

FROM BITE-SIZED TO SUPER-SIZED



Cucumbers grow in all shapes and sizes. Some varieties grow **loooooong**; others are as **tiny** as your finger. Some varieties have **smooth** skin; others are very **BUMPY**. Some varieties grow **STRAIGHT**; others are **CURVY** as a snake.

One thing they all have in common? They're fruits. You might think cucumbers are vegetables because they're green, but it's not about colour. Vegetables are a plant's roots, stems, or leaves. Fruits develop from the flower and hold the seeds. A cucumber may not look like a melon, pumpkin, or squash, but it belongs to the same plant family of fruits called gourds.



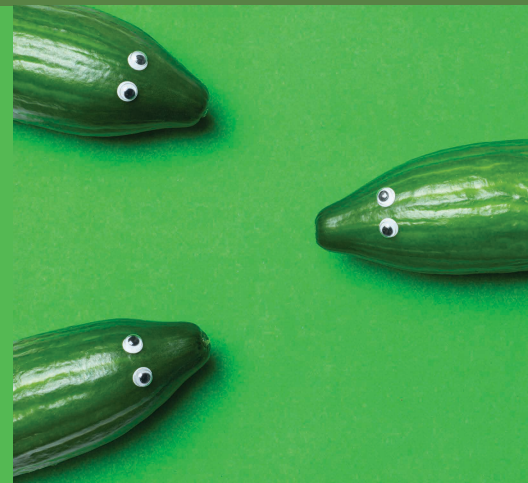
CUCUMBERS ALL YEAR ROUND

Cucumber plants are sensitive to cold, so farmers can only grow them outside in fields in the summer. Inside a greenhouse it's summer every day, so greenhouse growers are indoor farmers!

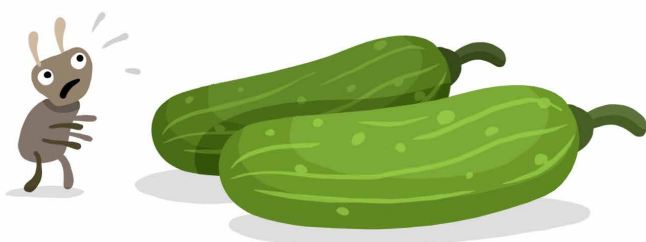
Cucumber plants grow really fast in the warm and humid environment of a greenhouse. Long, creeping vines wind up trellises or wires reaching for the sunlight. In summer, it gets so hot inside that farmers cover the sides with white plastic to block the sun. The plants grow so healthy and big that sometimes four crops can be harvested in one year – that means we can eat fresh BC cucumbers all year long.

NO MORE PEELING

When your grandparents were children, most of the cucumbers they ate had tough skins and hard seeds, and they had to be peeled and seeded. Many of today's varieties of cucumbers now have thin, tender, tasty skins, so we don't have to peel away important nutrients. As for the seeds, when you take a bite, look closely inside: you'll barely see any at all.



DID SOMEONE
CALL THE **GOOD**
BUG SQUAD?



HUNTER BUGS TO THE RESCUE!

We aren't the only ones who like to eat cucumbers. Some insects think they're a tasty snack too– especially the stems, leaves, and roots. Luckily, a greenhouse's glass sides, glass ceilings, and concrete floors stop most insects from flying, crawling, or digging in. Still, a few unwanted bugs sometimes manage to sneak inside. One of the best ways to protect plants from harmful bugs is with help from nature. Farmers release helpful predator bugs into their greenhouses to hunt and eat the bad bugs. With good bugs, farmers almost never need to use insect-killing chemical sprays on their cucumbers.

Meet the Good Bug Squad: ladybugs, tiny mites, and mini wasps.

Greenhouses allow growers to regulate the climate for their plants 24 hours a day. However, even though a greenhouse is a controlled environment, harmful insects can still enter through roof vents or on workers coming and going from the building. When these bugs infect or start to damage plants, BC Greenhouse growers use Integrated Pest Management (IPM) – a combination of techniques that work with nature to protect a crop – to keep pests at bay. This means BC’s greenhouses use little to no pesticides.

ACTIVITY: CREATE A CUCUMBER SURVIVAL CHART

Curriculum Connection: Science - grades 1 to 3: Living things are diverse, can be grouped, and interact in their ecosystems. Energy is needed for life.

Growers take many steps to deal with unwanted insects in a greenhouse:

1. **Keep a healthy crop:** a healthy plant is a grower’s best defence against pests and disease.
2. **Scout the bad bugs:** growers check plants regularly so that pests can be stopped as soon as they appear.
3. **Remove infected leaves:** growers clip off leaves that have pests and carefully remove them from the greenhouse.
4. **Bring in the good bugs:** growers release helpful, predator bugs – like ladybugs, mites, or wasps – to eat the bad bugs.

Discuss these techniques with students, then create a sample flow chart on the whiteboard showing the different steps a grower can take to protect their cucumber plants. Divide the class into partners and have students create their own flow charts, using arrows and illustrations.

ACTIVITY: FOOD CHAIN TAG

Curriculum Connection: Physical and Health Education - grades 1 to 3: Develop and apply a variety of fundamental movements skills in a variety of physical activities and environments.

The objective of this game is for students to create a food chain between the bugs and the plants.

Divide students into three groups and assign each group a coloured pinny, such as green, white, and yellow. Then, assign a role to each colour:

Green: cucumber plants

White: bad bugs, like whiteflies or thrips

Yellow: good bugs, like ladybugs, mites, or wasps

Have the yellow group be “it” and try to tag someone wearing a white pinny. When a yellow tags a white, they link arms. With arms linked, the yellow and white now try to tag someone wearing a green pinny to create a chain. When the chain is complete, the three students (yellow, white, and green) sit down. The game continues until the entire class is formed into chains.

MATH ACTIVITY

Curriculum Connection: Mathematics - grades 1 to 3: Standard units are used to describe, measure, and compare attributes of object shapes. Direct measurement with non-standard units.

Teachers: you will need an English cucumber for this activity.

Fun fact: Farmers only grow two kinds of cucumbers in greenhouses: English (seedless) cucumbers and mini cucumbers. English cucumbers are considered the classic cucumber, but mini cucumbers are enjoyed for their snacking size.

Estimate the length of an English cucumber, then have students measure it using standard and non-standard units. Next, divide the class into partners and have students estimate and measure how many English cucumbers tall they are. Can they think of any other objects in the classroom that might be about the same length as an English cucumber (e.g., a ruler)?

COOL CUCUMBER VOCABULARY

Food Chain: the order in which living things depend on each other for food.

Predator: an animal that lives by hunting other animals for food.

Scouting: exploring or searching an area to find something.

Trellis: a framework to support growing plants or vines.



FAMILY CONNECTION

Ask students to estimate and measure the height of the tallest and shortest person in their family using a non-standard unit (e.g., an English cucumber or a banana) and a standard unit (e.g., metres).