



A PEPPER RAINBOW

Mini peppers aren't baby peppers. They come from a special variety of plant that grows small peppers. Not only are they just the right size for snacking on, they're also sweet, crunchy, and colourful too. Did you know that all peppers start out green? As they ripen, they turn bright yellow, orange, red, or even purple. Now is your chance to try one!



FRUIT OR VEGETABLE?

Fruits are the part of a plant that contains seeds; vegetables are any other part – its leaves (like spinach), its roots (like carrots), or its stems (like celery). Are peppers fruits or vegetables? Look inside for a clue. Do you see any seeds? Yup! Most people think peppers are vegetables, but now you know they're fruits.

WHAT'S IN A GREENHOUSE? LOTS OF GREEN PLANTS!

Some plants, like peppers, wouldn't survive growing outside in our cold climate. That's why almost all BC peppers are grown in greenhouses. If you could peek through the glass, this is what you'd see ...

Bright, Shiny Green Leaves

A thick, leafy top helps the pepper plant absorb sunlight, which it turns into energy.

Long Green Stem

The plant's tall stem is like a highway, transporting energy between the leaves and the roots.

Containers Holding Small Roots

Greenhouse peppers are grown in water. Because they don't have to dig through soil, they only need small roots. The roots absorb the nutrients from the water.

Loads of Peppers!

Bright green, yellow, orange, and red peppers cling to leafy stems, many hidden under leaves.



IT TAKES A LOT TO GROW GREENHOUSE PEPPERS

SUNLIGHT is nature's perfect plant food. A glass ceiling and sides let the sunshine in but keep the cold and rain out.

WATER drips onto each plant's roots. Mixed into the water is a perfect blend of **NUTRIENTS**: all the minerals a pepper plant needs to grow.

There is **NO SOIL** inside a pepper greenhouse! Instead, plants grow in bags of sawdust or coconut husks that hold the nutrient-filled water.

Greenhouses combine **HEAT** and **MOISTURE** to create a pepper plant's favourite growing environment: warm, like a summer day, and moist, like a tropical rain forest.

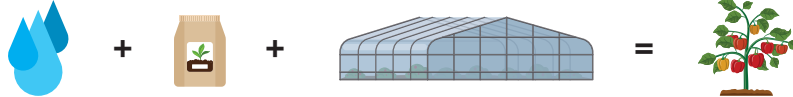
Plants need a gas called **CARBON DIOXIDE**. Growers add just the right amount of carbon dioxide to the greenhouse to grow healthy plants.

In BC's greenhouses, almost all peppers are grown using hydroponic systems. Hydroponics is the practice of growing plants using only water, nutrients, and a growing medium – but no soil. Growing vegetables, flowers, and herbs hydroponically is very efficient: crops need less water, less space, less chemicals, and a shorter growing time than crops grown in soil.

ACTIVITY: CREATE A HYDROPONIC EQUATION

Curriculum Connection: Science - grades 1 to 3: Demonstrate an understanding and appreciation of evidence.

Review "It Takes a Lot to Grow Greenhouse Peppers" on the student side of the sheet with your class, then ask students to write and illustrate an equation for how peppers can be grown hydroponically. For example: peppers = nutrient-rich water + coconut husks + greenhouses



WATER + NUTRIENTS + GREENHOUSE = PEPPERS

ACTIVITY: MAKE A MINI PEPPER BLENDER DRINK

Curriculum Connection: ADST - grades 1 to 3: Make a product using known procedures or through modelling of others.

Teachers: this activity is divided over two days to allow you adequate prep time.

If a mini pepper plant can get its energy to grow from nutrient-rich water, can students get energy from a mini pepper drink?

Day 1: With a partner, have students discuss and create their own sweet mini pepper drink recipes. Here's the twist: the secret ingredient the students must include is water. Have students share their ideas with the class, then list their proposed ingredients and instructions on the white board. Divide the ingredients list among the class (e.g., apple, banana, carrots, or any other type of fruit or vegetable they suggest), and have students bring in their contributions the following day (teachers: you will need to bring in a blender, any additional mini peppers required, and a can of pineapple).

Day 2: Make the following recipe, and have students add their ingredients:

Base Ingredients

- 1 can (227 g) pineapple chunks
- 3-4 mini peppers, seeded and chopped
- 2-3 cups water (possibly more, depending on the number of students in your class)

Directions

1. Wash hands, equipment, workspace, and fruits and vegetables (chop as required).
2. Combine all ingredients in a blender.
3. Blend until smooth.

After tasting the mini pepper drink, discuss with students how this beverage contributes to increased energy and nutrients.

MATH QUESTION

Curriculum Connection: Mathematics - grades 1 to 3: Use mathematical vocabulary and language to contribute to mathematical discussions.

Ask students what colour pepper they most enjoy eating raw. Record all of their answers on the white board. Ask students how they might organize the data. Then, have them prepare a report using comparative language.

Extend their thinking by asking further questions like: When is it important to know your favourite food? How might your report change with a different group of students?

PRETTY PEPPER VOCABULARY

Greenhouse: an enclosed building with a glass roof and sides that is used for the growth and protection of plants.

Hothouse: an artificially heated greenhouse for plants that requires an even, relatively warm temperature.

Hydroponics: a method used to grow plants in a nutrient solution rather than in soil.



FAMILY CONNECTION

Have students bring home their mini pepper drink recipes and try making them with their families.