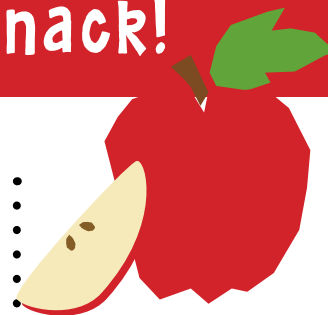
Tony and Russ knew that many children have problems eating whole apples. Wiggly teeth and braces can make it hard to bite into a whole apple. This gave Tony and Russ a brilliant idea. They would take their small apples, pre-cut them and package them in an instant snack in a bag. Now there's great taste without waste and everyone can enjoy fresh apples in a SNAP!

Here's an apple riddle for you to muddle over while you munch:

A basket contains 5 apples. How can you divide them among 5 children so that each child gets one apple and one apple stays in the basket?

(Look on the other side of the page for the answer)

- Sliced apples contain more nutrients than apple juice
- One apple has more fibre than most cereals
- Eating raw apples cleans your teeth and gives your gums a healthy massage
- Apples are fat, sodium and cholesterol free (and we don't want too much of those in our food)



**Eat Your
Daily
Vitamin...**

Do you ever wonder why adults say, "an apple a day keeps the doctor away"? With all of the healthy nutrients, antioxidants, and vitamins in apples, eating one apple every day will help prevent you from getting sick. Your snack of sliced apples is loaded with vitamin C – a great immune booster and cold buster.





Let's find out how Russ and Tony prepare their sliced apples...

At Russ and Tony's processing plant in Kelowna, every specially selected apple is inspected by hand, sorted and carefully washed before going through a special slicing and 'calcium ascorbate bath' process. Ascorbic acid is just vitamin C which keeps the apples fresh and stops them from turning brown. The calcium prevents the ascorbic acid from upsetting your stomach. Since the skin holds most of the fibre

and lots of nutrients, Tony and Russ never peel their apples. After washing, each sliced apple is put into a special plastic bag that lets in just the right amount of oxygen to keep the apples fresh and crunchy. The whole time the processing room is kept nice and cool to keep the apples at their freshest. Thanks to Russ and Tony's great idea now there's great taste without waste – fresh apples in a snap!

? Did you know an apple ripens almost 10 times faster at room temperature than in the refrigerator?

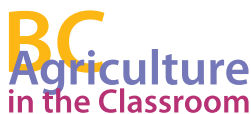
Bringing Farm Fresh Food to You

As growers and producers Russ and Tony work with lots of other people to bring you fresh and healthy BC fruits and vegetables every day. Can you think of any other jobs or types of businesses that are involved in producing our food?

(Don't forget, you are too! By asking for and snacking on fresh BC fruits and vegetables you and your teachers complete the chain from Farm to You.)



Since fruits are living foods they continue to ripen even after they're harvested. Keeping apples in cold storage slows down their ripening process so we can enjoy BC apples even during the winter.



Riddle answer: 4 children each get 1 apple and 1 child gets the basket with an apple inside!



The Double Scoop on this Week's Snack!

Apples

IF YOU'VE EATEN TODAY—
THANK A FARMER.

IF YOU'VE EATEN AN APPLE TODAY—
THANK A BC APPLE GROWER.

AND YOU THOUGHT WE SPENT
OUR DAYS IN THE ORCHARD
PICKING APPLES.

MEET TROY AND HIS WIFE SARA HARKER OF HARKER'S ORGANICS

There are a lot of steps involved in bringing food to the table. Planting and tending crops is just one of our many jobs as growers. We also spend a lot of time hauling crates, selling our produce at markets across the province, and balancing the books.

At Harker's Organics we practise 'sustainable agriculture'. What does 'sustainable agriculture' mean, anyways? For us, it's about taking care of what we have now so that there is something to pass down to the next generation — you! How do we do that? With every decision we make with our business (that just happens to be farming) we remind ourselves of these 3 goals:

1. To earn a fair living from our farm for our workers and for our family.
2. To play our part in supporting and making our community viable.
3. To minimize the impact our farming practices have on the environment around us and to make sure whatever resources we take – such as water and soil, are put back in for future generations.

My family settled in the Similkameem Valley in 1888, just 17 years after British Columbia became Canada's sixth province. One of the first fruit trees planted on the property in 1914, a Snow Apple, still stands on the farm today. Over the last 120 years our family farm has raised dairy and beef cattle, grown crops and various fruit trees. It was my parents, the 5th generation of farmers, who converted the farm back to its original roots as a sustainable and organic farm.

Our farm is a very diverse place. I like to say we have a very big garden! Our 'garden' is comprised of around 18 acres of fruit trees and 8 acres of ground crops. Everything we grow is started from seed in our little 1,200 square foot greenhouse. It's amazing to plant a baby seed in the soil, transplant it when it becomes a seedling, plant it in the field when it has its true leaves and harvest the fruit of it as an adult. What a cool lifecycle.

What's the best thing about being an apple grower?
**We get to do what our family has always done –
grow food for people.**



Sara and Troy Harker of Harker's Organics



Photo courtesy of Harker's Organics

MOTHER NATURE – FRIEND AND FOE TO FARMERS EVERYWHERE...



Mother Nature always has plenty of surprises for farmers across Canada. While we look at the weather forecast to decide what to wear, a farmer is trying to determine how it will effect not just her day, but her entire season and livelihood. Not enough rain, too much rain, when the rain falls, the sequence of weather — it all affects her crop. A grower needs to plan for the worst and hope for the best.

HERE'S HOW AN APPLE GROWER MIGHT READ THE WEATHER FORECAST...



FORECAST CALLS FOR A WET SPRING THIS YEAR...

Hmm, that's bad news...
wet spring = no flying bees =
no pollination = no fruit crop.



NO RAIN IN EXTENDED FORECAST...

Oh, oh...that could mean a drought year causing stress on my trees. My older trees should be able to handle it, but I'll need to spend more on irrigating the younger trees with their less established roots if I want them to produce any fruit this season.

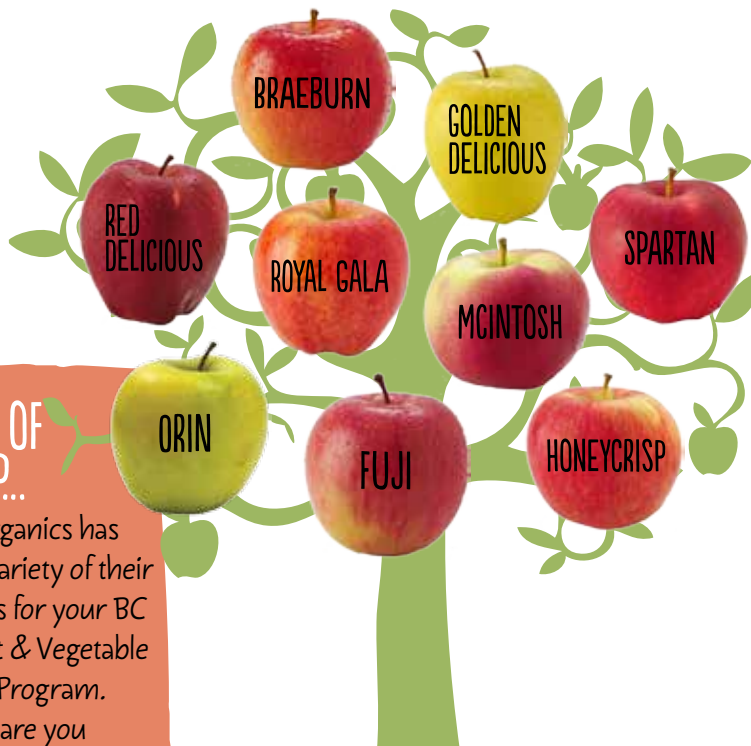


EARLY FROST WARNING...

Ok, I know my apples are among the hardiest of fruit trees and can take a lot of heat or cold. I could leave the apples on the tree and they should recover from even a couple of freezes. On second thought, I'd better not take a chance and hustle to harvest my crop and get it into storage earlier than I'd planned.



CAN YOU REPORT THE IDEAL WEATHER FORECAST FOR HARKER'S ORGANICS FARM?



THE PICK OF THE CROP...

Harker's Organics has selected a variety of their finest apples for your BC School Fruit & Vegetable Nutritional Program. Which one are you snacking on today?

DO THE MATH...



BC produces nearly 30% of apples grown in Canada – a quantity ranging from 135,000 to 195,000 tonnes per year. British Columbians consume 25% of those apples while the rest are exported.

How many tonnes of apples do BC residents consume each year?

1 lb = 454 grams = 3 medium apples

1 ton = @2,205 lbs = 1,000 kg

If BC produced 150,000 tonnes of apples this year, approximately how many apples is that?

(Hint: it's huge!)

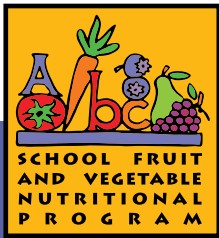


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The Scoop on this Week's Snack!

THE BLUES AND THE BEES....



Blueberries

Take a look at the berries in your hand. You know when you pop them in your mouth they will burst with sweet flavour, but did you also know that you were holding a **SUPERFOOD**? That's right, like other brightly coloured fruits, blueberries are called **superfoods**. In fact, they are the superheroes of superfoods. With high doses of vitamin C and B complex, Copper, Zinc, Iron and even fibre – they've got you covered. So eat your handful of blueberries to boost your immune system – to help keep away colds, fevers and other nasty sicknesses. They taste better than vitamins and medicine! Not only that, blueberries can boost your memory which will help you with your homework.

Blueberries are one of the few edible berries native to Canada (cherries are another one). They grow on bushes that produce new berries every summer. The blueberries you are snacking on today came from Northern Highbush plants. These plants are deciduous—they lose their leaves every fall. Some Highbush plants can keep producing berries for up to 30 years.



BC is Tops in Blues

BC is the second highest producer of blueberries in the world and produces 95% of the Canadian production of cultivated blueberries. 99% of BC blueberries are grown in the Fraser Valley region. Over 800 Fraser Valley farms grow and ship berries across Canada and all over the world.

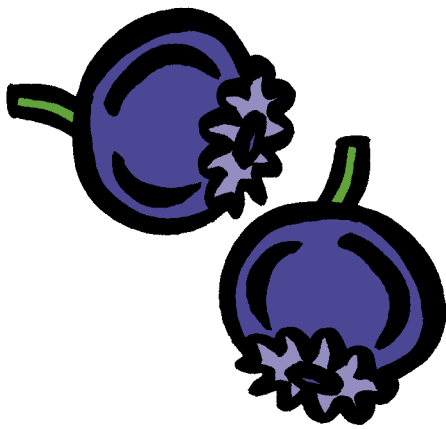
Before you eat a blueberry, take a close look at each end. Can you see why blueberries were once called **star berries**?



WHY ARE BLUEBERRIES BLUE?

Blueberries are one of the 'true blue' foods. You may notice that your lips and teeth turn blue after you eat a lot of berries. That's because blueberries contain a pigment called **anthocyanin** (an-tho-sigh-a-nin) that makes them blue. It's what also makes them extra nutritious.





Blueberries are named for their colour. Can you name 3 other fruits or vegetables that are named for their colour?

1. _____

2. _____

3. _____

We would all be Blue without Bees....

Thanks to honey bees and other flying insects we have food to eat. Did you know that 1/3 of the world's food depends on pollination by bees and other insects? That's right, much of the food we eat and the flowers we enjoy are a result of their hard work. While bees are star pollinators, others help out too. Some plants such as grains, trees and grasses even use the wind to pollinate.



What Can We Do for Bees?

Since bees are plants' best friends that makes them ours too! Let's put our heads together and come up with some ways we can help bees and help the plants. Here's a couple to get you started:

- ✓ Provide habitat for wild bees in your garden or on your balcony.
- ✓ Bees prefer native plants to non-native species so plant those in your garden first.



Cool Honey Bee Facts:

.4ml of honey = a life time of work for a bee

30ml of honey = fuel for a bee's flight around the world

.5kg of honey = 80,000 km of flight + 2,000,000 flowers



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BLUEBERRIES DON'T FALL FROM THE SKY. SOMEONE HAD TO GROW, PICK, PACK AND SHIP THEM TO YOUR SCHOOL. THAT BERRY FARMER MIGHT EVEN BE YOUR NEIGHBOUR.



SMILE MR. KRAUSE, WE LOVE YOUR BLUEBERRIES!



The Double Scoop on
this Week's Snack!

MEET THE KRAUSE FAMILY OF SOUTH ALDER FARM...

Growing berries is a family tradition for the Krause family at South Alder Farm. In fact, we've been berry farmers for decades. Our business is berries. Since BC is the top blueberry producer in Canada – 95% of the Canadian production – we take our job pretty seriously.



Harvey Krause, South Alder Farm

Did we grow and pick all of the blueberries for your School Fruit and Vegetable nutritional program? No way. We grow a lot of berries on our farm, but not that many. We work together with other growers in the region who harvest and send us their crop so we can process and ship blueberries to schools all over BC.

The blueberries you are snacking on today came from northern highbushes we planted in 2005. Each bush spent its first year in a greenhouse before we planted it in early spring in a neat row in our field. At 8 years old these are prime berry plants. If we do our job right we'll be picking berries from these bushes for another 20 years.

Although we've been blueberry farmers for a long time, we weren't the first. Blueberries are one of the few edible berries native to Canada. For centuries, wild blueberries were gathered from forests and bogs by First Nations peoples and consumed fresh or dried in the sun. The first blueberry farmers were the Johnston brothers, who planted native highbush seedlings on the peat bogs of Lulu Island in the early 1920's.

Harvest starts in early July when the berries are a deep blue colour. Every blueberry you're snacking on was hand-picked, one-by-one! After picking, the berries are quickly sent to packing houses, chilled, washed and then shipped right away to market. If we're lucky, we'll harvest one bush 2 to 4 times in one season.



Pick, Pack,
Ship & Snack

Blueberries

YOU CAN FIND THE KRAUSE FAMILY'S SOUTH ALDER FARM IN THE FRASER VALLEY. OVER 800 BC FRASER VALLEY FARMERS GROW AND SHIP BERRIES ACROSS CANADA AND ALL OVER THE WORLD.



WANT TO KNOW THE FRASER VALLEY FARMERS' SECRET TO GROWING THE WORLD'S FINEST BLUEBERRIES?

Rich, fertile, acidic soil + extended growing season
+ lots of sun + mild climate (that's the Fraser Valley)

SOUTH ALDER FARMS ADDS...

The finest berry varieties + decades of experience
+ modern technology.

MAP IT OUT...

99% OF BC'S BLUEBERRY FARMS ARE IN THE FRASER VALLEY IN **Richmond, Pitt Meadows, Matsqui Prairie, Abbotsford and Surrey**. THERE ARE A SMALL NUMBER OF FARMS IN **Saanich** AND THE **Comox Valley** ON VANCOUVER ISLAND.

USE YOUR CLASSROOM GROW BC MAP FOR THE FOLLOWING:

 FIND **4 other** LOCATIONS IN BC WHERE BLUEBERRIES ARE GROWN.

 FIND THE NAME OF BC'S PROVINCIAL BIRD.
Hint: IT HAS THE SAME COLOURING AS BLUEBERRIES.

 WHAT KIND OF LANDFORM BEST GROWS BLUEBERRIES?

DO THE MATH.



1. Highbush blueberries are perennial, long-lived, deciduous, woody shrubs. If one blueberry bush produces 3,000 berries in one season and produces berries for 30 years, how many berries would it produce in its lifetime? _____

2. There are about 1,400 schools enrolled in the BC School Fruit and Vegetable Nutritional Program. This month, South Alder Farm is providing blueberries for around 500,000 students. Each gets $\frac{1}{2}$ cup of blueberries. (First, look at your portion and estimate how many blueberries are in a $\frac{1}{2}$ cup serving?)

Estimate how many blueberries the Krause family had to ship for your classroom? _____

How many blueberries did the Krause family have to provide for all BC kids in the program? _____

3. 10,500 athletes from 205 national Olympic committees participated in the 2012 summer Olympic Games in London. How many blueberries would the Krause family need to provide to feed a $\frac{1}{2}$ cup serving of this super food to these super athletes? _____

I'M A STAR!

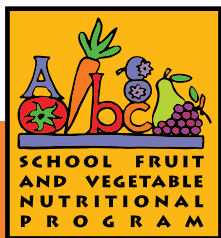


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The Scoop on this Week's Snack!

Nature's Cheezies...

What's crunchy, sweet and looks like a stubby orange finger? And, you can eat them with your hands! Baby carrots – nature's cheezies!

Carrots are nutritional heroes – they store a goldmine of minerals and nutrients. In fact, the first carrots were grown for medicinal purposes. Carrots contain an organic compound called beta-carotene. That's why they're orange. Our bodies convert beta-carotene to vitamin A. Why do you need vitamin A? It helps your night vision. It's also good for our skin, helps our body fight cancer and gives us strong bones (especially important for growing bodies). So, it's true – eating your carrots will help you see in the dark!

How do farmers grow them so small?

Easy, they don't let them get big. Some baby carrots are just that, they're pulled out of the ground when they are still small – before they've developed a proper 'shoulder' (if you imagine the tops as hair, the 'shoulder' is the round part just below). Like all babies, these immature roots are sweeter and not as tough as the 'grown ups'.

Baby cut carrots, like the little gems you're snacking on, started out as large carrots that were peeled, cut and rounded off using special machines. BC farmers grow special varieties of carrots to make their 'babies'. Sweet-Bites and Sugar Snacks are two varieties grown for their uniform shape, sweet taste and bright orange colour.

Do you sometimes see a white discolouration on peeled carrots?

That's called **carrot blush** and it occurs when moisture is lost from the surface of the carrot through peeling giving it a white appearance. There's no harm in eating it and it usually goes away by rinsing the carrots with water.

Have you ever seen a purple carrot? How about white, yellow, red or black? Carrots were originally purple or red with a thin root. Orange carrots are fairly new arrivals to our plates.



Crunch and Chew!

Carrots have tough cell walls; that's what gives them their crunch. When eating raw carrots, it's important to chew them well to help break down those walls so that your body can get the healthy benefits of all the fibre.



Japanese word for carrot = 'ninjin'
1 x 20 cm 'grown up' carrot = 3 baby cut carrots
1 tsp = 2,000 carrot seeds

Dig in for snacks...

Carrots are called **root vegetables**. These are the starchy **tubers** and **taproots** that grow underground and provide the plant with nutrients. This is the part that we eat. Sometimes we eat the tops too – like turnip and beet greens. Some root vegetables, like onions, garlic and shallots are actually **bulbs** – but we still call them **root veggies**.

It's hard to believe that these funny shaped bumpy globes and cone-shaped wonders started out as tiny seeds. In the dark earth a seed sprouts and a root grows downward drawing in nutrients from the soil while at the same time a green top makes its way to the surface. The root gradually forms a long and thin shape or short and fat shape. Let it grow and soon the surface of the soil will crack open to reveal the root's 'shoulders'. Time for harvesting as hands (or a harvesting machine) grab hold of their leafy tops and yank them out. That's the magic of root vegetables. They're like buried treasures hiding in the earth, quietly growing in the ground waiting to be discovered – and eaten.

5.8 metres long =
World's largest carrot
grown in 2007
(That's longer than
3 kids lined up
head to toe!)

Can you think of 3 other root vegetables?

1.
2.
3.



THE SKINNY ON CARROTS
CARROTS ARE A TYPE OF ROOT VEGETABLE CALLED A **TAPROOT**. THEY GROW DOWN INTO THE SOIL AND COME IN MANY SIZES AND SHAPES—AND EVERY ONE A GOLDMINE OF NUTRIENTS.

WHAT DID ONE SNOWMAN SAY TO THE OTHER SNOWMAN?
DO YOU SMELL CARROTS?



The Double Scoop on
this Week's Snack!

Carrots

MEET RANDY SIHOTA, ROOT CROP VEGETABLE GROWER...

Our family farm, Canadian Farms Produce, is located in the picturesque Fraser Valley where we grow a variety of vegetables—from carrots to pumpkins. The sandier soils of the Fraser Valley are perfect for producing the most flavourful carrot that is the right length, bright orange and clean in appearance.

We grow carrots for 3 specific markets: baby peeled carrots, carrots for packaging and jumbo carrots for the food service industry. Our baby carrot varieties (Sweet-Bites and Sugar Snacks) are not actually 'babies' but cut and peeled mature carrots. These varieties are stars for their consistent orange colour, uniform length and sweeter flavor.

Do growers just plant seeds? That's just where we start. From mid-March to early July we use precision seeders to plant the tiny, black carrot seeds in rows in our fields. The seeds take 6 to 21 days to germinate and 70 to 100 days to mature fully. We harvest the ripe carrots with machinery which pulls them up by their tops, cuts the tops off, then drops them onto a conveyor leading to a truck. The carrots are then unloaded onto a line where they are hydro-cooled, graded and packaged. We distribute our produce daily from our warehouse and packing facility in Surrey. Why don't we just store them in the cool ground? Roots left in the ground too long become woody and are prone to cracking.

What's a problem unique to carrot growers? — Feathered thieves. In spring, just as my carrots are coming up, I'll often look up at the sky and see migrating Canada Geese with beaks full of fresh carrot tops. Those fluffy green tops are a pretty tempting salad treat for wildlife so sometimes us farmers have to share.

For over 25 years, the Fraser Valley soil has given our family farm one of nature's gifts: the gift of abundant, great quality produce, just like the carrots you are snacking on today.



Randy Sihota, Canadian Farms Produce

CARROTS PACK A LOT OF BETA-CAROTENE WHICH THE BODY CONVERTS TO VITAMIN A.





IF YOU CAN'T READ THE POEM
BELOW THEN YOUR NOT
EATING ENOUGH CARROTS!

LET'S LOOK
AT HISTORY



THEY SAY THAT CARROTS ARE GOOD FOR YOUR EYES.
THEY SWEAR THAT THEY IMPROVE YOUR SIGHT.
BUT I'M SEEIN' WORSE THAN I DID LAST NIGHT -
YOU THINK MAYBE I AINT USIN' 'EM RIGHT?
© Shel Silverstein, *Falling Up*,
1996 Harper Collins

Randy Sihota's farm is one of 32 Fraser Valley family farms that are members of the BCFresh Cooperative — an organization that helps them to market their produce. Many of these families have been farming in the Valley for generations. With good reason too. With its rich, fertile soil and abundance of sun and water, the Fraser Valley has always been a great provider. The first settlers in the Fraser Valley were the Sto:lo people. Residents now for over 10,000 years, they were the first hunters, fishers, gatherers and loggers making extensive use of the Fraser River and its tributaries. Many still do.

In 1808, Simon Fraser and his crew were the first Europeans to explore the Fraser River to its mouth. By 1827, the Hudson's Bay Company had established a fur trading post in the Fraser Valley at Fort Langley. They set up the first farm nearby to grow food for their employees. Not only was Fort Langley the first settlement in the Vancouver area, it was also the first major agriculture center in BC.

MAP IT OUT...

CARROTS AND OTHER ROOT VEGETABLES ARE GROWN COMMERCIALY IN THE **Lower mainland, Okanagan valley** AND ON **Vancouver island** IN THE **saanich & Cowichan valleys**.

FIND THE LOCATION OF YOUR SCHOOL ON THE GROW BC MAP. ARE THERE ANY VEGETABLE GROWERS IN YOUR REGION?

FIND THE NORTHERN MOST POINT THAT CARROTS AND OTHER VEGETABLES ARE GROWN IN BOTH **mainland BC & Vancouver island**.

STARTING AT **Langley** IN THE FRASER VALLEY, FOLLOW THE ROUTE OF THE HUDSON'S BAY EXPLORERS ALONG THE **Fraser River** AND ITS TRIBUTARIES. WHAT TYPE OF LANDFORMS DID THOSE EXPLORERS ENCOUNTER?

Think you know your BC history? Use lines to connect the date with the matching event...

- | | |
|------|---|
| 1970 | Simon Fraser starts an expedition to descend his now namesake Fraser River |
| 1938 | Terry Fox began his cross-country Marathon of Hope |
| 1948 | Lions Gate Bridge opens |
| 1858 | 1st television broadcast in BC received from Seattle |
| 1778 | Vancouver Canucks play their first game in the NHL in the Pacific Coliseum at Exhibition Park |
| 1808 | Captain James Cook of Great Britain is the first white man to set foot in BC |
| 1871 | Winter Olympic Games held in Vancouver |
| 1980 | Gold Rush on the Fraser brings over 25,000 prospectors seeking riches |
| 2010 | BC became the 6th Canadian province |



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TEACHER ANSWER KEY FOR "LET'S LOOK AT BC HISTORY"

1970	Vancouver Canucks play their first game in the NHL in the Pacific Coliseum at Exhibition Park.
1938	Lions Gate Bridge opens
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The Double Scoop on
this Week's Snack!

Carrots

The Scoop on this Week's Snack!

Three Cheers for Celery - Everyone's Favourite Vegetable!

WHAT? Celery is **NOT** your favourite vegetable? We are **TASTY**, we are **SUPER** crunchy, **AND** we are **GREEN!**
Here are some reasons why celery should make you smile...



Flowers
(Our seeds come from our tiny white flowers that develop when we mature)

Leaves
(We have lots, they're green and they taste like celery too)

Bunch
(A group of about 8 to 10 stalks, sometimes called a 'head')

Stalk
(Also called a 'rib' or a 'stick')

Hearts
(We have more than one. This is the name for our smaller, tender stalks inside a bunch)

Roots
(Our stems grow from our root ball that's below ground)

- We have a funny-sounding name. The 'c' is soft, like an 's', and it comes from the French word 'celeri'... What other words rhyme with 'celery'? None.
- Celery seeds are so teeny tiny you could hold thousands of them in your hand. They're even smaller than these dots.....
- We are part of the same family of plants as carrots – and everyone knows carrots are a healthy snack.
- Every part of us is edible; the stalks, leaves, roots and seeds. Nothing to throw away.
- Celery is made up of water, lots of it. We're a great snack when you're thirsty.
- Crunch time. Our cell walls are tough. That's what makes us grow straight and tall and give us our 'crunch'. You have to chew us really well. That helps clean your teeth too. See those rows of thin strings running along the outer edge of our stalks? Celery is a 'vascular plant', which means we can transport water on the inside. **Those strings are like roadways that carry nutrition up to our leaves.**

Stalks, Sticks or Ribs?

These are all names for a single piece of celery, just like the ones you're eating today. These are our leaf stems. A celery plant has more than one stem, we have a whole bunch. They're great for scooping up peanut butter or hummus, and you don't have to wash your 'spoon' afterwards – you eat it!



Another Good Reason To Eat Your Vegetables...

Did you know that the celery you are eating was grown by a BC farmer? Many of the vegetables you eat at home (fresh, frozen or canned), over 50 different types, were grown right here in our own province. BC farmers do a good job growing food, and your job is to eat your veggies!



How Do Farmers Grow Vegetables?

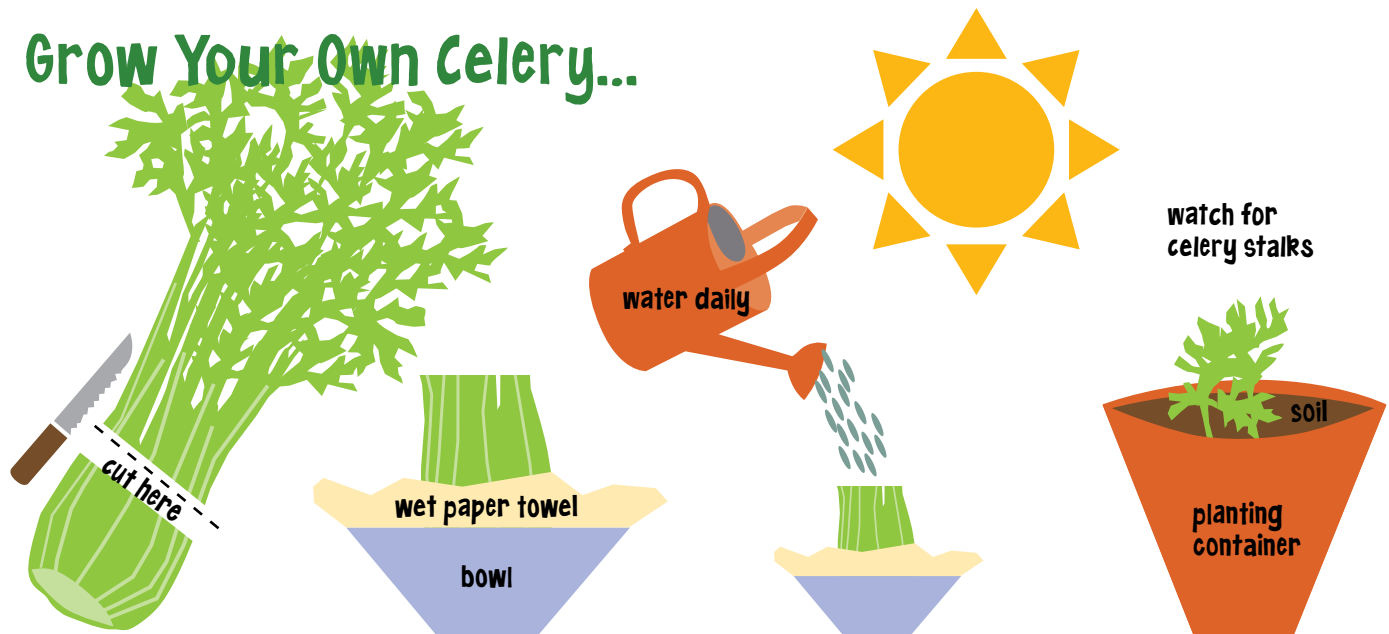
Most vegetables are 'field crops'. Farmers grow them in soil outdoors in fields. They are planted from a seed, complete their lifecycle, and are harvested in one season. In BC, some vegetables are grown year-round in heated greenhouses.

What do vegetables need to grow? **FOUR THINGS: LIGHT, FOOD, WATER, WARMTH**

Not all vegetables need the same amount though. A farmer's job is to make sure every plant gets the right amounts of each. Farmers choose the best crops for their climate and soil, and give them extra water and nutrients when they need them. Farmers also protect their crops from weeds, insects, birds and diseases.

Celery is a field crop, but the seeds are so tiny they are started in small trays, indoors in nurseries. Once a seedling reaches about 10 cm tall it is moved outside and planted in a field. Farmers place celery plants side by side in small trenches. Keeping them close together forces the stalks to grow straight and tall. After about 3 months the celery is ready for harvesting. To keep the stalks together, each bunch is cut, using a knife, just below the soil at the top of the root ball.

Grow Your Own Celery...



1. Get a fresh bunch of celery and cut off the base where the stalks connect. Eat the stalks.

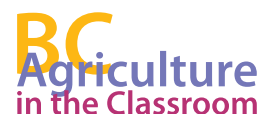
2. Put the cut base on a wet piece of paper towel in a bowl.

3. Leave it in a sunny spot and water daily.

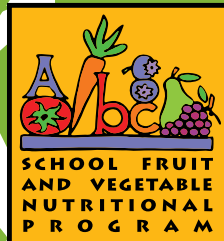
4. When new leaves sprout, plant it in some soil, covering everything but the leaves. Soon new celery stalks will grow!

A FEW OF BC'S TOP CROPS =

potatoes, carrots, corn, lettuce, squash, pumpkins, cabbage, broccoli, beans, peas, onions, peppers, beets, spinach, zucchini...and celery! Can you spot your favourite?



Nov 2014 edition



CRUNCH TIME...

WHAT GIVES CELERY STALKS THEIR 'CRUNCH'? THE SAME THING THAT HELPS THEM GROW STRAIGHT AND TALL — TOUGH CELL WALLS. EVERY PART OF A CELERY PLANT IS EDIBLE, EVEN THE TINY SEEDS THAT ARE ABOUT THE SIZE OF THESE DOTS

LEARN TO DO BY DOING— THAT'S THE 4-H MOTTO!

What does 4-H have to do with celery? Showing dairy cows, chickens, or horses and pumpkin competitions are just a part of the fun things 4-H members do. Since kids are interested in many different things, 4-H offers lots of clubs for kids to choose from. Have you ever wanted to know how a tractor works, or how to fix a bicycle? There are clubs for kids who are interested in creative arts, the environment, machinery, animals, and even gardening! Members in the Agriculture Awareness Club learn about the importance and diversity of agriculture in BC, where certain foods come from, and the people involved in their production.

4-H members grow a food crop, like celery, in a garden, field, or a container to learn basic principles of growing food from seeds, and all about soil, fertilizer, sun, and even pests and weeds. They learn about agriculture through practicing their own good farming techniques.

There are 4-H clubs for older kids to participate in activities like communications and leadership training or community service projects. Senior 4-H members (13 to 19 years of age) attend camps and conferences or apply for national or even international exchanges. They earn high school credits for their project work and can even qualify for scholarship and bursary awards to help them with their education.

What does 4-H stand for? Head, heart, hands and health. Every 4-H member pledges these four things to their club, community and country – all by having fun!



My HEAD to clearer thinking,
My HEART to greater loyalty,
My HANDS to larger service,
My HEALTH to better living,
For my Club, my Community
and my Country.

4-H clubs are an important part of our farming heritage. In 2014, BC 4-H celebrated its 100th anniversary. In that first year, 200 members participated in either potato growing or poultry breed competitions. Today almost 3,000 young people and volunteers across the province take part in hundreds of different programs.

NOTHING!

WHAT RHYMES
WITH CELERY?



BC 4-H member Ethan and his goat with mascot Frisco Fox

The Double Scoop on
this Week's Snack!

Stalk Celery



CELERY IS FROM THE SAME PLANT FAMILY AS CARROTS, PARSLEY AND FENNEL.

STALK CELERY IS A FIELD CROP. Farmers start the plants indoors in nurseries, and when established place them side by side in small trenches in fields. Three months later the celery is harvested by hand. To keep the stalks together each bunch is cut just below the soil line at the top of the root ball. Stalk celery is shipped from the farm and sold in bunches – it stays fresher that way.

ONE BUNCH = ABOUT 10 STALKS OF CELERY



Rainbow Celery

CELERY IS A 'VASCULAR' PLANT MEANING IT TRANSPORTS WATER INTERNALLY. THE THIN THREADS, OR SPINES, THAT RUN ALONG THE OUTER EDGE OF THE STALK ARE VESSELS THAT CARRY NUTRITION UP THE PLANT TO ITS LEAVES – MUCH THE SAME WAY THAT BLOOD TRAVELS THROUGH YOUR BODY. TRY OUR EXPERIMENT TO SEE HOW THIS WORKS...

materials: CLEAR GLASS JARS, FRESH CELERY STALKS WITH LEAVES, FOOD COLOURING (BLUE, RED, GREEN, YELLOW, ORANGE), PAPER TOWELS

Steps:

1. SEPARATE STALKS OF CELERY WITH LEAVES (USE THE LIGHTER STALKS NEAR THE CENTRE OF THE BUNCH). CUT ABOUT 2 CM OFF THE BOTTOM OF EACH.
2. FILL JARS ABOUT HALFWAY WITH WATER AND ADD 3 TO 4 DROPS OF FOOD COLOURING TO EACH JAR (ONE COLOUR/JAR).
3. PLACE A STALK INTO EACH JAR AND GENTLY STIR.
4. OBSERVE WHAT HAPPENS OVER THE NEXT 24 HOURS. AFTER 2 DAYS CUT THE BOTTOM OF EACH STALK TO SEE WHERE THE WATER WAS TRANSPORTED. WHAT HAPPENS TO THE LEAVES? DOES EACH COLOUR HAVE THE SAME EFFECT? WHAT HAPPENS TO THE WATER LEVEL?

Have you seen this gnarly-looking brown bulb at the grocery store?

IT'S A VEGETABLE CALLED 'CELERY ROOT' (OR CELERIAC), BUT IT ISN'T ACTUALLY THE ROOT OF STALK CELERY. THEY'RE BOTH MEMBERS OF THE SAME FAMILY OF VEGETABLES, BUT CELERY ROOT IS CULTIVATED JUST FOR ITS BASE. IT MIGHT NOT LOOK LIKE SOMETHING YOU WOULD EAT, BUT PEEL AWAY ITS TOUGH KNOBBY SKIN AND INSIDE IS A PURE WHITE, CRISP BULB THAT SMELLS LIKE FRESH CUT CELERY.



DO THE MATH...



Celery plants are started from seeds indoors then transplanted into fields. It only takes about one gram of celery seeds to grow one acre of celery plants. There are about 70,000 seeds in one gram. Growers plant about 30,000 to 40,000 plants per acre.

1. Estimate how many seeds a grower would need to plant a 3 acre field. _____
2. Approximately how many seedlings will he plant in his field? _____
3. A school has 5 classes with 30 students in each class. How many bunches of celery would they need to order so that every student has one stalk of celery each? _____

The Scoop on this Week's Snack!



Great Grapes

Tasty grapes grow by the bunch,
They're easy to pack for snack or lunch.
On a trellis, on a vine
Red or green, they both taste fine.
Some have seeds, but others don't.
Turn down a grape? I know I won't!
You know what I think is most fun?
To sit and eat them, one by one.

What's Great about Grapes? A Bunch of Things!

Grapes come in lots of different colours—red, black, dark blue, yellow, green, orange and pink. What colour are you snacking on today?

Grapes are very, very good for us. Your snack today is giving your body lots of Vitamin C and K, and fibre.

Grapes have been cultivated for thousands of years. The ancient Egyptians grew grapes both for eating and making wine.

Grapes have natural sugars that make them deliciously sweet.

We make lots of tasty things from grapes. We squish grapes to make juice or wine. We make jams and jellies and fruit leathers from the juice, skin and pulp. We even make Grapeseed oil from the seeds.

Raisins are sweet, black grapes that have been left to dry naturally in sunlight.

600 wine grapes =
one bottle of wine.

Grapes are fruiting berries that grow from a vine. That's right, grapes are berries!

Psst...Don't feed me
grapes or raisins.
Grapes are good for
people but can make us
dogs sick.



Why are they called 'Table Grapes'?

The two main types of grapes are Wine Grapes and Table Grapes. Most of the grapes grown around the world are for making wine. Wine Grapes are green and red, and are very sweet with bitter seeds and chewy skin. To make wine you crush grapes to squeeze out the juice. Table Grapes are larger and meant to be eaten fresh. Don't their thin skins give a nice 'pop' when you eat them? We should call them POP Grapes instead!

Something so Fine, Growing on a Bush, a Tree, or a Vine...

Did you know that all of the fresh fruit and vegetables you'll be eating on your school's fresh snack program have something in common? They were grown on BC farms. But they're not all the same. Just as fruit comes in all shapes, sizes and colours, so is the way that they grow. Some grow on trees or on bushes. Grapes are berries, but they don't grow on bushes like blueberries, they grow on long thin vines that twist around anything.

A grape farm is called an 'orchard' or a 'vineyard'. Grape farmers set up trellises to support their vines and to keep the grapes off the ground. Vineyards are rows and rows of vines trained on trellis systems.

How many grapes in a bunch?



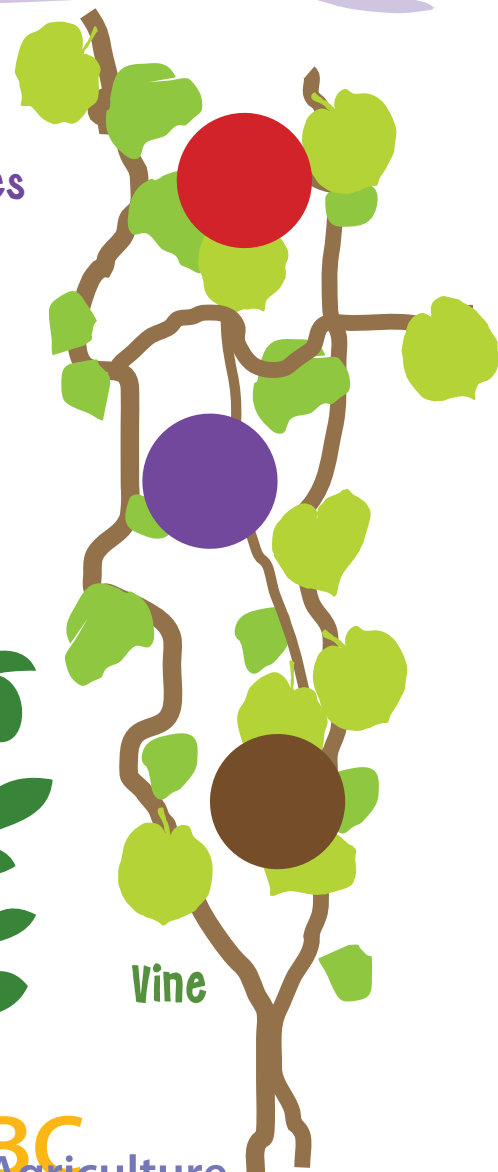
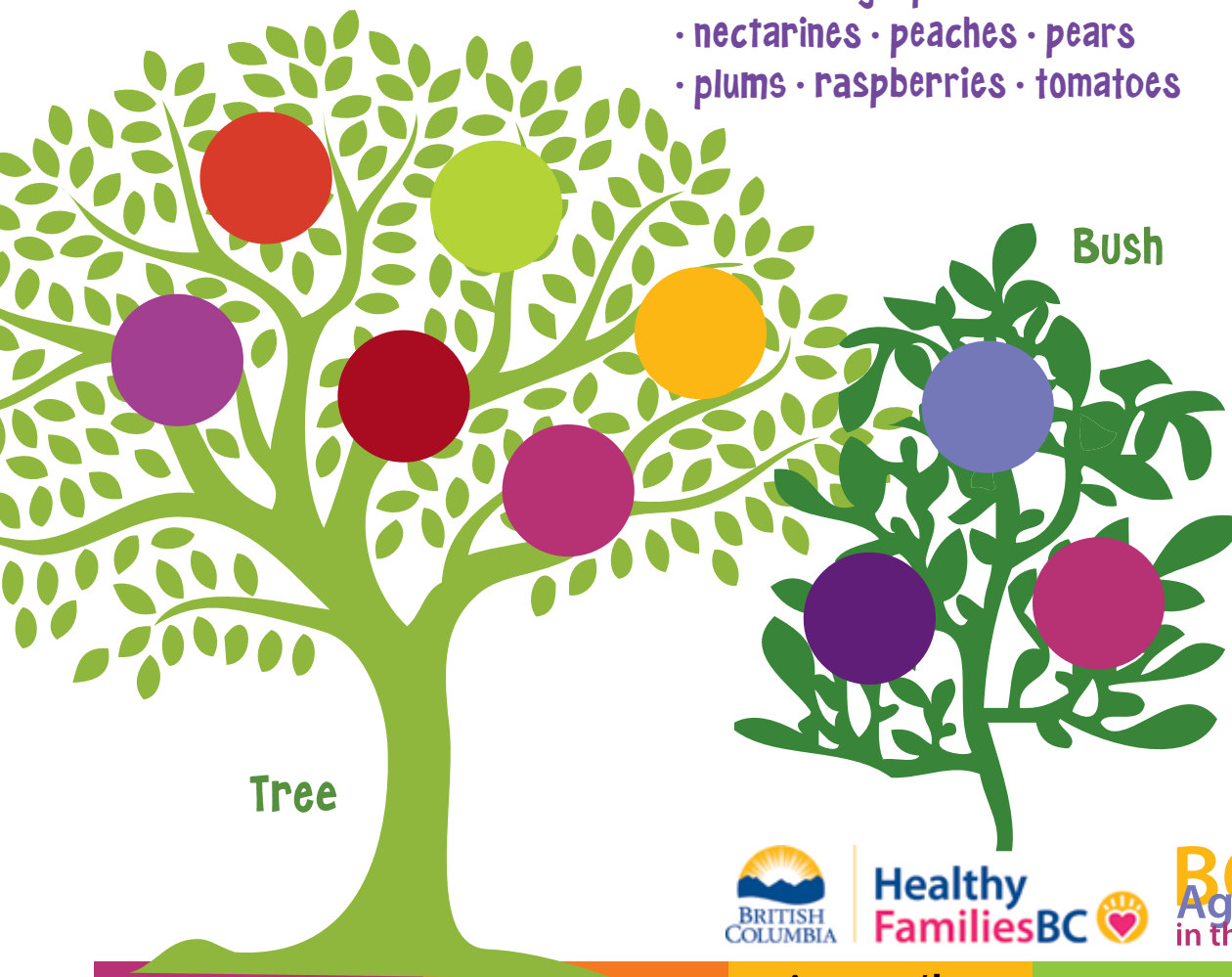
Grapes grow together in groups, or clusters, called 'bunches'. A bunch of grapes can be from five grapes to fifty! That's what makes them such a fun snack. They hang out together on their little branches till you're ready to eat them one-by-one.

TONGUE TWISTER - try saying this 8 times, fast!

Eight Great Grapes, Eight Great Grapes...

How Does it Grow? Match each fruit or berry with the type of plant it grows on...

apples · blackberries · blueberries
· cherries · grapes · kiwi fruit
· nectarines · peaches · pears
· plums · raspberries · tomatoes

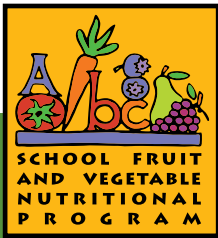


Healthy FamiliesBC



BC Agriculture in the Classroom

Aug. 2014 edition



The Scoop on this Week's Snack!

Cool and the Gang!

We may be small – they call us mini.
We're not too wide and not too skinny.
We like to grow under glass where the sun gets hotter,
After we're picked, we like the fridge better,
You would too if you were 95% water.

We're cool, we're smooth and we pack a crispy crunch,
We're green, we'll keep you lean, we're tougher than we seem.
Grab a bunch and take us out for lunch!



Cool cucumber Facts...

Mini Cucumbers are a special variety, related to the Long English Cucumber, that reach maturity when they're just 4 inches long. Take a bite – don't you think they're crunchier and sweeter than their larger 'cousins'?

Since cucumbers are comprised of mainly water, their thicker skin acts like a natural wrapping (or jug) keeping the moisture in. While the flavour is in the seeds, eat the sweet and crunchy fibre-rich skin too!

Cucumbers have been cultivated for thousands of years in India and Asia making them one of the oldest vegetables in the world. Oops - similar to tomatoes and squash, although we think of cucumbers as vegetables, they are fruits. Cucumbers develop from a flower and have enclosed seeds – that's a fruit, right?

Cucumbers don't grow on trees; their plant is a creeping vine that roots in the ground and snakes its way up trellises or other supporting frames, clinging on with thin, winding tendrils.

Have you ever heard of the expression 'cool as a cucumber'? That's because with their high water content cucumbers stay cooler on the inside than on the outside – making them the ideal fresh snack on a hot day. Their coolness also makes them a natural remedy for soothing sunburnt skin.



From hot, to cool, to you - keeping it fresh with the cold chain!

Cucumber plants thrive in a warm climate. Thanks to Hot Houses, we can enjoy BC grown cucumbers in all seasons. Although the plant likes it hot, as soon as it's picked heat causes the fruit to spoil quickly. Since we want our fruits and vegetables to be as fresh and nutritious as the day they were picked, what's a grower to do?

Send it on the cold chain – that means keeping your cucumber in a cool, controlled climate every step of the way.

Picture a cucumber as part of a food chain consisting of a series of steps. Planting, growing and harvesting – that's just the beginning... **Let's take a look at the 'Cold Chain'.**

1 In the Hot House, Orchard or Field

Picked at just the right ripeness – before maturing. Right after picking the cucumbers are off to the packing house.

2 At the Packing House

Sorted, graded, packed and cooled – they're ready for transport.

Since they're living foods, all fresh fruits respire (take in oxygen and give off carbon dioxide) soon after harvesting. Cold, constant temperature and a controlled atmosphere (lowering the oxygen levels) reduce the rate of respiration and ripening. Wrapping cucumbers in plastic keeps in their natural moisture.

4 At Home

Keep up the cold chain and keep your ripe fruits and vegetables in the fridge.

Brrrr...sometimes it's just too cold. Some fruits and vegetables are transported together and kept at near freezing temperatures. Since cucumbers are made up of mostly water, they'll freeze more quickly. If it's too cold (below 6°C), they'll freeze and when they get to you will have lost their refreshing flavour and crunch.

3 On the Way to You

Keep it cool to keep it fresh and undamaged.

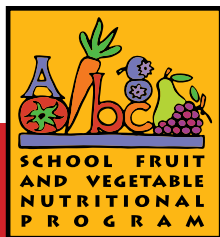
BC fruits and vegetables are shipped all over the province, across Canada and around the world. The cold chain continues throughout their entire journey. From a cool packing house to shipping containers, the temperature is kept at the ideal level until the produce arrives at its final destination – your local retailer.



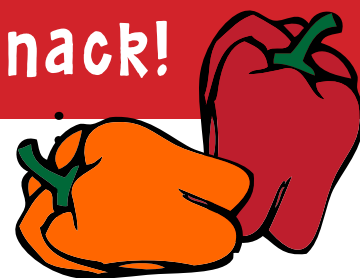
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The Scoop on this Week's Snack!



Pick a Pepper

Shaped like a bell, I can be red, yellow, or orange. You may think I'm a vegetable but botanically, I'm a fruit. My skin is smooth and shiny with a crunchy texture. I have a tangy, sweet taste that won't burn your tongue. What am I? **A Baby Bell Pepper!**

I'm not really a baby. I'm a variety of sweet bell pepper developed for our size and sweetness. Our fruit and plants are just smaller versions – we're even grown the same way. Take a bite. Do you think we're sweeter than our larger cousins?

Sweet bell peppers originated in South America from wild seeds dating back thousands of years. Christopher Columbus discovered them on his travels to the new world and brought seeds back to Europe where they are still popular fresh and are also dried and ground up for a spice called **paprika**.

Christopher Columbus named his plant discovery '**pepper**' which means **pimiento** in Spanish. In those days, **peppercorns** were a highly prized spice and was the name given to all hot and pungent spices. Although not exactly accurate, since sweet bell peppers are not spicy at all, the name stuck.

Believe it or not, all of us Baby Bell Peppers – green, yellow, red, orange, come from the same plant. The difference? Time. Like tomato plants, sweet bell pepper plants have green immature fruit and red, yellow or orange mature fruit. We take our time developing our ruby red colour – maybe even as long as 100 days on the plant. In BC we grow year-round in warm, temperature controlled, glass-enclosed structures called, **Hot Houses**.

Try this tongue twister...

Peter Piper picked a peck
of pickled peppers;
a peck of pickled peppers
Peter Piper picked

If Peter Piper picked a peck
of Pickled peppers,
where's the peck of pickled
peppers Peter Piper picked?

(A 'peck' is an old English measurement, it's about the size of a bushel, but since you can't actually pick a pickled pepper, it's all just silliness anyways!)

Red is best...

There's good reason to let peppers ripen to a ruby red, it give us more time to develop our sweeter flavour and richer nutrients. Green peppers have 2 times the vitamin C as oranges, and ripe red peppers have 4 times as much! Eating just one Baby Bell Pepper gives you 100% of your daily dose of vitamins A, E and C.



Soil Secrets

Soil is pretty cool. Did you know that when you have a handful of soil you are holding a living organism? Like you, each handful is one-of-a-kind. Inside a mound of dirt are secret ingredients that create life.

What is Soil? A mixture of mineral and organic materials plus air and water, covering a major portion of our planet's land surface. Soil is made from broken up pieces of rock, dead bugs, fallen leaves, and branches. The top layer, called **topsoil**, is made from decomposed organic materials. This is where water, plants, animals, air, and minerals mix and a plant's roots get most of its nutrients. Good topsoil is important to farmers for growing healthy crops.

It takes time for soil to develop and along the way it has help...

Weather and climate help form soil by breaking up rocks through changes in temperature, rain, and ice. Too much water and wind can gradually wear away the topsoil. Living things like insects, animals, worms, plants, and fungus help shape and enrich the soil.



Do you know the secrets of soil?

True or False...

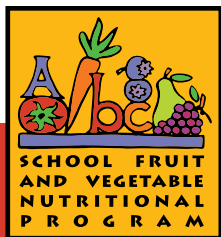
1. Soil recycles plant and animal waste.
2. Climate does not affect the formation of soil.
3. Soil acts like a filter to clean our water and air.
4. Soil is a renewable resource.
5. All land is good for farming.
6. Soil is a living organism.
7. Earthworms are good for soil.
8. Soil erosion is good for farmers.
9. Agricultural land is good for growing crops.
10. Soil is formed quickly.
11. Soil makes great mud-pies.

Answers: 1.T 2.F 3.T 4.T 5.F 6.T
7.T 8.F 9.T 10.F 11.T

Can plants grow without soil?

Yes! **Hydroponics** is a method of growing plants (like Baby Bell Peppers!) without soil. Instead, the plant's roots are suspended in nutrient-filled water. Some greenhouse farmers use hydroponics because it takes up less land space, less water, and they can grow crops year-round.





The Scoop on this Week's Snack!

My name rhymes with potato, but I'm not a vegetable. Pop me into your mouth and I'll explode! What am I?

You say "Tuh-MAY-toh", I say "Tuh-MAH-to" - we're both right!

In Mexico they have been cultivating us for over two thousand years, and our name comes from the Mexican word 'tomatl'. Spanish explorers brought us back to Europe from South America about 500 years ago. The French called us 'love apples', and the British called us 'apples of gold'. At first the British would not eat us because we

are related to a poisonous plant called the 'belladonna' and only grew us for decoration. The first Europeans to eat us were the Italians – they discovered that tomatoes were delicious with pasta and cheese. They call us 'pomodoro'. Now the whole world is crazy about us, especially on pizza and in ketchup!

Vitamin A+C+E+carotenoids = Tomatoes = Healthy you!

Fruit or Vegetable?

Since tomatoes are often served in sauces, salads and with savoury dishes, many of us call them vegetables. They're really a fruit. A vegetable is the edible stem, flowers, leaves or roots of a plant. While a fruit is the edible part of the plant that contains the seeds. Since a tomato is the ripened ovary of the tomato plant

flower – that makes it a fruit, actually, a berry. Still not sure? Take one bite and you'll taste something is so sweet it couldn't be anything but a fruit!

Maybe that's why these little gems are named after the fruits they resemble – strawberry, grape and cherry.

Can you name any other fruits that we commonly think of as vegetables? (Remember, the edible part contains the seeds...find the picture clues!)



Does it matter if you eat tomatoes before they are ripe?

Ripe tomatoes, like the juicy red ones you're snacking on contain higher lycopene (bright red carotene) content than green or unripe tomatoes. So, riper and redder is better – try saying that 3 times fast!



In the Hot House

The growing season in BC is short with cool, rainy days and frosty evenings beginning in early fall. Some farmers use large heated greenhouses to extend the season and produce ripe, fresh produce all year. Since Hot House tomatoes don't need to be shipped as far, they can be left on the plant for longer and harvested when they are ripe and at their best.

What is it like inside a Hot House?

Picture a huge glass building as long as a playing field lined with rows of Dr. Seuss-like Christmas trees – bright green and red ornaments dangling from spindly, green branches. Dew drips off the steamy glass, and the buzzing of bumblebees fills the hot air. How hot is it? At least 13°C at night, remember some plants, like tomatoes, came from South America where it's warm all year round. Take a deep breath – it smells like summer.

Inside their Hot House, farmers can regulate the temperature, light, planting and even pollination. One thing they can't control though is the sun, and plants need sunlight for photosynthesis. So, during the darkest months of December and January, growers shut down their Hot Houses to do a little Hot House housekeeping. They replace old plants with new ones to get ready for another growing season.

We started this week's Scoop with a tomato riddle. Have fun making up your own food riddles. Here's one to get you started:

I have layers and grow underground, cut me and you'll cry. What am I?



Are greenhouses made of green glass?

No, they're just called greenhouses because of what's inside – green plants. While both greenhouses and Hot Houses provide an enclosed growing space for plants that would not survive on their own outside in a cold climate, there is a difference. It's heat. Greenhouses protect plants from the outdoor elements but aren't heated. A Hot House is kept at a constant temperature so that plants from warmer climates can thrive.

STATE-OF-THE-ART TECHNOLOGY +
OLD-FASHIONED ATTENTION
TO DETAIL = WINDSET FARMS

WE DARE YOU NOT TO LOVE
OUR MINIS - THEY'RE FRESH,
CRISP AND BITE-SIZED. PLUS,
THEY'RE REALLY CUTE.



Jeff Madu, Director of Sales, Windset Farms

INSIDE THE GREENHOUSE WITH JEFF MADU OF WINDSET FARMS...

Windset Farms is a family-run business that operates 4 greenhouses in Delta and Abbotsford, BC.

We have greenhouses in Delta on 65 acres: 1 for mini peppers, 1 for mini cucumbers and 2 for tomatoes. We grow small-sized varieties that are perfect for classroom (and anytime) snacking – just wash and serve.

Why greenhouses? Glass-enclosed structures allow growers to create a controlled growing environment where they provide their crops with natural sunlight, while protecting them from nature's harsher elements (storms, hungry bugs, man-made harmful emissions).

There's a lot going on under the glass where we combine greenhouse technology with traditional 'green-thumb' growing methods. While sophisticated computers control the environment, our farmers still tend to each plant, doing all the pruning and picking by hand.

HOW DO WE GET THE TASTIEST TOMATOES? Tomatoes are a summer crop. By controlling the light, heat and humidity, we can extend summer to nearly 10 months. While icy rain and snow pelt our greenhouse roofs, inside our plants are enjoying balmy summer conditions. To get really great tasting tomatoes we need to do more:

- Our tomatoes ripen on the vine, without any artificial measures, just as nature intended. Natural ripening increases their sweet flavour.
- We grow our plants in a climate controlled environment (with plenty of direct sunlight), feeding them a steady diet of water and nutrients from the moment we plant the seeds.
- We give our plants just the right amount of light, nutrients, water, oxygen and carbon dioxide they need to grow and thrive.

WHAT'S IT LIKE INSIDE? Bright, white, clean and green. Imagine rows upon rows of tomato vines creeping 6 metres to the sky, creating a lush, leafy canopy obscuring all else. The buzzing of pollinating visitors (bumblebees) fill the hot air. **IT'S LIKE A JUNGLE IN HERE.**

Since we've been supplying tomatoes to schools on the BC School Fruit and Vegetable Nutritional Program we've received letters from parents saying that their kids never wanted to eat tomatoes, but tried them in the classroom and now they like them. That's the best compliment we can get.



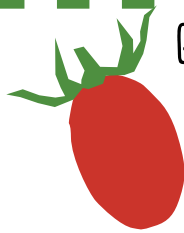
Photo courtesy of Windset Farms



The Double Scoop on
this Week's Snack!

Greenhouse
Mini Tomatoes

MEET THE MINIS...



GRAPE TOMATOES About half the size of cherry tomatoes with big, sweet flavour. Low water content gives these gems a firm texture eliminating the "squirt" factor, so there's no messy shirt.



CONCERTO GRAPE TOMATOES Created by Windset Farms, same great qualities of grape tomatoes with an extra boost of sweetness.



STRAWBERRY TOMATOES Sweet like a berry, yet acidic and slightly tart. They grow in clusters on the vine and have a shape like – go ahead and guess.

FROM MINI TO SUPERSIZE



CHERRY TOMATOES Rich, sweet flavour. About the size of a big cherry, they're bright red and loaded with juice.

NOTICE SOMETHING COMMON ABOUT THESE MINI TOMATO VARIETIES? EACH ONE IS NAMED AFTER A FRUIT. WHY WOULD THAT BE?

HEAVIEST TOMATO ON RECORD WEIGHED 3.51 KG (3,510 GRAMS OR 7 LBS, 12 OUNCES). A "DELICIOUS" VARIETY, GROWN IN 1986 BY GORDON GRAHAM OF OKLAHOMA, U.S.A. IN HIS BACKYARD GREENHOUSE. MR. GRAHAM SLICED HIS TOMATO TO MAKE SANDWICHES FOR 21 FAMILY MEMBERS.

DO THE MATH...



Greenhouses allow farmers to grow lots of produce in a relatively small amount of space. In fact, greenhouse-grown produce uses about 1/10th of the land space as field-grown produce. But that doesn't mean greenhouses aren't big...

Windset Farm's largest greenhouse (for sweet red peppers) is 22 acres. They grow their Concerto grape mini tomatoes in half of a 15 acre greenhouse.

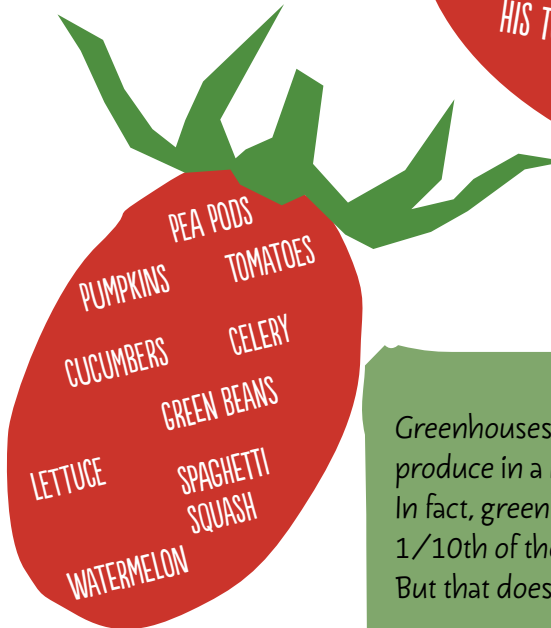
If 1 acre = about the same size of 16 tennis courts. Approximately how many tennis courts could you fit inside Windset Farm's largest greenhouse?

And, in their grape tomato greenhouse?

Average weight of a Concerto grape tomato = 11 grams (.38 ounces)

Estimate how many Concerto grape tomatoes you would need to reach the equivalent of Gordon Graham's 'Delicious' record breaker:

? ENTER THE GREAT DEBATE: FRUIT OR VEGETABLE? CIRCLE THE VEGETABLES...



Did you circle tomatoes? They're served in salads, soups and main courses, not dessert, so tomatoes are vegetables, right? Well, Let's see. According to Webster's Dictionary, a **FRUIT** is "the usually edible reproductive body of a seed plant (the fruit develops from the ovary of the plant)" and a **VEGETABLE** is "a usually herbaceous plant grown for an edible part (can be the root, stem, leaf, bulb, bud, or flower)."

DOES IT HAVE SEEDS?

If the answer is yes, it's a fruit. But wait, that means that many foods we generally think of as vegetables are really fruits (squash and cucumber come to mind). That's because, unlike fruit, vegetable is not a botanical (scientific) category, it's a culinary term. Its definition is somewhat arbitrary based on how we eat or cook the food. So, if you're talking in culinary terms a tomato is a vegetable; in scientific terms – a fruit. So the answer is – both! Have another go at the list and see how you do. (Hint: there are only 4 vegetables listed).





From the confidential files of
the BC School Fruit & Vegetable
Nutritional Program
(a.k.a. BCSFVNP)



WE'VE UNEARTHED SOME INTRIGUING SECRETS FROM INSIDE THE
WORLD OF BC HOT HOUSES. YOUR MISSION, SHOULD YOU CHOOSE TO
ACCEPT IT, IS TO EAT TODAY'S SNACK AND MEMORIZE THE SECRETS
ON THIS PAGE. GOOD LUCK.

**SECRET #1 VEGETABLE IMPOSTERS
REVEALED.**

Cucumbers, along with melons, pumpkins,
zucchini, and squash, actually belong to
the gourd family called Cucurbitaceae. Like
their greenhouse companions, bell peppers &
tomatoes, they're not vegetables, they're fruit!

**SECRET #3 THEY'RE NOT BABIES
AT ALL.**

Baby Bell Peppers aren't even immature
peppers. They're a variety developed
and grown the same way as their larger
cousins, and are just smaller, sweeter
versions. Mini (Baby) Cucumbers aren't
babies either but a variety of the Long
English Cucumber whose lack of seeds and
thin skin earned it the name: 'Burpless'.

**SECRET #5 MINI CUCUMBERS ARE
A PICKY FIELD CROP.**

Wind scars their sensitive (edible)
skin, while changing temperatures and
humidity may cause it to become tough
and difficult to digest. Cucumbers
thrive in the constant, protective
environment of a Hot House. After
harvesting, growers wrap them in
plastic to keep them fresh and crispy.



SECRET #2 GREEN POWER.

All baby peppers start out a shade of
green and change colour as they mature.
While the green fruit is ready to pick
after about 6 weeks, it takes another 3
to 6 weeks to develop to yellow, orange,
and red. While changing colour, ripening
peppers also increase in sweetness and
vitamin C content. One pepper plant will
give us green, and either yellow, red or
orange peppers to choose from.

**SECRET #4 THE SECRET IS NOT
IN THE SOIL.**

Inside a Hot House, Bell Pepper plants grow
with their roots suspended in nutrient-filled
water. Why? Hydroponic growing uses less
space, requires less irrigation, and crops can
be grown almost year-round. Growers also use
a soil-free system made of sawdust or coconut
fibre, and rock-wool (a material made from
rock spun into blocks) to start seedlings. A
drip irrigation system provides water and
nutrients, and carbon dioxide helps them
grow healthy and strong.

**SECRET #6 PICKLES, DILLS, GHERKINS,
AND CORNICHONS – THEY'RE ALL CUCUMBERS
IN DISGUISE.**

They're Pickling Cucumbers – a shorter, less evenly
shaped variety with bumpy skin. Preserving them in
brine, vinegar or other fermentation solution keeps
them fresh and crunchy, while spices add tart flavour.
Awesome companions to hot dogs and hamburgers!

The Double Scoop on
this Week's Snack!

Hot House
Fruit

HOT HOUSE HISTORY & HOW TO...



FOOD FIT FOR AN EMPEROR Luckily for us, cucumbers were a favourite delicacy of the ancient Roman Emperor Tiberius. To supply Tiberius with his daily cucumber (every day of the year) Imperial gardeners mounted growing beds on wheels that they could move around to follow the sun. During winter, they covered the beds with protective sheets of a transparent stone called 'mica' (glass had not yet been invented). They called these early greenhouses 'speculariums'.

DELICACIES UNDER GLASS Tomato plants need lots of sunshine, warmth and cooling breezes. Pepper plants thrive in warm temperatures. Semi-tropical cucumber plants need heat, intense light and humidity. Sound like typical winter weather in BC? Like the Imperial growers, we use greenhouses to grow crops nearly year-round. (Growers take a break in December and January for greenhouse housekeeping and to start new plants). Rapid growth inside the greenhouse also allows growers to harvest three to four cucumber crops a year; pick fruit from one crop of Bell Pepper plants from March until October; and harvest tomatoes until November.

BC's Hot House crops are specialty products that can't easily be grown in many other provinces or countries. Growers not only supply us with fresh produce year-round, they sell to a global marketplace. Imagine the fresh Mini Cucumbers like the ones you're snacking on are also being enjoyed across the country in Halifax, even on the other side of the world in London and Tokyo.



French explorer Jacques Cartier discovered wild cucumbers growing near the site of Montreal in 1535.

? WHAT ELSE DID
JACQUES CARTIER
DISCOVER?

DO THE
MATH...



Hot House growers produce a lot of food in a small amount of space – about 25kg(55lbs) of peppers or 51kg(113lbs) of cucumbers in a space the size of a bathtub. How do they grow so much in such a small space? High ceilings help. Growers string up pepper plants to overhead wires so they'll grow upward toward the sunlight. One pepper plant can reach up to 5m high, and cucumber plants can grow up to 15cm a day inside a Hot House.

How many days does it take for a cucumber vine to reach its typical height of 2.5m? (hint: 1m = 100cm) _____

Peter Piper picked a peck of pickled peppers.
How many peppers did Peter Piper pick? _____

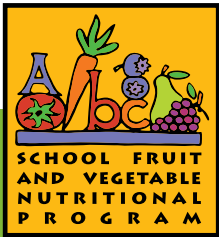
If your school got 3 pecks of peppers today, how many pounds(or kg) of peppers did your school get? (hint: 1 peck = about 5.4kg (12lbs) _____

If .68kg (1.5lbs) = 5 baby bell peppers, estimate how many peppers your school received: _____

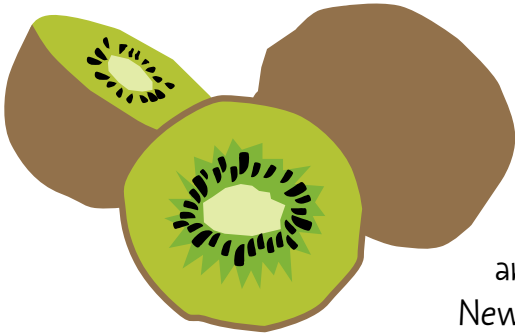
diversity + quality = BC agriculture



aitc.ca/bc



The Scoop on this Week's Snack!



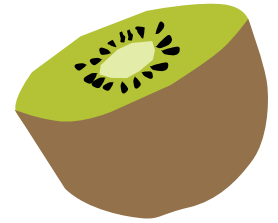
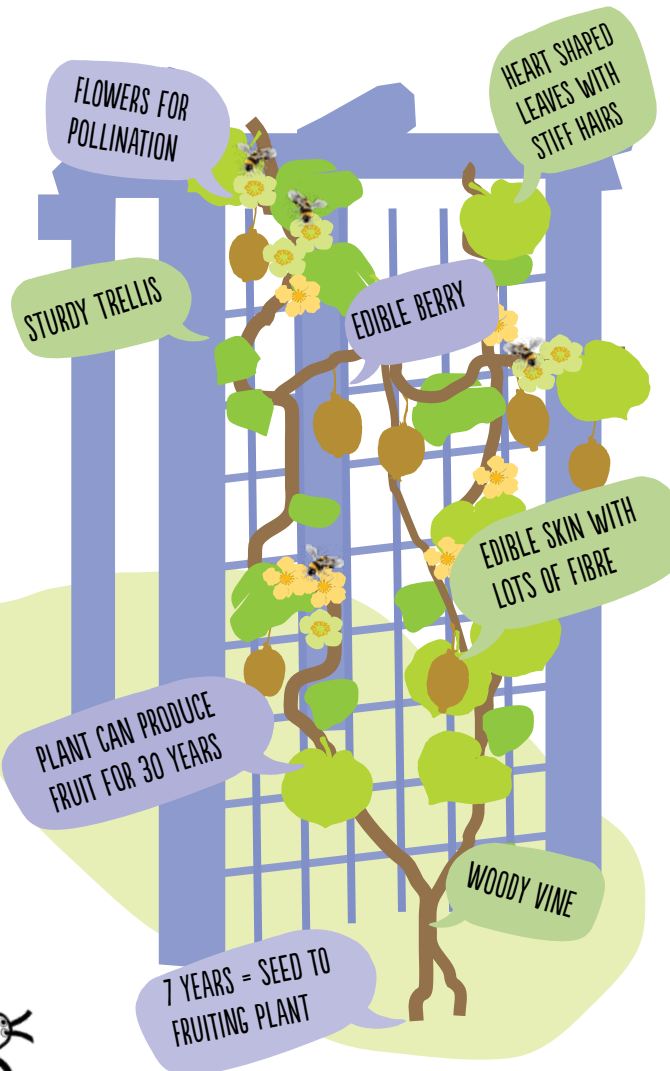
Kiwifruit made a roundabout trip to get to BC farmers.

Many years ago, visitors to China enjoyed this unusual wild-growing fruit so much that they took seeds and plant cuttings back home to England and

New Zealand. They called this new fruit, **Chinese**

Gooseberry. The new fruit thrived in New Zealand's sunny climate. In a short time lots of New Zealand farmers planted orchards of kiwifruit vines and it became the country's largest crop.

New Zealand farmers soon began exporting their kiwifruit to other countries, including Canada. A farmer on the southern tip of Vancouver Island thought, "I can try growing this exotic fruit here on my farm". It turns out that southern BC's cool, rainy winters are just right for growing kiwifruit. It's the only place in Canada though, and if the temperature drops lower than -18°C it's goodbye kiwifruit crop. Thanks to that first farmer, who tried growing a new crop, we can enjoy kiwifruit grown right here in BC.



Kia or!

(good day' in Maori, the language of the New Zealand indigenous people)

The egg-shaped fruit you're snacking on today is really a berry, a hairy berry. Take a bite, there's a delicious emerald treat hiding inside that fuzzy brown skin. Kiwifruit are packed with of vitamin C and fibre.

What's fuzzy and brown, has no tail, and can't fly? A kiwi bird and a kiwifruit! They look so alike that New Zealand growers named the little fruit after their funny-looking national bird.

Putting Together the Snack Puzzle

The kiwifruit you are snacking on today was grown on a farm in Abbotsford in the Fraser Valley. To get his fruit to you the grower didn't just hop on his truck and drop it off at every school. There are too many schools, and BC is a big province with people spread out all over. He had lots of help.

Think of how a jigsaw puzzle is made up of many pieces. Imagine growers, schools, delivery trucks, and more, are each pieces of a puzzle working together. Putting all the puzzle pieces together is what it's like getting fresh snacks delivered to schools on the **BC SFVNP** (that's short for BC School Fruit & Vegetable Nutritional Program).

Schools in remote areas get fresh supplies delivered by small planes and commercial barges.



Growers are the first piece of the puzzle.



Transport truck drivers deliver fresh produce to warehouses and grocery stores.



Schools on islands receive their fresh produce by ferry.



Our puzzle has over 1,450 pieces. That's how many schools receive fresh fruit and vegetable snacks as part of the BCSFVNP.



Many community grocery stores supply us with fresh fruit and vegetables.



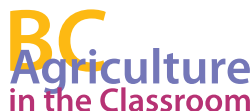
From the farm, next stop is the warehouse or processor for sorting, packing and cold storage.

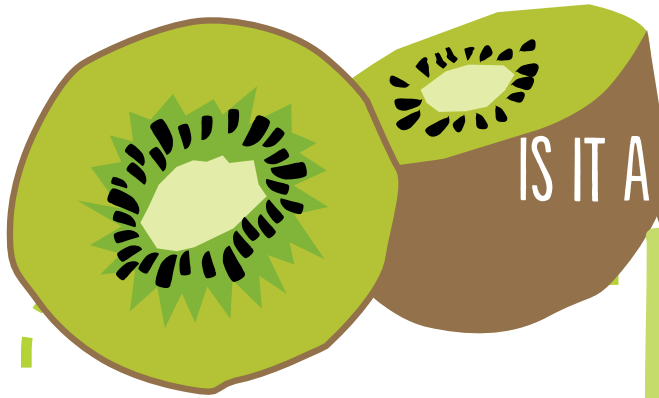
Our puzzle wouldn't be complete without students and school volunteers to help organize and distribute our fresh fruit and vegetables in every school.



A team of volunteer and professional drivers deliver produce to schools from local grocery stores, trading posts, or marinas.

Think about where your school is located. Which pieces of the puzzle did it take to get your kiwifruit snack to your school today?





IS IT A BIRD OR A FRUIT?

WHEN NEW ZEALAND FARMERS STARTED GROWING 'CHINESE GOOSEBERRY' THEY WERE SO PROUD OF THIS EXOTIC NEW CROP THEY RENAMED IT KIWI AFTER THEIR FUNNY-LOOKING, YET BELOVED NATIONAL BIRD. BOTH HAVE A FUZZY BROWN EXTERIOR, AND NEITHER BIRD NOR FRUIT CAN FLY.



IN THE VINEYARD WITH GEORGE PETKOV, BC KIWIFRUIT GROWER...

Our vineyard is located on the rolling hills of the beautiful Mt. Lehman area in Abbotsford in the Fraser Valley. Like grapes, kiwifruit grow on woody vines supported by trellis, also called 'pergola'. That's why we call it a vineyard.

Mt. Lehman is an ideal place for growing kiwifruit. The air is clean and fresh. The soil is fertile with organic materials and nutrients. The water feeding our sustainable drip irrigations is among the purest in the world. And, our (mostly) moderate climate in the winter rarely dips below -18°C, so our plants are usually safe from freezing.

WHY DO I GROW KIWIFRUIT? For starters, these exotic fruit are one of the healthiest on the planet. Plus, like bananas, kiwifruit do not ripen on the plant, they ripen in cold storage where they can be kept for up to 6 months. When local availability of most healthy fruit is sparse and expensive, our supply of kiwifruit is at its peak of freshness and ready for local distribution. Our family liked the idea of growing a healthy, fresh, pesticide-free fruit that was a locally-grown option at a time of year when most fresh fruit is imported. We also discovered that this healthy, great tasting fruit from New Zealand was becoming very popular. So, a few years ago we planted a kiwifruit vineyard on our 8 acre farm.

WHAT DOES IT TAKE TO BE A KIWIFRUIT GROWER? A Masters Degree in Horticulture (the study of growing plants) and loads of experience working on agricultural projects (such as I have) is useful. But, the most important things a grower needs (along with land) is an ongoing commitment of knowledge, hard work and passion. It takes 7 years for a kiwifruit vine to mature from seed, and then a mature vine can produce as many as 1000 kiwifruit in one year. A kiwifruit grower needs patience first, then the ability to work hard.



Photo courtesy of BC Kiwifruit Growers

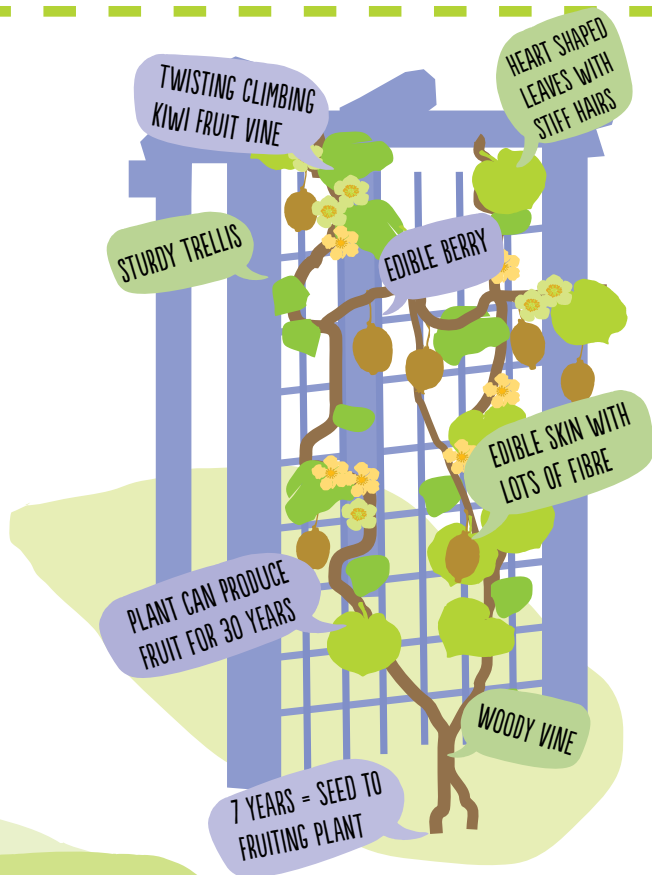
KIWIFRUIT IS THE EDIBLE BERRY OF A VINE. EVEN THE BROWN SKIN IS EDIBLE AND CONTAINS LOTS OF FIBRE - GIVE IT A RUB TO KNOCK OFF SOME OF THE LOOSE HAIRS FIRST.

G'DAY MATES!



The Double Scoop on
this Week's Snack!

Kiwifruit



MAP IT OUT...

KIWIFRUIT VINES CAN BE KILLED BY COLD WEATHER, EVEN WHEN DORMANT IN THE WINTER. THAT'S WHY BC IS THE ONLY PLACE IN CANADA WHERE KIWIFRUIT IS COMMERCIAL GROWN. KIWIFRUIT ARE GROWN IN THE **Fraser valley**, AND ON THE SOUTHERNMOST TIP OF **Vancouver island**, THE REGION OF OUR MOST MODERATE TEMPERATURES.



FIND **Abbotsford** ON THE GROW BC MAP (YOU'VE JUST FOUND THE LOCATION OF BOTH PETKOV VINEYARDS AND THE OFFICE OF BC AGRICULTURE IN THE CLASSROOM).



LOCATE THE **grape-growing regions** ON THE GROW BC MAP TO SEE WHERE KIWIFRUIT VINEYARDS COULD ALSO GROW.

HOW TO TRAIN YOUR KIWIFRUIT...

Although you can't train kiwifruit vines like your dog (or dragon), they are vigorous climbers that when left to their own can get out of hand. Growers train their vines with careful pruning in the spring to get the most fruit yield from each plant. The vines exert great pressure when loaded with fruit so the trellises need to be strong. How many kiwifruit does a well-trained vine produce in one year? With proper training (along with irrigation, pollination & plenty of sunlight) as many as 1000.

Kiwifruit vines are **dioecious** which means a vine is either male or female. Both male and female vines need to be planted together. While female vines produce the fruit, the male blossoms are needed to cross pollinate the female blossoms.

During harvest time (in late October) growers use a handheld instrument called a **Brix refractometer** to determine the average sugar level in the fruit. When it reaches 7% sugar the entire field is harvested by hand. At this point, the fruit is still hard and too sour to eat, but they are picked, graded and packed into cartons and kept in cold storage where they continue to ripen naturally.

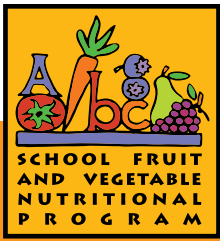
DO THE MATH...



Kiwifruit vines are planted about 5 metres apart in rows 4 metres apart, resulting in about 190 vines per acre.

The Petkov family's vineyard is 8 acres. Estimate the number of kiwifruit vines they have on their vineyard:

With a ratio of 1 male to 8 females planted, how many female plants are there per acre?



The Scoop on this Week's Snack!

A holiday treasure from Asia...

December is here! Time for catching snowflakes, making snowmen and singing Rudolph the Red-nosed Reindeer. It's also time for sweet oranges wrapped up in festive green paper.

Did you know that unwrapping Mandarin oranges is a well-loved Canadian holiday tradition we've been enjoying for over 120 years?

Oranges travelled by ship and were packed in nine-pound wooden crates, hand tied in pairs to form a bundle. The crates were quickly unloaded and shipped across the country by "**Orange Trains**". The brightly painted orange boxcars let everyone along the way know that the Mandarins had arrived and with them the start of the holiday season. These sturdy wooden crates were a favourite gift to give and receive, and once the oranges were eaten, they became instant sleds, tool boxes, and dollhouses.

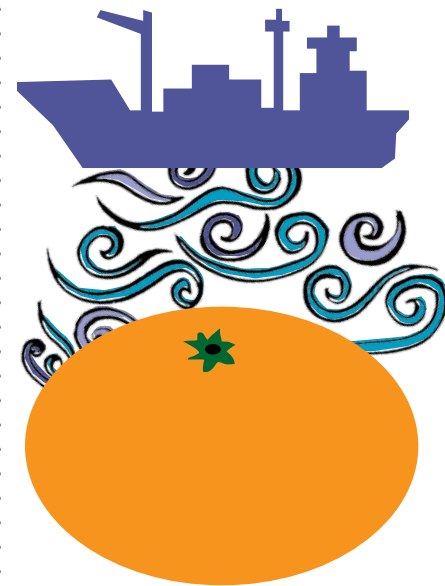
Such a Long Journey...

Mandarins oranges have been cultivated in China and Japan for two thousands years. **Mandarin** is the family name for several types of small oranges with loose, easy-to-peel skin.

Mandarin oranges gained their name from the bright orange robes worn by the **mandarins**, public officials of the ancient Chinese court. When exporting began, Mandarin oranges were named after their port of origin. Tangerines were the first to be exported to North America and were named after the city of **Tangiers** in Morocco.

The Mandarin orange tree is a small deciduous tree with slender twigs. It is delicate and easily damaged by cold and like us, will sunburn in severe heat. Mandarin oranges are cultivated in orchards in Japan, southern China, India, and the East Indies and are shipped around the world.

Mandarin oranges from China to Vancouver = 9,500 kilometres by sea.



How many segments did you get in your Mandarin orange today?





Buying local = fresh food = great taste =
happy farmer = healthy plan

Closer to Home...

A sun-drenched Mandarin orange is a special winter treat. Our climate in BC isn't suited to growing oranges so we need to import them from warmer growing regions. In our global market place we are able to buy foods from all over the world so that we can enjoy a variety of fresh fruits and vegetables in the winter.

What is local food? Simply, local foods are produced as close to home as possible. Buying local food helps to support the local food system.

For a good part of the year many crops thrive in BC, making it possible to buy closer to home. At other times, or for foods like oranges, we need to reach farther away. It doesn't mean we never eat bananas or pineapples, it just means that in summer and fall a better choice might be a peach, an apple, or a pear. Eating local produce when it's in season is a better choice than purchasing the same type of food from thousands of miles away.

Why does it matter how far my food has travelled? The total distance food has travelled from grower to your plate is called **food miles**. Both the distance and the method of travel are important. More **food miles** mean more carbon dioxide in the air as a result of transportation. Choosing to buy locally grown food can reduce global warming, pollution and improve air quality.

How do local farmers help? Small, local farms are run by farmers who live on their land and work hard to preserve it. They protect open spaces by keeping land in agricultural use and preserving natural habitats. By being good stewards of the land, seeking out local markets, minimizing packaging, and harvesting food when it's ripe, farmers can greatly reduce their environmental impact.

How can we reduce our food miles?

1. Eat fresh food that's in season; it hasn't travelled as far as out-of-season, imported fruits and vegetables.
2. Can and freeze local produce to enjoy throughout the winter.
3. Visit local farmers' markets; they're a great source of local produce – and fun too!
4. Grow our own vegetables – that's as local as it gets.
5. Shop at your neighbourhood grocer or produce store and ask them to stock locally grown products.
6. Walk, bike, or take the bus to go shopping.



Mandarin oranges come from Japan and China, are they a local or imported food?



Healthy
FamiliesBC



BC
Agriculture
in the Classroom

aitc.ca/bc

DO YOU LOOK FORWARD TO
DISCOVERING A MANDARIN ORANGE
HIDING IN YOUR CHRISTMAS
STOCKING?



The Double Scoop on
this Week's Snack!

Mandarin
Orange

A SWEET HOLIDAY TRADITION

Unwrapping Mandarin oranges is a well-loved holiday tradition that Canadians have been enjoying for over 120 years. In the 1880's, newly arrived Japanese immigrants began receiving baskets of Mandarin oranges from their families in Japan to celebrate the arrival of the New Year. Before long, everyone wanted the sweet, easy-to-peel oranges.

Ships delivered the oranges packed in nine-pound wooden crates, hand tied in pairs. These sturdy wooden crates, (that could be converted to sleds, tool boxes, doll beds and houses) became as prized as the oranges themselves. To keep them fresh, each orange was hand wrapped in paper.

On arrival in port, the crates were loaded onto Orange Trains and shipped east across Canada by rail. Brightly painted orange boxcars let everyone along the way know the Mandarin oranges had arrived, announcing the start of the holiday season.

Today, Mandarin oranges travel in large bulk shipping containers loaded on ocean vessels and are transported inland by truck. While more cost-efficient five-pound retail cardboard boxes have replaced the wooden crates, each orange is still wrapped in festive green paper.

With more efficiency and modern-day technology, Fresh Direct Produce continues a Canadian holiday tradition.



Photo courtesy of Fresh Direct Produce Ltd.

THE MANDARIN ORANGES YOU ARE ENJOYING TODAY are from Fresh Direct Produce, a specialty import business that imports and markets hundreds of types of common and exotic fruits and vegetables from 28 countries. While the owner, Mr. Davis Yung, is not a grower or farmer, he is an important part of the chain of bringing fresh produce from field to market.

"Our headquarters in Vancouver is where the action takes place. More than 20 hours a day, 7 days a week, truckloads of fruits and vegetables flow in and out of one of our 25 loading docks. Climate-controlled coolers and pressurized ripening rooms keep the oranges at their peak of freshness."

MANDARIN OR TANGERINE?

Citrus unshiu = cold hardy Mandarin
= tangerine = Christmas orange

Mandarin oranges are descended from wild oranges that grew in northeast India as long as 3,000 years ago. Mandarin is the name for an entire group of loose-skinned orange varieties that includes tangerines. Mandarin oranges were named after the bright orange robes worn by the 'mandarins', public officials of the ancient Chinese court. The first Mandarin oranges exported to North America were called 'tangerines' after the city of Tangiers in Morocco.

Want to wish a friend positive energy, prosperity and abundant happiness? Offer them a Mandarin orange! A symbol of wealth and good fortune in Chinese culture, Mandarin oranges are shared generously with friends and family during Chinese New Year. Why is the Mandarin orange a symbol for wealth and prosperity? Perhaps it's because the Chinese word for Mandarin orange rhymes with the word meaning 'gold'.

FAR FROM FIELD...

A sun-drenched Mandarin orange is a treasured winter treat. Since our BC climate isn't suited to growing Mandarin oranges, Fresh Direct Produce imports them from Japan and China. A global marketplace allows us to enjoy a variety of fresh fruits and vegetables throughout the winter.

Mandarin oranges from
China to Vancouver =
9,500 kilometres by sea
= 15 days, 16 hours

"...irrepressible source of freshness,
may it hold and protect
the earth's
mysterious
simplicity,
and the perfect oneness
of an orange".

– excerpt from "Ode to the Orange" by Pablo Neruda

ODE TO POETRY CHALLENGE

Mandarin oranges from
Japan to Vancouver =
8,400 kilometres by sea
= 13 days, 12 hours

AN 'ODE' IS A LYRIC POEM IN THE FORM OF AN ADDRESS PRAISING OR EXALTING SOMETHING. THEY ARE USUALLY RHYMED, WITH VARYING LINE LENGTHS, GIVING THEM AN UNEVEN RHYTHM. ODES ARE OFTEN MEANT TO BE SUNG OR READ ALOUD.

COMPOSE YOUR OWN ODE TO ONE OF THE FRUITS OR VEGETABLES THAT YOU HAVE EATEN SO FAR THIS YEAR IN THE BC SCHOOL FRUIT AND VEGETABLE NUTRITIONAL PROGRAM.

HERE'S A HEALTHY REMINDER...SO FAR THIS YEAR YOU MAY HAVE SNACKED

ON: MANDARIN ORANGES • BLUEBERRIES • BABY CARROTS • PEACHES • APPLES • BARTLETT PEARS • ASIAN PEARS • PRUNE PLUMS • MINI TOMATOES

DO THE MATH...

There are 9 to 12 segments in a Mandarin orange. Calculate the average number of segments.

If each student in your class received an orange today, estimate how many orange segments there were in total:

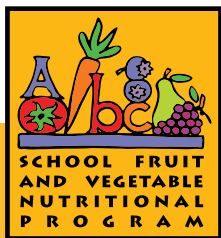


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The Scoop on this Week's Snack!

It's a Peach of a Day for an O'Henry!

While enjoying your juicy peach - a variety called "O'Henry"
let's pick a few peachy facts...

We grow on trees 3 to 5m tall. Our trees bear fruit at 2 to 3 years and will live only 10 to 20 years.

Planting our trees together, in groups called **orchards**, makes it easier to care for and harvest our fruit.

Scientific name = **Prunus persica**

The BC peach harvest begins in late summer. We're a delicate fruit that bruises easily, so each one of us is carefully picked by hand.

We're a **stone fruit**. Related to cherries, nectarines, plums and apricots, we all have a single seed tucked into a protective layer called a **pit**.

Our fuzzy outer skin is edible but can be easily peeled off when we're ripe.

Peaches on the top and outside of the tree will ripen 5 to 10 days before fruit on the shadier inside part.

We are not all one colour. As we ripen from green, the part facing the sun turns a reddish blush (a bit like a sunburn) and the part not exposed to sun turns yellow.

Every peach has a pointed, furrowed, egg-shaped pit in the middle that comes away easily (Freestone), or is difficult to remove (Clingstone). That rock-hard, wrinkly shell is protecting a tiny seed hidden inside that looks like an almond (don't eat it though - it contains 'cyanide' which might give you a stomach ache). From each pit a new peach plant can grow.



Peach or Nectarine?

Although they are from the same genetic family, peaches and nectarines don't really taste, smell and look the same. Peaches have a velvety layer on their skin called '**peach fuzz**' while nectarines have a smooth outer skin. While nectarines grow on their own trees, they're so closely related, that nectarines can be grown on a peach tree.

A History of Peaches



Peaches first cultivated in China over 2,000 years ago → taken to Persia (Iran) along old silk routes → ancient Roman frescoes depict people eating peaches → Spanish explorers bring fruit seeds to North America in the 1500s → first peaches planted in BC in the 1800's → BC students eat fresh peaches in their classroom in 2011

Most of our BC peaches are grown on orchards in the southern areas of the Okanagan, Similkameen and Kootenay valleys. **Let's take a look at the history of this important growing region...**

The first non-natives in British Columbia were fur traders of the Hudson Bay Company setting up trading posts along rivers and lakes in the early 1800's. The river valleys used as trading routes also had the best conditions for growing crops. Early farmers found the dry, mild climate of Southern BC excellent for planting the fruit seeds they brought from Europe.

The gold rush of the 1800's brought prospectors willing to pay good prices for fresh fruit to the interior region. Apples, BC's first fruit crop, grew so well that farmers planted pear, peach and plum trees. Word spread and fresh fruit soon became the new gold. By the late 1800's, the wide-open cattle ranges were soon transformed into neat rows of orchards. Forts and outposts grew into towns named Peachland, Summerland and Kelowna.

Early farms of the 1800's did not look like the farms of today. There were no tractors, cars, telephones, or even electricity. In those days farmers used 'horsepower' to do all the plowing and heavy work.

Can you guess how Peachland got its name?

After visiting a local orchard J.M. Robinson, the town's founder, proclaimed '**This is absolutely a miracle to have peaches so far north into Canada.**' And so he named his town Peachland.

EARLY FRUIT FARMER'S CHECKLIST

- ✓ Light, sandy, well-drained soil, ideally in a low-lying valley
- ✓ Lots of sun, some rain
- ✓ Moderate climate – not too hot, not too cold
- ✓ Level, or slightly sloped ground for planting orchards
- ✓ Workers to pick the fruit
- ✓ A market (peaches ripen quickly and need to be shipped fresh)

Let's make up some of our own fun names for fruit-growing towns...



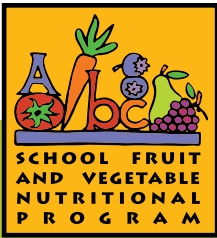
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The Scoop on this Week's Snack!

A few pear essentials...



- Of the 5,000 pear varieties grown worldwide Bartlett pears are the most popular
- Bartlett pear trees can still produce fruit after 100 years
- Like apples, the pear is actually a member of the rose family. It is one of the oldest fruits known to man

One of the best things about eating pears (besides how great they taste) is that they come in different colours. From pale yellow to green, red to brown and lots of shades in between – the variety of a pear determines the skin colour. Bartlett Pears ripen from green to yellow.

**Sweet taste and aroma, juicy, buttery texture =
Ripe Bartlett Pear = Great Snack!**

A fall fruit, pear harvest begins in August and continues through October. Even when in season, pears in the store might be hard and green. That's because pears are one of the few fruits that do not ripen well on the tree. Whether grown in trees or on trellises, all are picked by hand while still hard. Once harvested, pears are packed and kept in cold storage to ripen. Have you ever eaten a pear that was brown inside with a gritty texture? That one was left to ripen on the tree for too long.

Since they are picked when ripe you may wonder, "How do I know if my pear is ripe?" The best way to test for ripeness is by feel. Pears ripen from the inside out, that's why you may take a bite and it seems fine, then you get close to the core and it's brown in the middle. Hold your pear and feel the flesh at the neck, or stem end. Does it yield to light pressure? Then it's ripe. If it feels firm your pear needs more time to ripen.



Lunch Bag Let down

Have you ever opened your lunch bag to find your perfect pear all 'mushed' up and covered in bruises? Oops, your pear was ripe when it went in and ripe pears bruise easily. If your pear is hard and you want it to ripen faster, slip it into a paper bag with an apple or a banana. By the next day it will be ready for snacking.

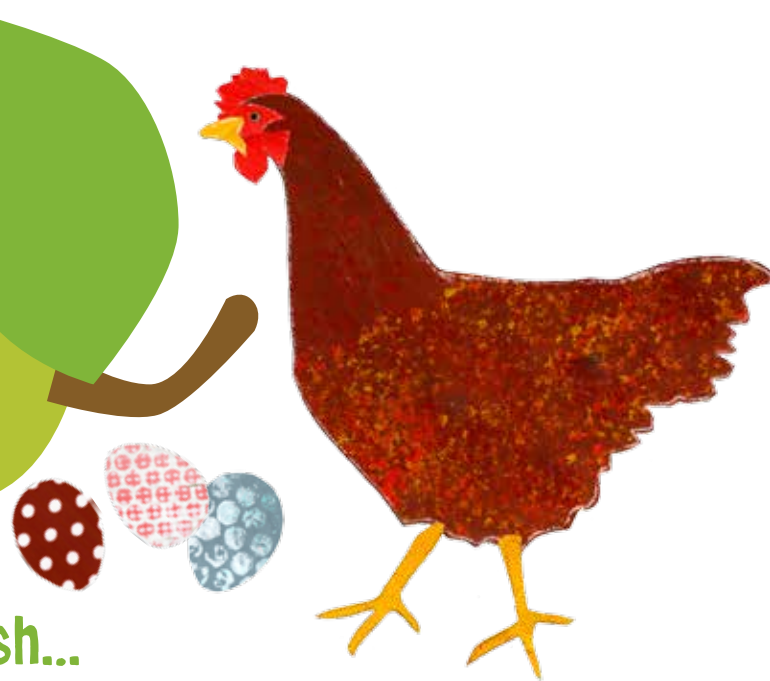


From Farm to You

Let's think a moment about how we get our fresh food. Food is a necessity – something we need every day. While some people are able to grow their own food, or even have fruit trees or chickens in their backyards, most, especially those living in cities, need to purchase their fresh food and produce.



Where do you get fresh food in your community?



To market, to market to buy a fresh...

It's not always convenient to drive to a farm to pick up your veggies – a farmers' market brings the farm to you. At a farmers' market you can feel the seasons change by the produce the farmers are selling. Fall stands are bursting with colourful squashes and pumpkins and bushels are filled with ripe red, green and yellow apples and pears. At the market you can meet the farmers and learn about their crops, find out how old their pear trees are, and what kind of seeds they plant. A farmer will let you try different varieties of pears so you can pick your favourites to take home. You know where your food comes from when you buy it at a farmers' market.

Try this neat trick at home...Place an apple and a pear in a bucket of water. The pear will sink while the apple will bob at the top.

How do you think buying food at a farmers' market helps the farmers?

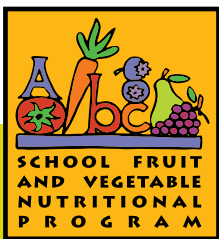


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The Scoop on this Week's Snack!

Bonjour d'Anjou

Bonjour (hello), do you like my elegant name? Please pronounce it properly, **AWN-joo**.

When speaking more formally, you may refer to me as **D'Anjou**. My full name is **Beurre d'Anjou**, which is French for **buttery pears of Anjou**, a region in France where here my ancestors were first grown. I'm often described as having a sweet, delicate flavour. I'm a juicy pear, but firm, and some say less grainy than other pears. Notice my lovely egg-shaped appearance – I'm rounder than my oval-shaped cousin the **Barlett**.

I shouldn't brag, but I am quite proud of the fact that BC orchards produce all of the Anjou pears grown commercially in Canada. I prefer the moderate climate in BC. Like all pears I'm picked by hand before I'm fully ripe. I take a long time to ripen and need at least 1 or 2 months in cold storage before I'm mature enough to be eaten. In fact, I have excellent keeping-qualities and am the only variety of pear that can be stored through the winter – this makes me popular with the growers and grocers who call me their **winter pear**.

When you buy me I may still be a bit hard – gently press against my stem end, if it gives slightly I'm ripe and ready to be eaten. Not ready to eat me yet? Place me in the coldest part of your refrigerator and I'll keep. If I'm not ripe, just place me in a paper bag on the counter (or your teacher's desk) for a couple of days.

**Pear = high fibre, low fat,
lots of vitamin C
& potassium**

Try this brainteaser ...

Pairs or Pears?

**Twelve pairs hanging high,
Twelve knights riding by,
Each knight took a pear,
And yet left a dozen there.**



**Don't judge
a pear by its
colour**

Since their
lovely shade
of red or
yellowish-
green doesn't
change as they
ripen, and both
colours taste
the same, you
really can't
judge an Anjou
by its colour.

Some pears are
brown or have
spots called
russeting.

This occurs
naturally, don't
peel the skin,
just bite in and
enjoy.



Farm = Food

What is a Farm?

The dictionary describes a farm as 'an area of land and the buildings on it, used for growing crops and rearing animals.'

But this doesn't tell us how big a farm is or what a farm looks like. Is a farm run by one person or many, is it owned by a family or a business, is it a barn or many buildings? The answer is: all of these things! A wheat field is part of a farm, so is a fruit orchard and a greenhouse.



A farm is no set size. A farmer decides the right size for his farm to be to meet his own purpose and needs.

Long ago farmers developed a standard system of measurement of land called an **acre**.

It's from an old English word **aecer**, meaning **open field** and was used to describe the area a farmer could plough behind an ox in one day. Since farmers ploughed at a different pace this wasn't ideal, so it was standardized it into a measurement based on the length and width of a field using a rod (like a ruler).

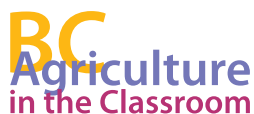
1 acre = 4,046.86 square metres
(that's about the same size as 16 tennis courts)

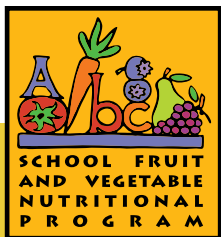
The other measurement used for land is the metric measure **hectare**. A hectare is 100 metres x 100 metres and is larger than an acre. **2.5 acres = 1 hectare**

Picture this...a shopping mall with a large parking lot filled with about 200 cars = 1 acre.

Take a walk on your school playing field ...walk 80 big paces from one corner of the field, then turn and walk across another 80 big paces - you've just covered about 1 acre.

80





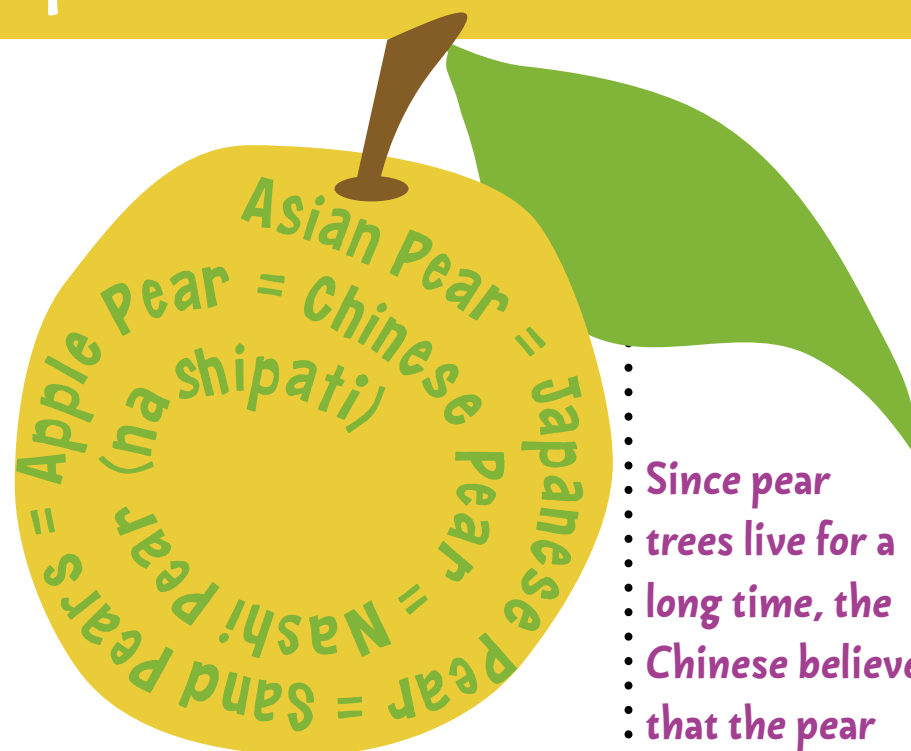
The Scoop on this Week's Snack!

Pear or Apple?

With so many names and similarities to apples, Asian pears are a bit of a mystery. Are they a pear, apple, or a hybrid of both? Mystery solved - Asian pears are botanically true pears! Here are a few facts to help you sort it out:

🍏 **Pears can be divided into two** simple categories: European and Asian. Asian pears are uniform in colour and shaped more like apples, with a completely different texture and taste from European pears. Both are a great source of vitamin C and fibre.

🍏 **Like apples, Asian pears** are left to ripen on the tree before picking. When you get them home, they're ripe and ready to eat. Their skin colour and crisp texture remain unchanged after picking and they'll keep for months in a paper bag in the refrigerator. That's the cold chain keeping them fresh and fresh tasting!



🍏 **An Asian pear** may feel rock-hard but it can easily bruise in the packing, or shipping process – a stretchy, net-like 'jacket' protects its delicate skin.

🍏 **Unlike European pear varieties** that soften as they ripen and yield to gentle pressure of your thumb, ripe Asian pears are extremely firm. What's the best indicator of ripeness? Use your nose – your Asian pear should have a fairly strong and sweet aroma.

How would you describe the texture and taste of your Asian pear?

The Chinese have cultivated these crunchy pears for more than two thousand years. The most popular types grown in BC are the **20th Century Fancy** and the **Kosui Fancy**. (The word Kosui means 'good water' in Japanese).

• Since pear trees live for a long time, the Chinese believed that the pear was a symbol of immortality. The Chinese word "li" means both "pear" and "separation". For this reason, tradition says to avoid a separation, friends should never halve and share a pear.



Our farmlands are a precious resource...

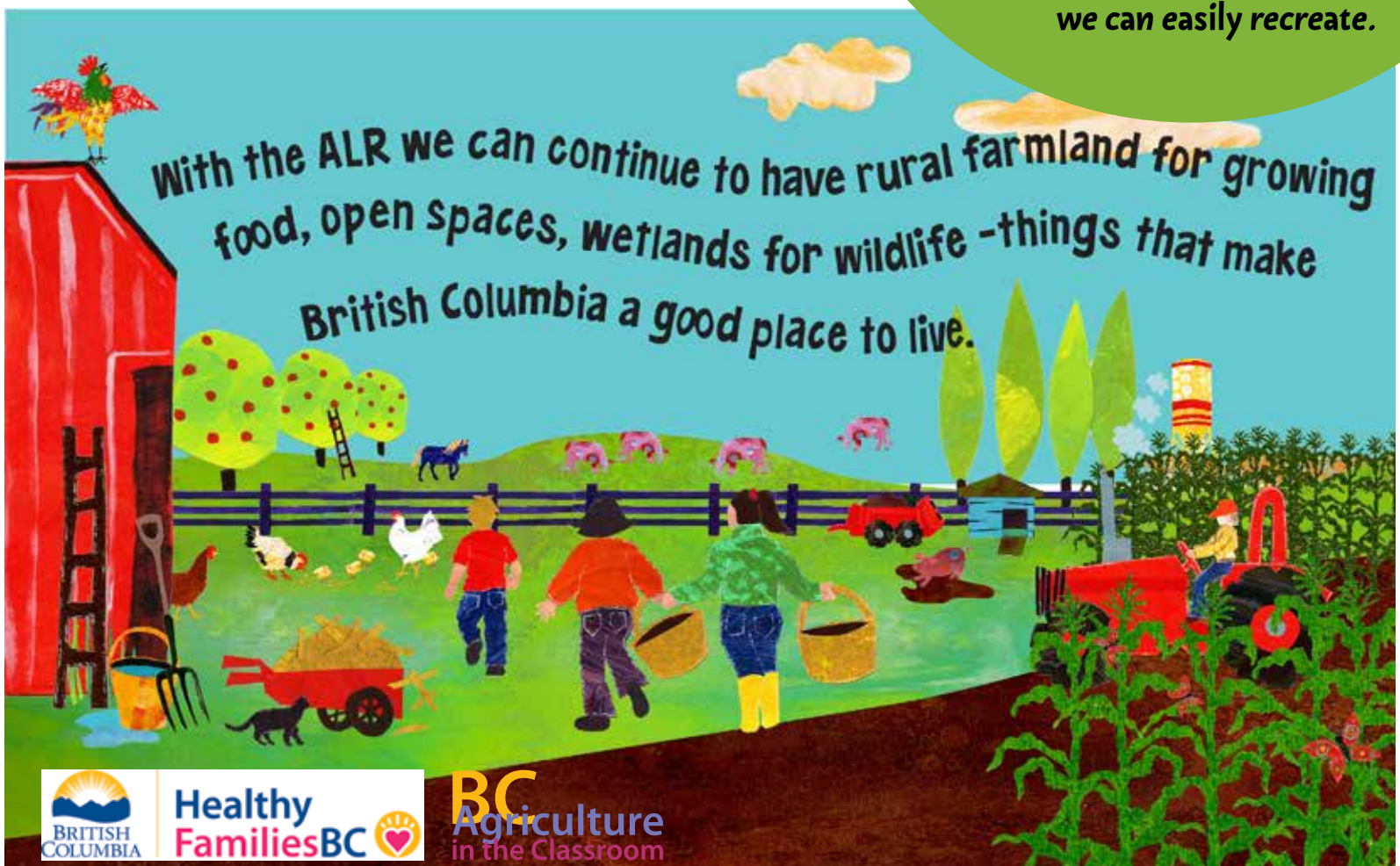
Imagine visiting the countryside and not seeing cornfields, pumpkin patches, cows grazing, fresh cut hay or rows of fruit trees? Imagine no wetlands or green space for birds and other wild animals to feed and make their nests. There might be buildings, houses, shopping malls and roads there instead. Can we grow our food on parking lots?

What is agricultural land? Wherever we work on agriculture – on the farm and at the ranch, even in the forest, is agricultural land. What makes good agricultural land? Good soil. Once soil is paved over it cannot easily be turned back into farmland again.

As cities and towns grow, buildings and roads spread into neighbouring farmlands. Wouldn't it be great if we could draw a line around all the farms and nothing could cross that line? That's just what the province of BC did in 1973 when it created the Agricultural Land Reserve (ALR). We mapped out all of the lands being used for farming. Within these zones, farms of all types and sizes are recognized as the priority use of that land. Now, crucial farmland is preserved and urban growth is controlled.

Why do we need the ALR?

BC has spectacular landscape, but there is limited space for agriculture. Only 5% of BC's land is suitable for farming. Fertile soil takes thousands of years to develop requiring the right combination of climate, geology and biology. It is not something we can easily recreate.



MIND BENDER...

WHAT DO YOU THINK IS THE MEANING
BEHIND THIS OLD ENGLISH PROVERB
"PLANT PEARS FOR YOUR HEIRS"?

WE THINK IT'S PRETTY COOL THAT
ALL OF CANADA'S COMMERCIAL
GROWN D'ANJOU PEARS COME FROM BC
ORCHARDS.



MEET JOHN CASORSO AND HIS BROTHER ROB, OKANAGAN PEAR GROWERS...

Our farming roots go back. Way back.

In 1882, our great-grandfather started up a farm near Kelowna. Since then, many of our family members have carried on farming. For much of the past 30 years, we've been in charge, growing Bartlett, Bosc and d'Anjou pears.



John and Rob Casorso, Okanagan Pear Growers

Pear farming is a true family affair and we hope that our own grandchildren will take over when we retire. It's a family operation with three generations together helping out. Our ancestors were one of the first families in the Okanagan Valley. Those living in Kelowna will know Casorso Road, named after our grandfather! Since pear trees produce fruit for as long as 100 years, we could be harvesting pears from trees planted by our great-grandfather and grandfather — that's the ultimate in long-term sustainability.

What challenges did our grandfathers and other BC farmers of their generation face? Trucks and trains weren't refrigerated as they are now and cold is key when it comes to keeping tree fruits fresh, especially pears. Also, road conditions were completely unreliable. In those days farmers worked more or less on their own. Today we combine our skills and efforts with the 580 other grower families in the BC Tree Fruits Cooperative. We also collaborate with the Pacific Agri-Food Research Centre in nearby Agassiz and Summerland. Here they study ways to keep plants healthy by protecting them from insects and a wide range of bacteria. The centre also researches and develops new and delicious fruit varieties — created specifically to thrive in our marvelous, magical Okanagan climate.

We take great pride in the fruit we grow, and as one of Kelowna's long-time families, look forward to continuing to do so for years to come.

SKETCH THIS
BRAinteaser OUT
ON A SHEET OF PAPER...



PAIRS OR PEARS?

TWELVE PAIRS HANGING HIGH, TWELVE KNIGHTS
RIDING BY, EACH KNIGHT TOOK A PEAR,
AND YET LEFT A DOZEN THERE.

BONJOUR, MY FULL NAME IS
"BEURRE D'ANJOU", WHICH IS
FRENCH FOR "BUTTERY PEARS OF
ANJOU" (AWN-JOO), A REGION
IN FRANCE.



Photo courtesy of BC Tree Fruits Limited

The Double Scoop on
this Week's Snack!

PEARS

GET TO KNOW YOUR PEARS

PEARS HAVE BEEN AROUND SINCE THE STONE AGE. Records from the first century show that there were 38 different types of pears in cultivation by the Romans. Today there are over 3,000 varieties. We will be serving you 4 types of pears this year, each with its own unique qualities. Get to know your pears, pick your favourites.

D'ANJOU

- REFRESHINGLY SWEET AND JUICY WITH A HINT OF CITRUS
- LARGER, EGG-SHAPED, STAYS LIGHT GREEN EVEN WHEN RIPE

ASIAN

- ROUND SHAPE, WITH THE CRISP, FIRM, TEXTURE OF AN APPLE
- VARIES IN COLOUR FROM GOLDEN YELLOW TO RUSSETED GREEN

BARTLETT

- SIGNATURE PEAR FLAVOUR WITH TONS OF JUICE
- SWEET AND BUTTERY, ALMOST TRANSLUCENT ON THE INSIDE
- CLEAR, YELLOW SKIN WHEN RIPE

BOSC

- TEAR-DROP SHAPE WITH LONG NECK
- NATURALLY OCCURRING RUSSET GIVES IT A GOLDEN COLOUR
- CRISP AND WOODSY WITH A HONEY SWEETNESS

MAP IT OUT...

THERE ARE 3 MAJOR PEAR GROWING REGIONS IN BC: THE **Okanagan**, **Similkameen** & **Kootenay Valleys**. WHICH IS THE LARGEST?



THE **Okanagan valley** IS DEFINED BY THE BASIN OF **Okanagan Lake** AND THE **Okanagan river**. THE INTERIOR SALISH (THE REGION'S FIRST INHABITANTS) GAVE THE OKANAGAN ITS NAME, WHICH MEANS "PLACE OF WATER". WHERE WOULD YOU FIND CASORSO ROAD IN THE **Okanagan valley**?



Similkameen valley IN THE SOUTHERN INTERIOR OF BC EXTENDS ALONG THE CROWSNEST HIGHWAY FROM THE GOLD RUSH HERITAGE TOWN OF **Princeton** (EAST OF HOPE) TO THE TOWN OF **Osoyoos**. THIS RICH GROWING REGION IS HOME TO THE TOWN OF **Keremeos**, KNOWN AS THE "FRUIT STAND CAPITAL OF CANADA". ADD **Princeton** & **Keremeos** TO YOUR GROW BC MAP.



Kootenay valley WINDS ITS WAY THROUGH THE **monashee mountains** AND **Selkirk mountains** BETWEEN **North Kootenay Lake** AND **Creston**. THERE'S A LONG HISTORY OF AGRICULTURE ALONG THE **Kootenay River**. IN WHAT DIRECTION DOES THE **Kootenay river** RUN?

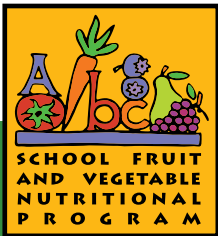
DO THE MATH...



Unlike most fruit, pears do not fully ripen well on the tree and need to be picked by hand while still slightly hard. Timing is key. With hundreds of acres of orchards to harvest, a grower needs to determine when their fruit is just near ripe. Some growers count days from bloom to harvest as a guideline for predicting when their pears will be at peak maturity.

The optimum maturity time from bloom to harvest is 115 days. Let's say it was a cool spring and the Casorso brothers' orchards bloomed on May 20th.

When would the Casorso brothers begin harvesting this season's pear crop?



The Scoop on this Week's Snack!



Pea Pods Snap!

There are three types of Peas...

Garden Peas have tough, curved pods with the green, round peas inside. These shelling peas have been cultivated in Asia for over 8,000 years. In those days they only ate dried peas. Pea soup was sold on the streets of ancient Athens and in the Roman theatre they ate fried peas like popcorn. It wasn't until much later when the Europeans discovered peas that they were eaten fresh.

Snow Peas are flatter than garden peas with an edible pod. Try holding a snow pea up to a light – you can see the shadows of flat peas inside.

Sugar Snap Peas with their crisp, snappy texture were developed in 1960 and are a cross between the **garden** and **snow** pea. Smooth with round, sweet peas inside, this new edible 'pod and all' variety is the sweetest pea in the bunch.

Can you guess why they named the peas your snacking on Sugar Snap Peas?

(Not only are they crunchy, they have the highest sugar content of any type of pea – just like candy, eating too many might give you a tummy ache)

Sugar Snap Peas are grown in the Fraser Valley and are cool-season-growers. They are harvested shortly after the flowering stage in August. Some, like the **Mammoth Melting Sugar** variety, grow on fine, tall-growing vines reaching nearly 2 metres high. They climb with tendrils growing from the tips of the leaves. Some varieties, like the **Dwarf Grey Sugar**, grow on low bushes.

Since we can't grow them in our winter climate, the Sugar Snap Peas you're snacking on were imported from Mexico. Next summer, remember to try locally grown BC Sugar Snap Peas.



String it,
Snap it, and
Crunch it!

The shell is delicious but some people don't like eating the string that holds the pod together. No problem – pinch the stem end, bend it till it snaps, then pull the string along the inside curve of the pea till it comes off the other end.



Little Marvel • Sugar Sprint • Sugar Ann • Sweet Snap • Butter Sugar



Bring on the Predators...



It's not an easy life for a Sugar Snap pea plant. A lot of insects like to eat us. **Seedcorn maggots** burrow into our seeds destroying them before we even have a chance to grow. The larvae of **pea leaf weevils** feed on our roots, while the adults chew our leaves. **Spider mites** suck out our leaf juices while the **caterpillar larvae** of **pea moths** feed on the peas of our ripening pods. The best chance for a successful harvest is for the farmer to attract predator insects and mites. **Predator mites**, **pirate bugs** and **ladybugs** dine on the **aphids** and **spider mites**. **Ground beetles** help keep the maggots and caterpillars under control. Now we can make it to harvest!

Farmers often have to share their crops with uninvited guests. They call these crop-damaging insects **pests**. They're only considered **bad** because

they just happen to eat the farmer's crops. Since some bugs eat other bugs, farmers use these beneficial insects and **arachnids** like **mites** to help protect their harvest. Rather than destroying all the insects, a farmer finds ways to use his friends, the beneficial insects, to control insect pests. The farmer can protect his peas by shifting his planting and harvesting dates to avoid the times when **pea moths** are flying and looking for egg-laying sites. He can also grow companion crops alongside his peas to feed and attract predator bugs and give them homes in his greenhouses.

Beneficial bugs perform a valuable service to farmers by pollinating plants and preying on pest insects. **Pollinator bugs** like **bees**, **butterflies**, **moths**, and **beetles** help plants grow by pollinating them. **Predator bugs** eat insect pests that harm crops.

Some predator bugs have some pretty cool names. Can you match them up in the word scramble?

dabulgy

idg ydee gbu

pinyrag inmsat

veohr lfy

geern cianewlg

sriedp

dsriloe beleet

sassaish gub

reov eetble

niemut pratie ugb

Minute Pirate Bug

Green Lacewing

Assassin bug

Soldier Beetle

Hover Fly

Praying Mantis

Spider

Rove beetle

Ladybug

Big Eyed Bug

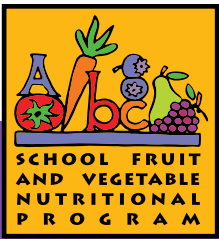
During her lifetime of about 1 year one little ladybug may eat as many as 5,000 crop-destroying aphids. No wonder farmers love them and call them **beneficial bugs**.



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The Scoop on this Week's Snack!

THUMBS UP FOR PLUMS...

A member of the rose family, plums are very close cousins to apricots, peaches, apples and pears. Like other brightly coloured fruits, plums pack a big punch of vitamins, minerals, phytochemicals, fibre and antioxidants – those wonderful things that keep you healthy and strong. In BC we grow European or Japanese (though they are actually from China) plum trees. European types, like the ones you're snacking on, are either small, round reddish sweet plums or oval shaped purple prune plums. Which type did you get?

Before you bite into your sweet, juicy plum, let's take a closer look...

Hiding within the centre is a flat oval-shaped pit surrounding a seed. That's why a plum is called a stone fruit. Can you think of 3 other stone fruits?

1. _____ 2. _____ 3. _____

Now we know that a plum has a 'stone' did you also know that it has 'cheeks'? Like us, a fruit has anatomy, or names, for its body parts.

Pit or Stone: The pit supports the fruit as it hangs from the stem. It also provides a route for nutrients to flow from tree to fruit.

Stem End: The end of the fruit that was attached to the tree. There may still be a stem attached to your plum.

Is your Plum firm, with a little 'spring'? If your plum is perfectly ripe the dark blue or red skin should be not too tart and the yellow flesh sweet and soft. At the orchard your plum was left to ripen on the tree before it was picked, then kept cold so that when it gets to you it's just ripe for snacking.

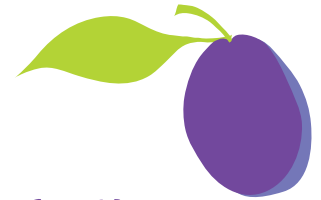
Tip or Blossom End: The opposite end.

Suture: The line, or depression that runs from 'stem' to 'tip'.

Cheeks: The sides of the fruit on either side of the 'suture'.

Shoulders: The bulge around the top of the fruit that becomes rounder as the fruit matures.

Flesh: The edible part beneath the skin.



Go Ahead, Rub it in!

Do you notice a dusty grey coating on your plum? Like most fruits, mature plums develop a coating of plant wax called 'bloom' while still on the tree. This is nature's way of protecting the fruit from dehydration. No need to wash it off, just give it a good rub on your pants or sleeve and watch it shine.



Plum Pickings

The perfect plum you're snacking on got its start on a tree. A farmer, or grower, planted a plum tree then waited for at least 5 years for it to bear fruit. To make it easier to care for his trees and harvest their fruit he planted them together in groups called orchards. Here's what happened next in the orchard...



A Year in the Life of an Orchard

Winter: These are the 'chill hours' when the trees rest. While the tree is dormant, the farmer keeps busy pruning his trees to make them hardier and to increase their fruit yield.

Spring: Warm days awaken the trees and they come to life with a blanket of white blossoms. This is called the **bloom stage** and the bees and other insects must work quickly to pollinate the fragrant blossoms – the bloom stage lasts just over a week. The blossoms fall and the buds form, these are the beginnings of the fruit.

Summer: This is the busiest time for tree and grower. While the fruit is growing, the farmer is busy with irrigation, pest control and light pruning – all to help the fruit grow to maturity. At the peak of summer the first plums are nearly fully coloured and ready for harvesting. Each plum is harvested by hand then taken to a packing facility where it is shipped to local markets. Since the fruit ripens at different times each tree may go through several pickings.

Fall: Things are quieting down in the orchard as only a few late varieties of fruit remain to be harvested. Now the grower spends his time working on autumn tasks such as weeding, cleaning orchards and preparing equipment. Some trees that did not produce a good yield may need to be grafted or replaced.

Let's have some fun with these plum tongue twisters:

The first one, in Japanese, plays with the words **Sumomo** (plum) and **momo** (peach), and **mo** for 'and' and 'also'. (English: "Plum and peach are both in the peach family")

Sumomo mo momo mo momo no uchi

Now for an easy one — until you say it three times fast!

Please prune plum trees promptly

1 mature plum tree = 30 lbs of plums
20 to 30 years = life expectancy of a productive plum tree



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PRUNUS & DRUPES PLEASE...

PLUMS BELONG TO THE PRUNUS GENUS OF PLANTS AND ARE RELATIVES OF THE PEACH, APRICOT, NECTARINE AND ALMOND. ANY FRUIT THAT HAS A HARD STONE PIT THAT ENCLOSES ITS SEED IS CALLED A 'DRUPE'.

I THINK I HAVE A
'PLUM JOB'.



MEET JORA DHALIWAL, PLUM GROWER FOR BC TREE FRUITS.

Our family farm is in the Okanagan Valley. Why the Okanagan Valley?

With endless days of summer sun, pristine water for irrigation, along with rich, fertile soil, the Okanagan has a magical combination of conditions for growing the best fruit trees. That's why half of prune plums produced in Canada are grown in BC. We think they are some of the most delicious in the world.

Fruit has been part of the Okanagan Valley since before anyone of us growers can remember. The indigenous people picked wild crab apples, strawberries, thimbleberries and pin cherries. When European settlers arrived in the early 1800's, they found a perfect produce paradise. Lucky for us many of them thought to bring fruit grafts in their covered wagons giving us a head start on the orchards we harvest today.

I came to the Okanagan in 1981 and like many before me decided this was the perfect place to realize my dream of becoming a fruit grower. First, I needed experience and knowledge of farming techniques,

so for many years worked for other growers. In 1999 I was ready and purchased my own orchard in Kelowna. Our orchards have grown over the years and today, along with prune plums, we harvest cherries, peaches, apricots, pears and apples.

Long hours in the orchard doesn't leave much time for the business side, so many years ago a group of local growers joined together to form the **Okanagan Tree Fruit Cooperative**. Using strength in numbers, the co-op provides expertise in promoting,

technology, packaging, distribution and transportation. Now we have time to do what we do best, nurture our orchards to create the best produce possible. Today there are over 580 grower families in the BC Tree Fruits co-op.

What's my favourite part about being an orchardist? Working outdoors and the pride I feel when others, like you, enjoy my fruit.



Jora Dhaliwal, BC Tree Fruits

The Double Scoop on
this Week's Snack!

Prune Plums

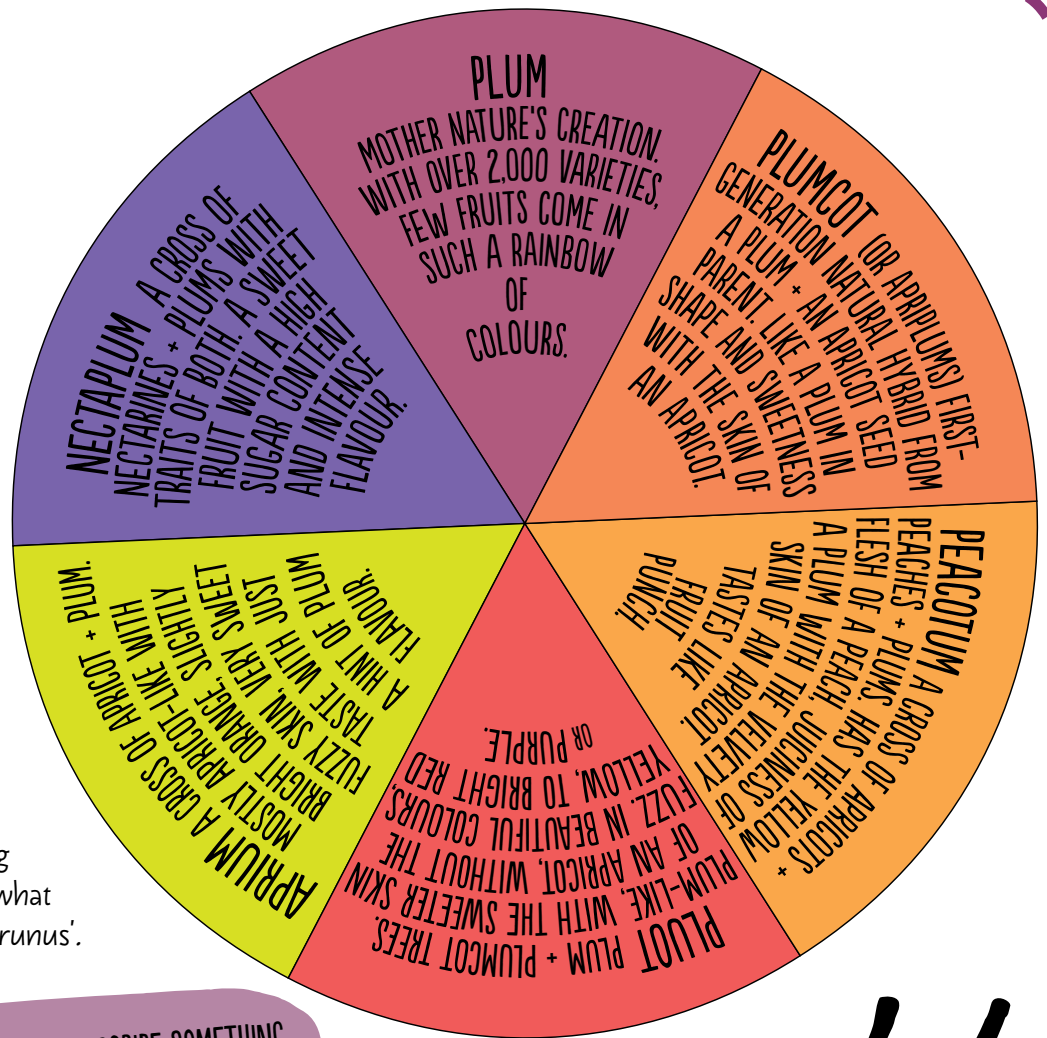


BEHIND EVERY GREAT FRUIT
IS A GREAT GROWER.

PLUM PERFECT

Take a plum and an apricot tree, put them together, and what do you get? Plum imposters in shades of yellow, green and purple, along with bright orange apricot look-alikes smudged with a peachy-red blush. These plum cousins, fruit grown from cross-pollination of 2 plants of the same species or 'genus' are called 'hybrids'.

Fruit breeding is a natural process where breeders and growers 'play' bees, taking pollen from one selection of fruit and combining it with another. It can take many generations of plants to get the ideal fruit. It's a bit like mixing paint in a colour wheel...take a look at what growers have created from a parent 'prunus'.



PEOPLE OFTEN USE THE WORD 'PLUM' TO DESCRIBE SOMETHING GOOD. THAT MAKES SENSE - SINCE OKANAGAN PRUNE PLUMS ARE AS GOOD AS IT GETS.

MAP IT OUT...

ON YOUR GROW BC MAP, YOU WILL FIND MOST OF THE COMMERCIAL PLUM AND OTHER SOFT FRUIT GROWERS IN THE **okanagan**, **similkameen**, AND **kootenay valleys**. WHAT IS THE LANDFORM OF THE OKANAGAN VALLEY?

FIND THE **2 major lakes** THAT PROVIDE IRRIGATION FOR THESE TWO PLUM GROWING AREAS.

FIND JORA DHALIWAL'S FAMILY FARM IN **kelowna** ON YOUR GROW BC MAP.

WHAT'S ANOTHER FRUIT CROP THAT THRIVES IN THE GROWING CONDITIONS OF THE PLATEAUS OF THE **okanagan valley**?

DO THE MATH...

A grower like Jora Dhaliwal can harvest up to 300 pounds of raw fruit per growing season from one healthy plum tree.

If his orchard has 12 rows of plum trees with 20 trees per row, can you estimate how many pounds of plums Mr. Dhaliwal could harvest this season?



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NAME: _____

My Sensational
Snack Notes for: _____

5 SENSES



HEARING, TASTE, SIGHT, SMELL, TOUCH

We have 5 ways of sensing the world around us: hearing, taste, sight, smell and touch. Have you ever thought how eating incorporates not just our sense of taste, but all of our senses? We often like a certain food as much for how it makes us feel as how it tastes.

Let's take a moment to really look at today's snack – admire its shape, size, colour and texture. Think about how it started as a tiny seed and the journey it took to get to your classroom. Use your nose and smell it first so your mind and taste buds can anticipate what's to come. Don't rush, take your time to explore all the sensations of your snack.

Write down the first thing that pops into your mind when you first see or hold your snack in your hand (That's your food connection). _____

Now, describe it to a friend **without** saying its **colour** or **shape**. Talk about how it grows, how large it is, how you eat it. ... Use strong, visual adjectives.

Describe the colour on the outside. What does it makes you think of?

Describe the size, shape and feel of your snack. Does it remind you of anything?

Does your snack have a smell? Is it strong or mild?

Art Still Life



OUTSIDE - DRAW TODAY'S SNACK IN ANY FORM – ON THE PLANT, PLATE, PORTIONED, WHOLE, OR IN A BUNCH.

FIRST, CLOSE YOUR EYES AND IMAGINE WHERE AND HOW IT GREW. CAN YOU SEE THE FRUIT ON THE TREE OR VINE, OR THE VEGETABLE BELOW THE GROUND?

INSIDE - AFTER YOU'VE TAKEN A BITE, OR FINISHED YOUR SNACK, DRAW A PICTURE OF WHAT IT LOOKED LIKE ON THE INSIDE, OR THE PART LEFT OVER THAT YOU DIDN'T EAT.

OUTSIDE

INSIDE

GO AHEAD
TAKE A BITE...

Now look at the inner structure of your snack.
Is the colour or texture different on the inside?



Smell your snack again. Did it change? Is the aroma stronger,
milder or sweeter? Does it remind you of anything?



Close your eyes and listen...Do you hear anything when
you bite into and chew your snack?

My Sensational Snack Scale

Use the chart below to rate
your snack on a scale of 1 to 5

1 = no thanks, not for me 5 = OMG best snack, EVER!
(circle one number for each category)

Flavour	1	2	3	4	5
Juiciness	1	2	3	4	5
Crunch Factor	1	2	3	4	5
Overall Impression	1	2	3	4	5

Add up the numbers
for your sensational
score for this snack.

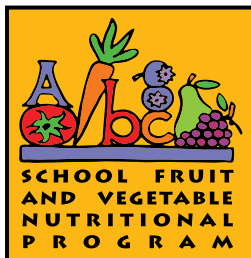
Total _____

TEAR ALONG LINE AND TAKE HOME

Today at school for snack I tried _____ and really liked it.

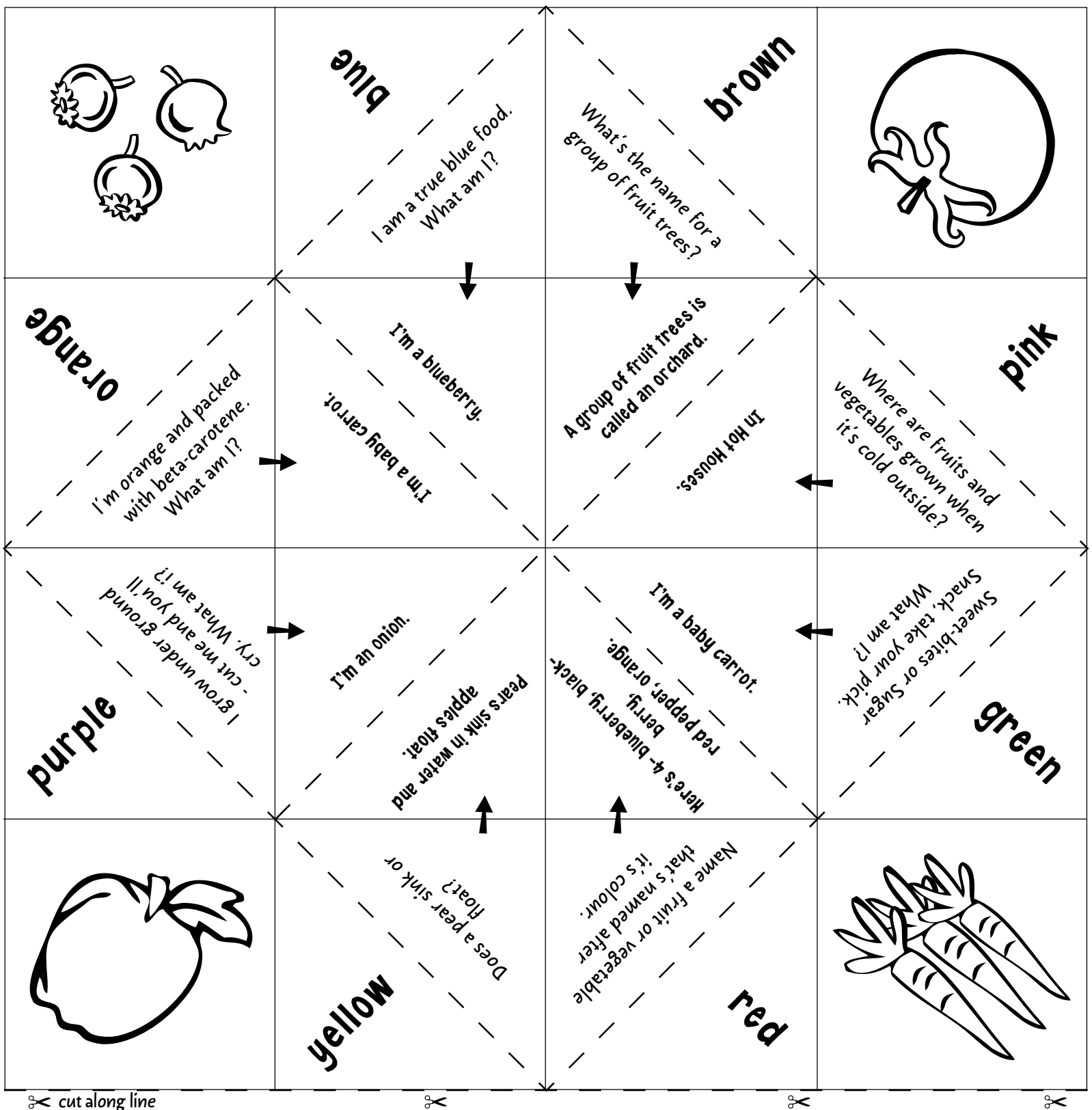
I gave it a sensational score of _____

We should try it at home sometime _____ yes _____ no



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BC
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How to make your BCSFVNP Fortune Teller

Before you fold your fortune teller, brighten it up by colouring in the snacks and each of the colour triangles.

Step 1

Start with your square piece of paper, picture facing down. Fold on both diagonal dotted lines. Open the paper; the folds should form an X.

Step 2

Fold all 4 corners toward the centre so the points meet in the middle.

Step 3

Flip it over so the folded side faces down. Again, fold all corners so the points meet in the middle. You're square will be smaller now.

Step 4

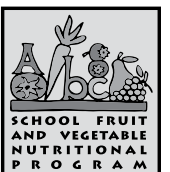
Fold the square in half and unfold, then fold in half from top to bottom to loosen it up. Now you can slide your thumbs and forefingers under the squares to move the fortune teller back and forth.

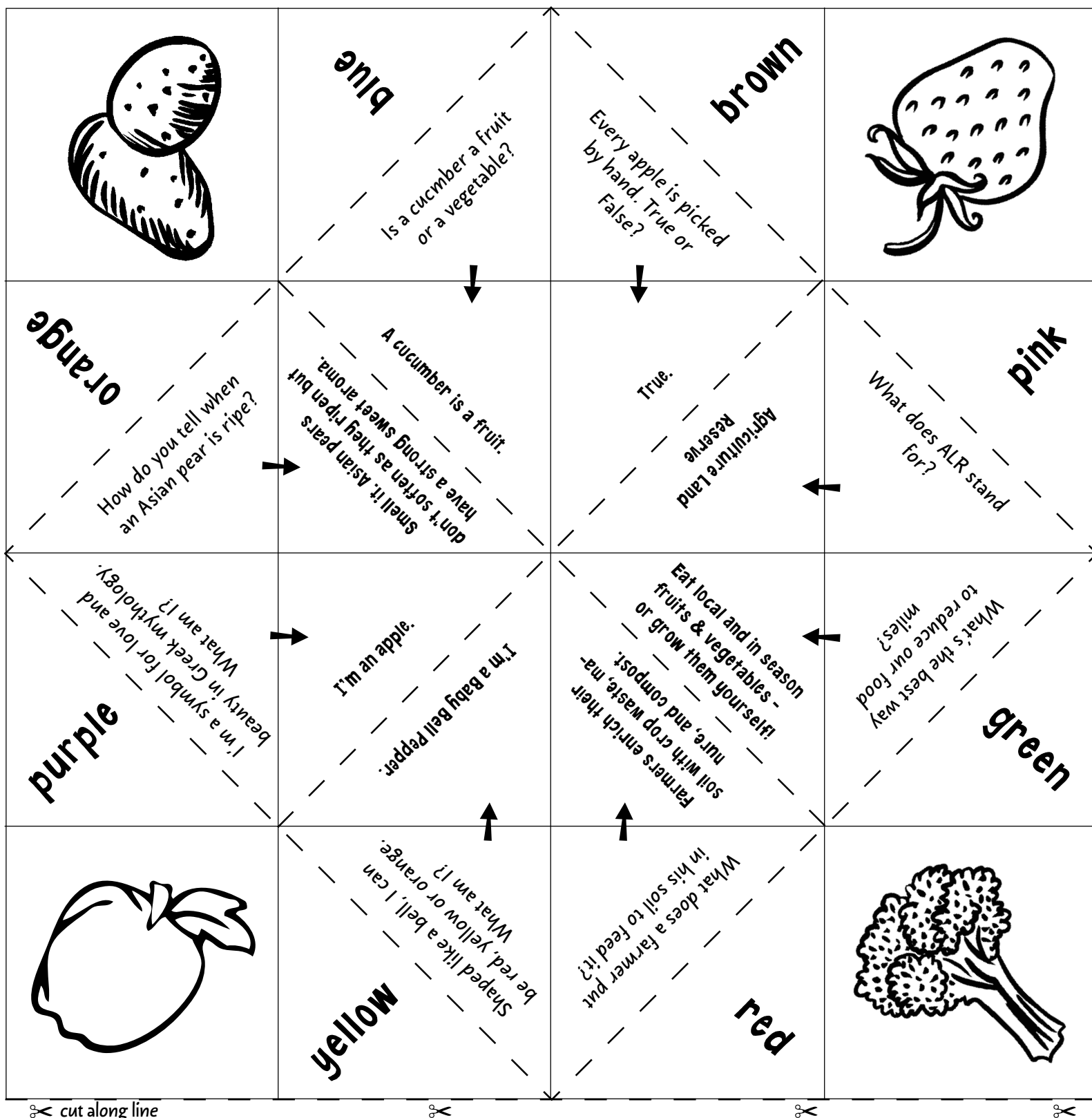
Now you're ready to play! Start by asking your partner to spell out a fruit or vegetable. Then have them spell out their favourite colour – two times for luck. Lift up their 2nd colour flap and ask them their snack question.



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✂ cut along line



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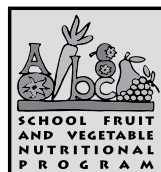
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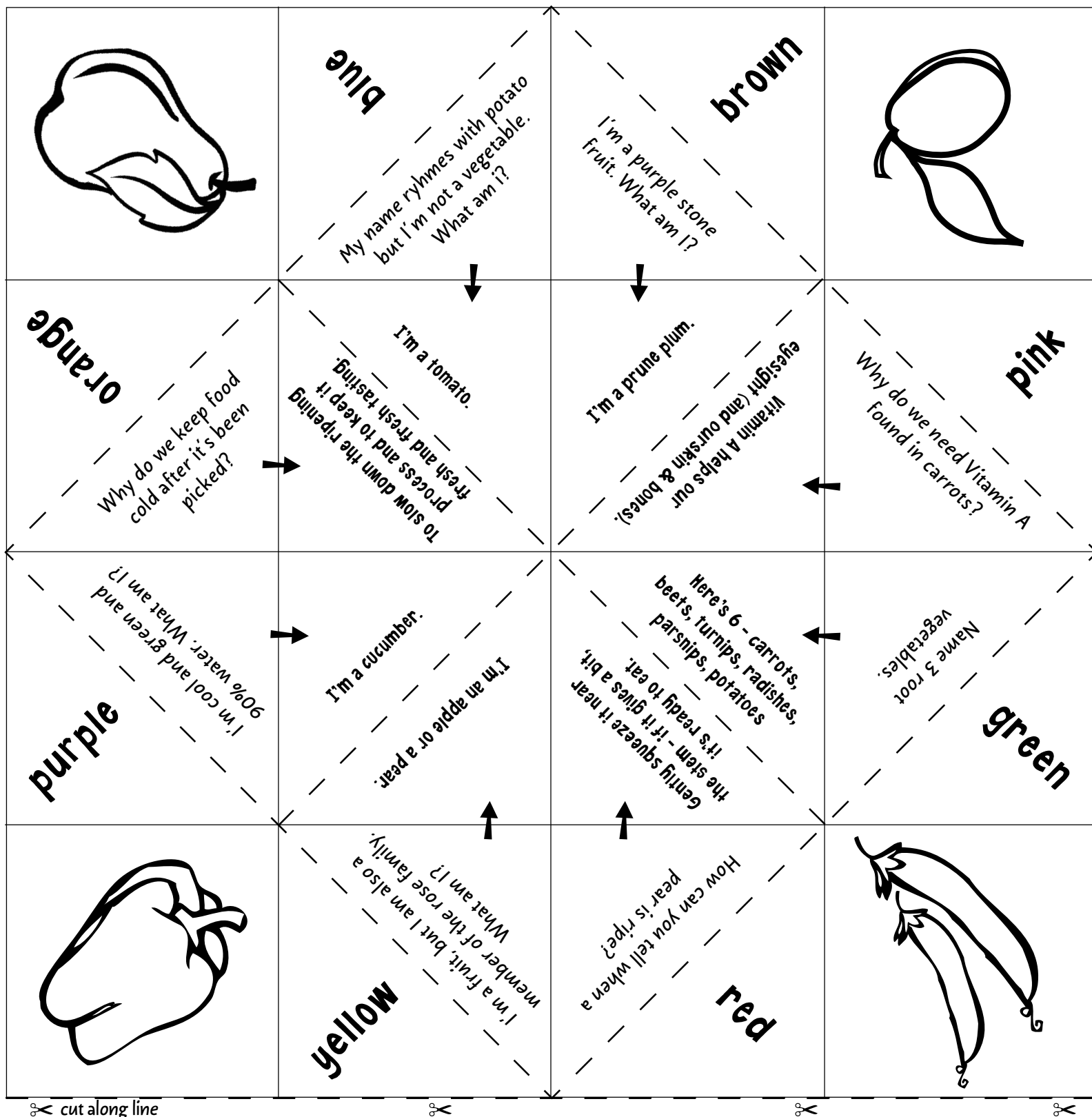
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✂

✂

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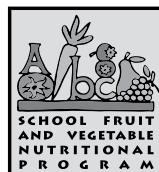
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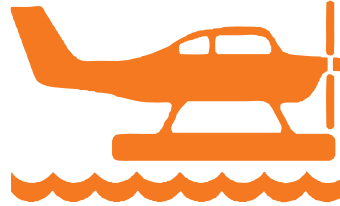
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Working Together to Bring BC's Agriculture to Our Students



Transport Trucks



Small Planes



Growers



Commercial Barges
& Ferries

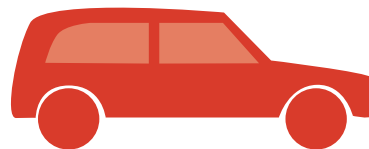


Grocery Stores



Warehouses &
Processing Plants

Teachers,
Students
& School
Volunteers



Volunteer and
Professional Drivers