



PLANT HEALTH HERO ACTIVITY BOOK

Ages 9-12



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

Canada

FOR PARENTS & EDUCATORS

The intent of this activity book is to teach young learners about the basics of plant health in Canada and how they can participate in protecting our amazing natural plant resources.

In this book, children will learn:

1. The importance and impact of plant health within their own community, and Canada as a whole;
2. Certain dangers to plant health, like invasive species; and
3. How they can help to protect plant life.

You will find a glossary on page 14 and an answer key on page 15.

Prompts are wonderful tools to have when you are helping learners make their way through a workbook or to check on how well the members of your small group are understanding the text.

Here are some prompts to help you spark some meaningful conversations about plant health.

- 1) What are some steps that you are already taking to protect plant health? Look up the United Nation's 17 sustainability goals to see if there is anything else you can add to your list.
- 2) What do you think a world without plants would look like? Would we be able to survive without them? Which plant do you think you would miss the most?
- 3) Use the *iNaturalist* app¹ or other plant identification apps to see what plants you have in your garden. Are they all native to Canada?
- 4) Bees have been in trouble recently, meaning we have to protect them. What would happen if we didn't have enough good bugs to pollinate our plants?
- 5) You should check your trees once or twice a year. In the spring and fall. Set a reminder on your calendar to give your local plants some attention.

Have fun!

¹The *iNaturalist* app is a third party application and does not reflect the direct messaging of the Government of Canada.

MEET CFIA'S PLANT HEALTH HEROES!

2020 was the International Year of Plant Health!

What does that mean?

Well...

Canada belongs to a group of countries who are working towards a sustainable future for all.



Together we are focused on keeping plants healthy so we can fight global warming, hunger and protect our plants.

WHY IS PLANT HEALTH IMPORTANT?

There are so many things that would be impossible without plants!

Plants provide homes and food for animals and insects.

Farmers depend on having healthy crops to make money and support their families.



Can you spot:

An animal making its home


A source of clean energy

A pumpkin

Someone enjoying shade

Eco-friendly transportation

Someone painting nature



Plants contribute
98% of the oxygen
we breathe.

Plants create beautiful
scenery for walks
and hikes.

Plants are also very important to the
Canadian economy. Farmers and
businesses sell plant products and
food grown in Canada to people
around the world.

PLANT HEALTH VILLAINS

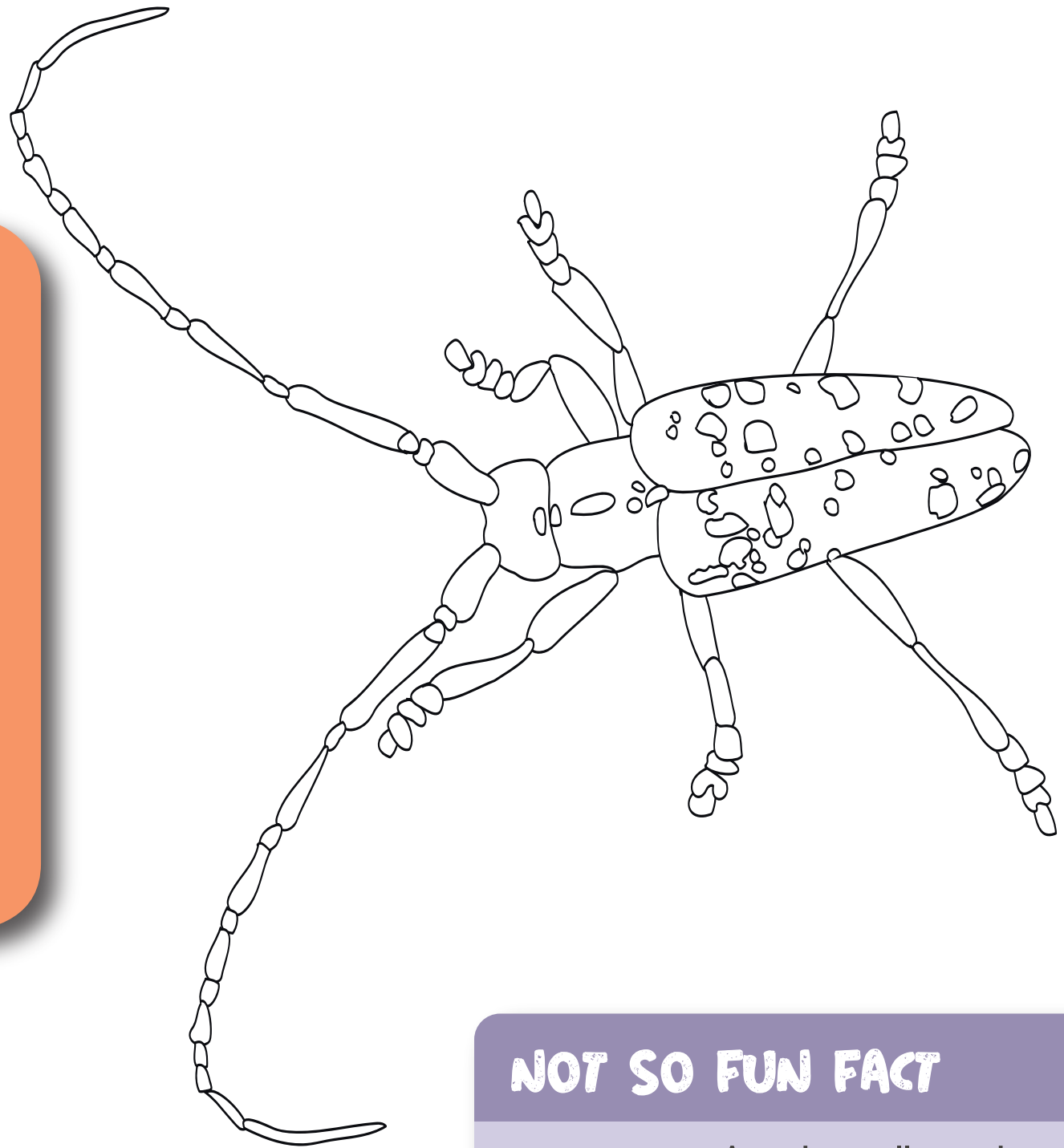
Plant health villains such as insect pests and invasive plants can damage or kill our plants and trees.

The CFIA has specially trained heroes to help fight these damaging species.

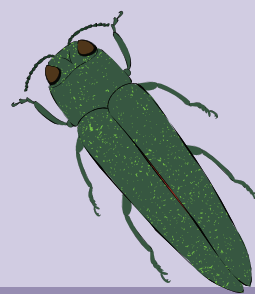
This invasive insect is called the Asian longhorned beetle.

It attacks and kills maple trees.

The Plant Health Hero Team kicked the Asian longhorned beetle out of Canada in 2020!



NOT SO FUN FACT



Another villain, the emerald ash borer has killed millions of ash trees across Canada.

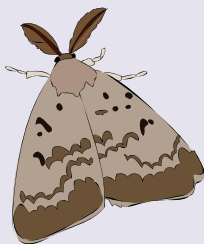


Look up a photo of the Asian longhorned beetle.
What colours should you use for this insect?

INSECT PESTS

Even though foreign insects may not be invasive in their home country, they can cause damage to Canadian plants.

SPONGY MOTH



Harmful to:
Hardwood and softwood trees

Comes from:
Europe and Asia

Travels by:
Eggs laid on vehicles, trailers, tents, outdoor furniture and firewood

JAPANESE BEETLE

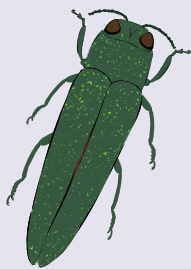


Harmful to:
Many fruit, vegetable and garden plants as well as grass

Comes from:
Asia

Travels by:
Roots, soil or plant leaves, or even on cars, trains or planes.

EMERALD ASH BORER

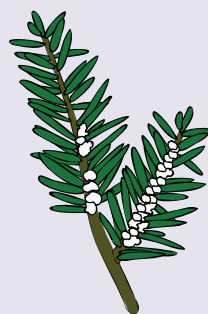


Harmful to:
Ash trees

Comes from:
East Asia

Travels by:
Firewood, hitchhiking on vehicles, infested nursery plants

HEMLOCK WOOLLY ADELGID



Harmful to:
Hemlock trees

Comes from:
Asia

Travels by:
Infested nursery plants, firewood

DID YOU KNOW?

Not all plant pests are insects!



BROWN SPRUCE LONGHORN BEETLE



Harmful to:
Spruce trees

Comes from:
Europe

Travels by:
Firewood, logs

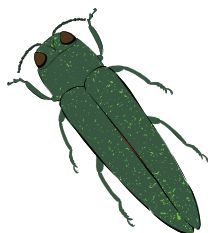
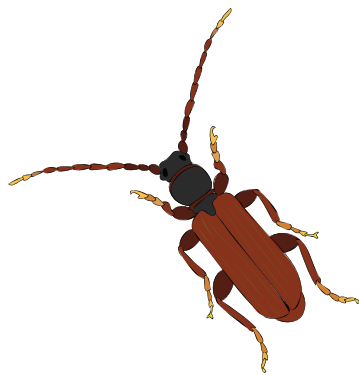
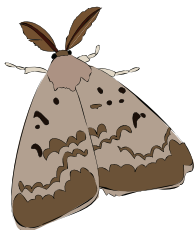
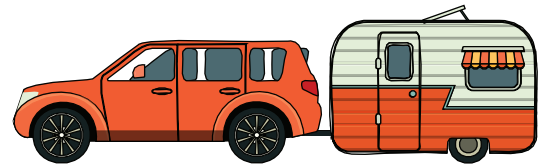
Use these insect cards to help you spot some plant villains that might be in your area. See something suspicious? Ask an adult to help you take a picture and send your findings to: cfia.surveilliance-surveillance.acia@canada.ca.

INSECT PESTS

Insects like to travel just like us. Most insects hitch a ride on things like firewood, vehicle wheels and plant products.

Use your insect pest cards. Where did each insect come from and what is its favourite way to travel?

Match each insect to the “vehicle” it uses to travel to and around Canada. *Hint: some insects have more than one!*



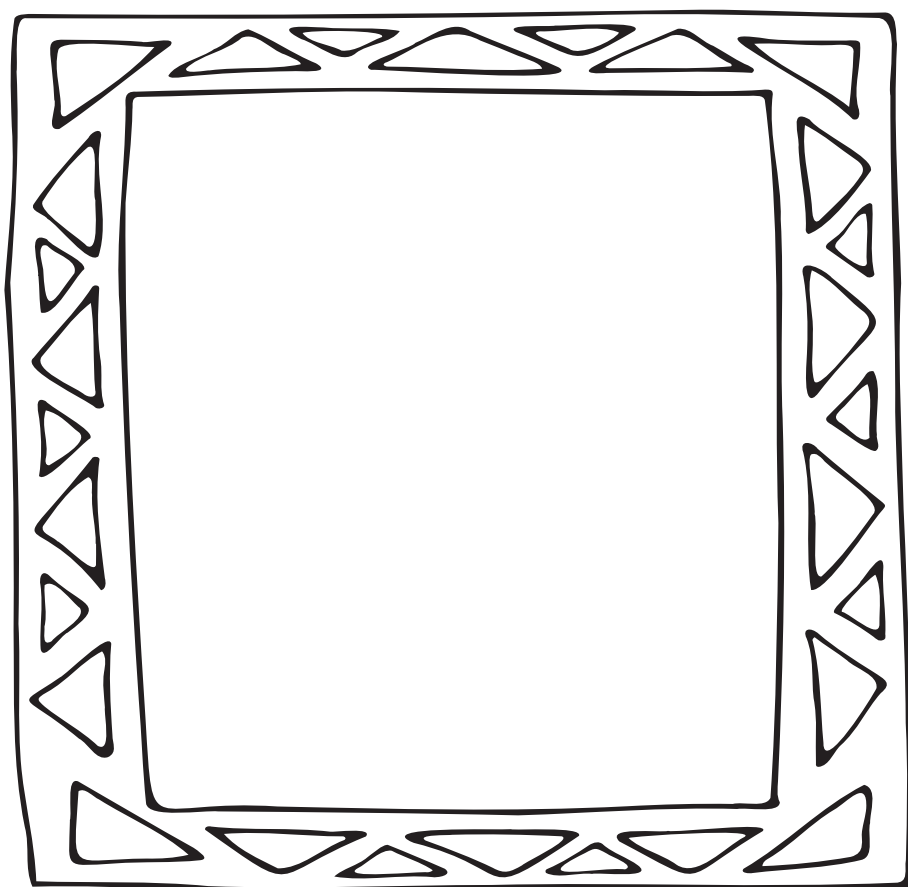
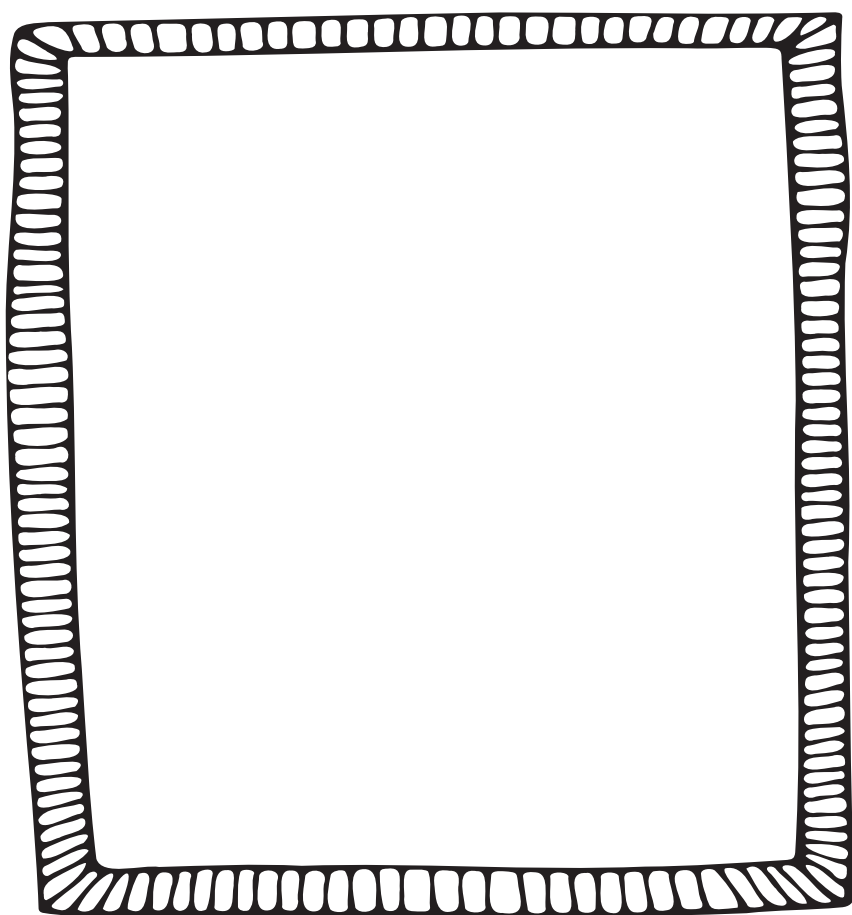
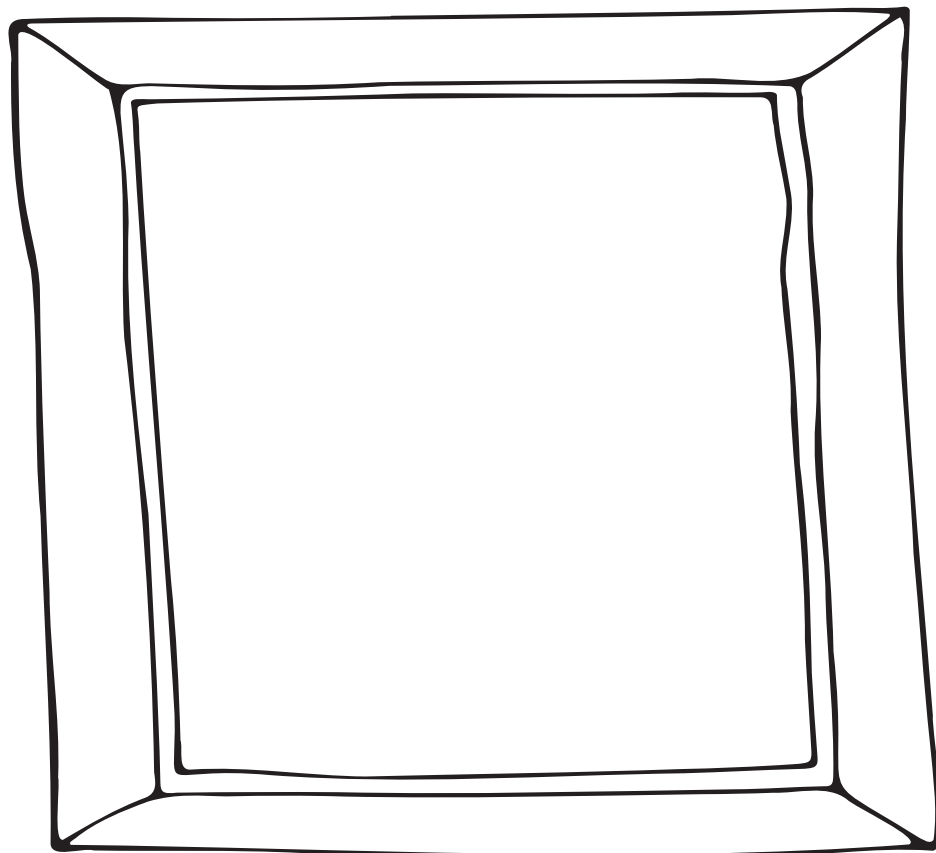
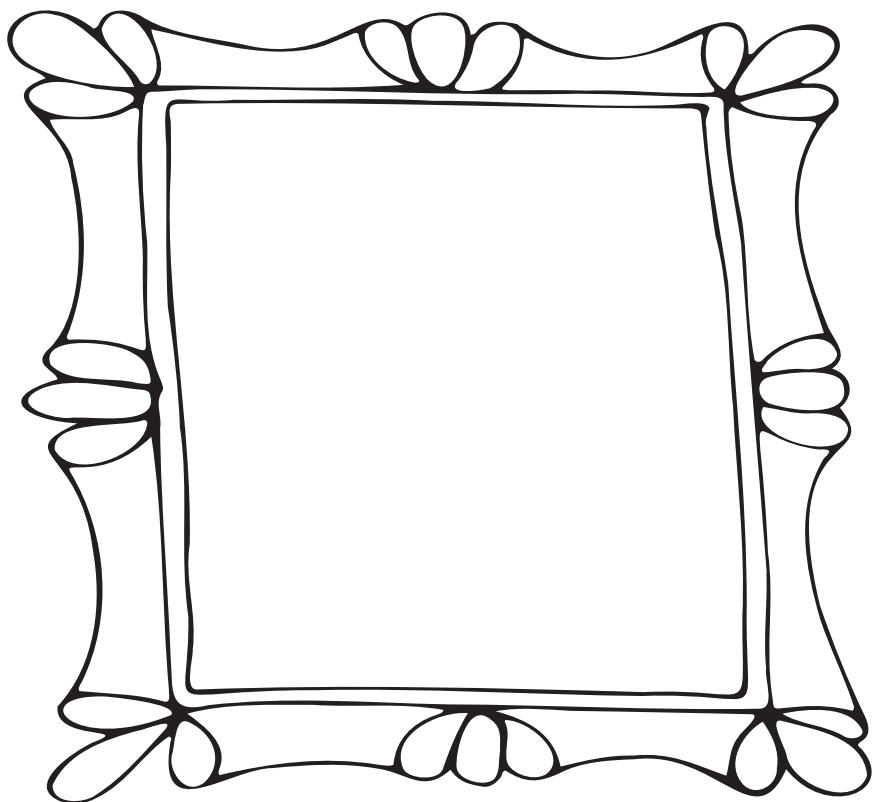
We can do our part as plant health heroes by making sure we don't bring these pests with us on our travels.

INVASIVE PLANTS VS. NATIVE PLANTS

Some plants can be villains too.

Bringing plants across Canada or from other countries to areas where they don't grow naturally can be dangerous to our plants.

That's why it is important to do your research when creating a garden and choose plants that are not invasive.



Look up plants that are native to your area. Pick your favourite four plants and draw them!

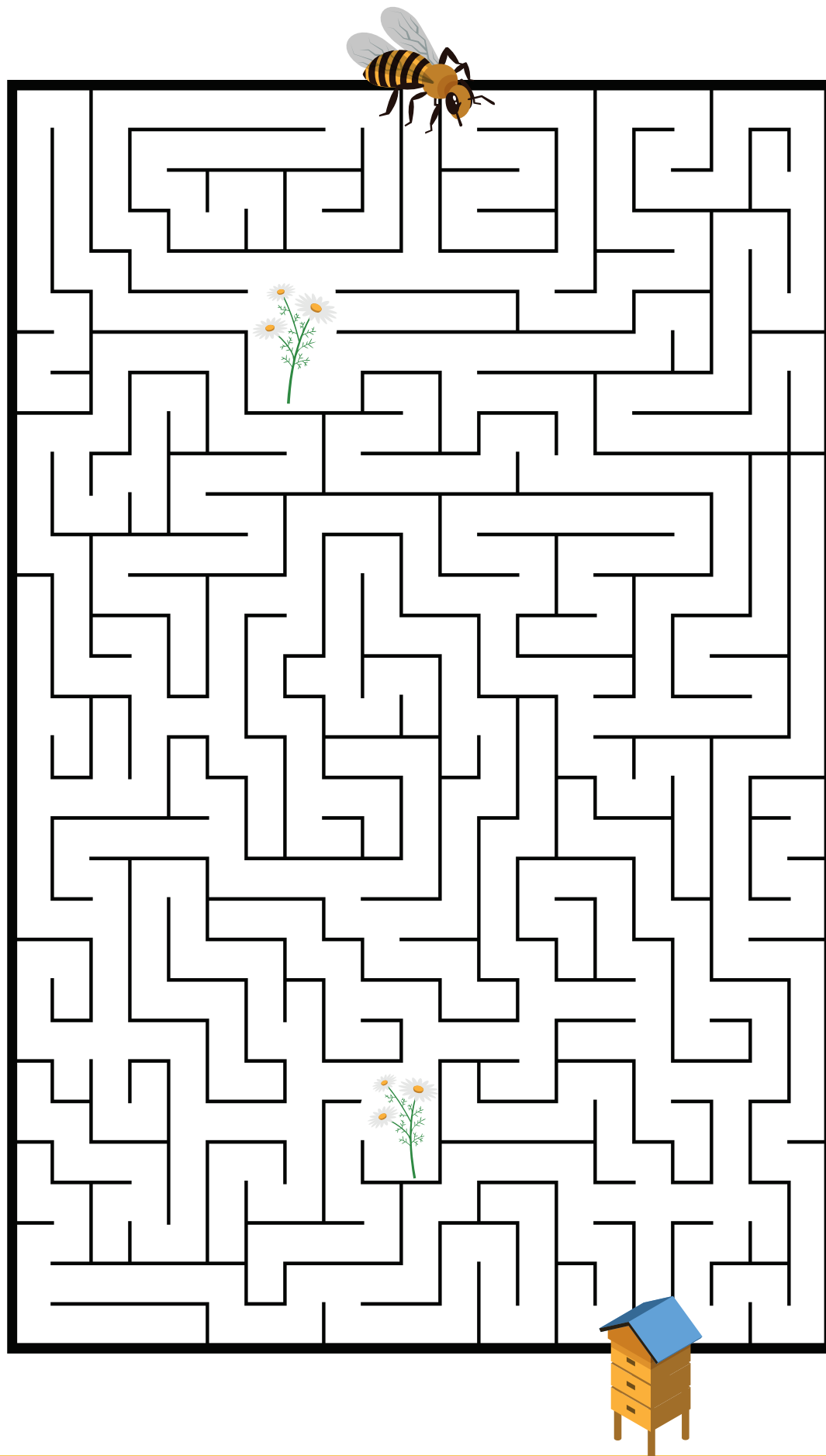
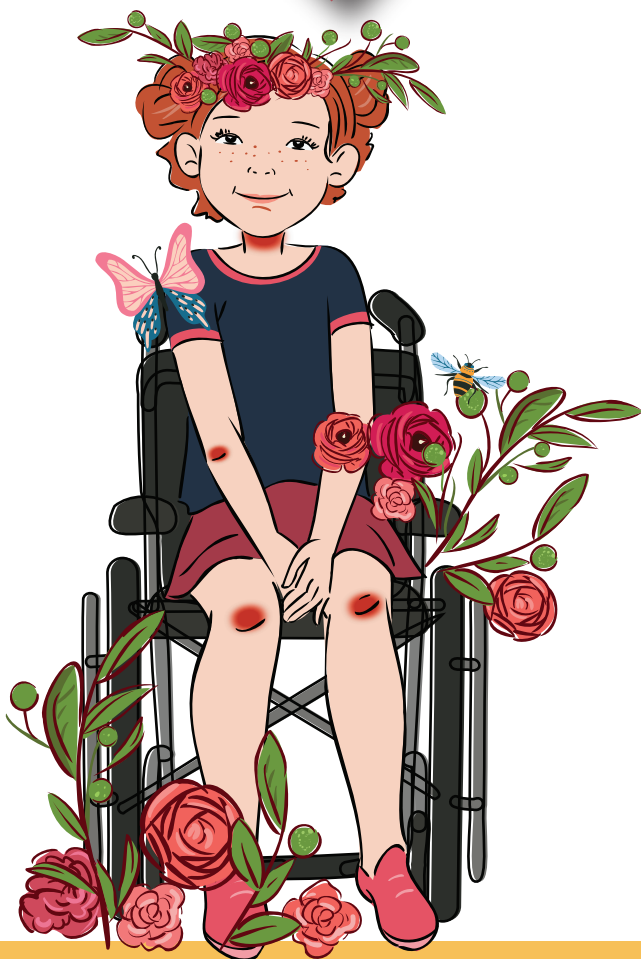
GOOD INSECTS

Most insects are not bad. In fact, less than 1% of insects cause damage to our plants by chewing or eating leaves and stems.

Pollinators are so important to plant health in Canada that the CFIA carefully controls the import of bees to ensure they are free from pests and diseases.

Help the bee pollinate the flowers and get back to its hive.

Pollinating is when good insects take pollen from one plant to another so the plants can create seeds.



Pollination is very important to plant health, which makes good insects like butterflies and bees some of our plant health heroes.

THE ORIGINAL PLANT HEALTH HEROES

Long before Canada was a country, Indigenous people have used their respect for nature, and knowledge of plants, to thrive in the country's diverse environments.

DID YOU KNOW:

Japanese beetles, spotted lanternflies and brown marmorated stink bugs are invasive species that can damage these important plants.



SQUASH

The protector sister shades and cools the soil, keeping it moist. She prevents weeds and keeps pests away.



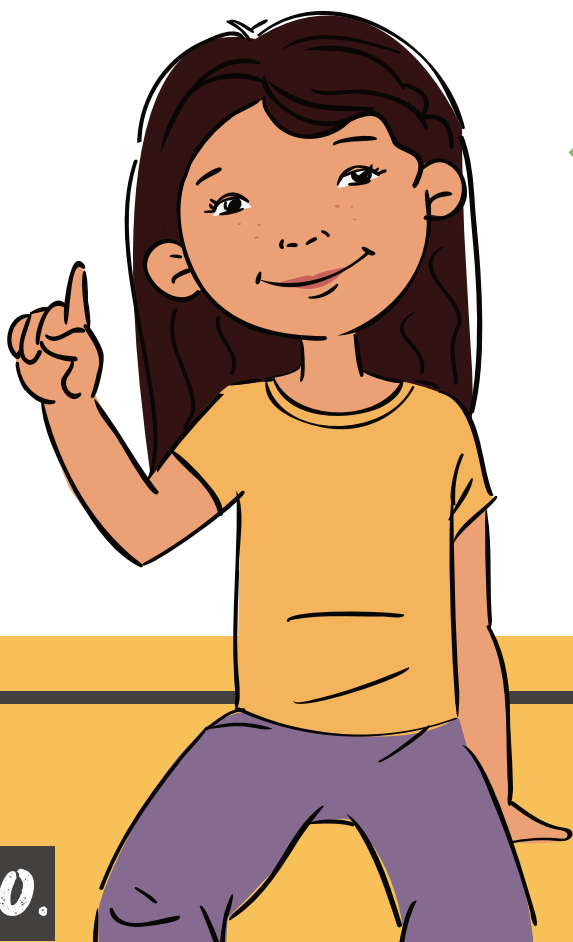
CORN

The eldest sister stands in the middle and offers support.



BEANS

The giving sister pulls nutrients from the air into the soil. As the beans grow, they pull the sisters close together.



In a number of Indigenous communities, corn, squash and beans are called the "Three Sisters."

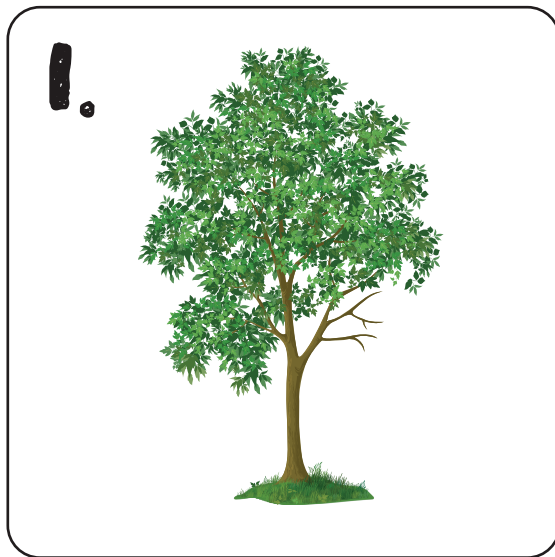
When planted side by side, these three crops help each other grow, and provide each other with important nutrients. This is called companion planting.

Companion planting is a sustainable form of agriculture.

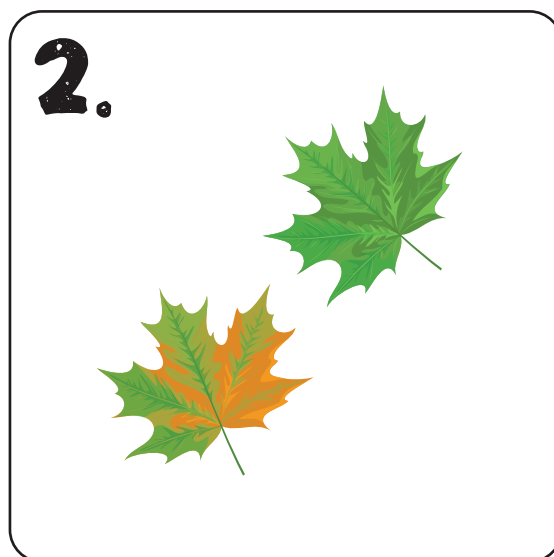
HOW TO TREE CHECK

The Canadian Food Inspection Agency helps protect our plants and trees by searching for pests and diseases. Our plant health heroes team up with partners across the country to trap insects, test plants and soil and search the environment for invasive species.

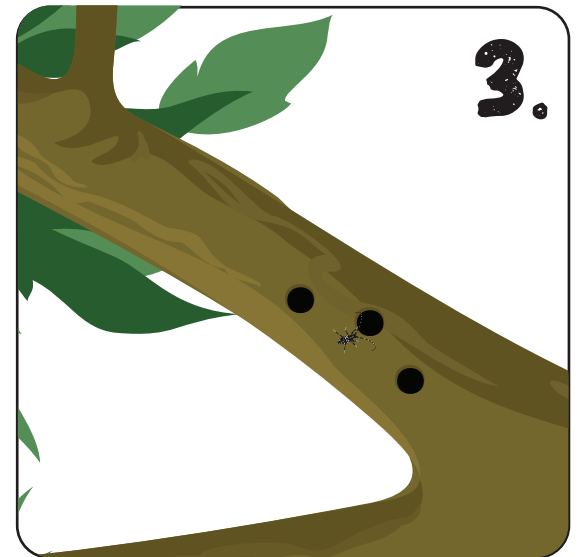
Find a tree in your neighbourhood and inspect each part to make sure it looks healthy.



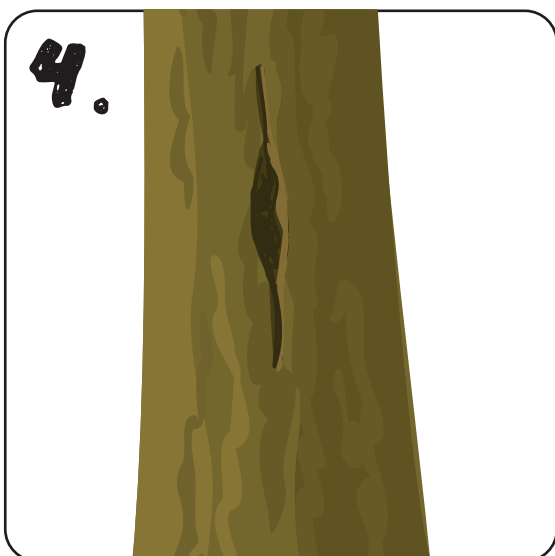
the whole tree



the leaves



the branches



the trunk



the roots



Can you spot:

dieback
(branches missing leaves)

discoloured leaves

insects, holes

cracks and tunnels
caused by insects

sawdust

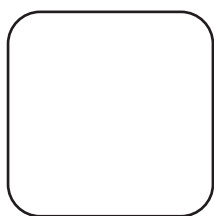
PLANT HEALTH HERO CHECKLIST

Everyone has a part to play in protecting
Canada's plants.

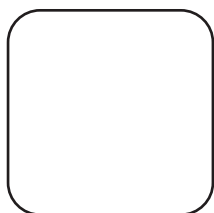
That means you!



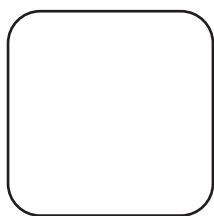
Plant one native plant in your garden or in a pot to keep in your home.



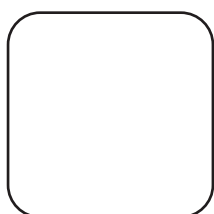
Find some insects and inspect them to see if they are invasive species. Use the pest cards or an app to help you identify them.



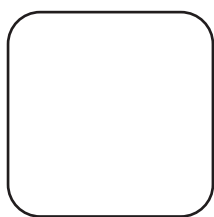
Be kind to nature. Water your plants regularly. Don't rip leaves off trees.



Leave dirt and firewood where you found it.



Do a tree check on one tree in your neighbourhood.



Tell one other person about how important plant health is!

**YOU'VE
GOT
THIS!**



Spot an invasive species? Take a picture and send your findings to: cfia.surveillance-surveillance.acia@canada.ca.


PLANT HEALTH HERO BADGE

Did you complete the Plant Health Hero Checklist?
Congratulations!

Now you can call yourself a Plant Health Hero!



CFIA PLANT HEALTH HERO



NAME _____

SUPERPOWER _____

FAVOURITE PLANT _____

INSTRUCTIONS

1. Print then colour in your Plant Health Hero self portrait.
2. Fill out your name, superpower & favourite plant.
3. Cut out along the dotted lines. Carefully cut out the circles, or use a hole punch.
4. Cut a string about 30" long. Thread the string through both holes. Tie a knot with both ends of the string.
5. Now you can wear your badge!



We want to see you wearing your finished badge!
Have an adult take a picture and use the hashtag #CDNPlantHero

GLOSSARY

Were these words new to you?

Sustainable

A way of living that does not damage the earth, allowing us to keep the earth healthy for generations to come.

Clean energy

Power that comes from sources that won't run out. For example, wind turbines use the wind.

Economy

How money is made and used within a region. A region's economy depends on things like how many goods and services are produced and how much people spend on those things.

Native plants

Plants that have always grown in Canada.

Import

Bringing something into a country from another country.

