

MY
SEED TO SPROUT

Activity Book

Name:

Seeds are everywhere. They are in the food we eat, and the ground below our feet. They surround us in our cities, especially in our wild and wonderful parks and ravines.

Every plant begins as a seed – the tallest trees, biggest pumpkins or most gigantic sunflowers all begin as tiny seeds, springing to life beneath the ground.

Join Evergreen on a seed to sprout adventure! Take good care of them and your seeds will grow into food for you and your family. By growing seeds into food, you can be an urban farmer, scientist and explorer.

This activity book has an exciting activity every day. Let's get started!

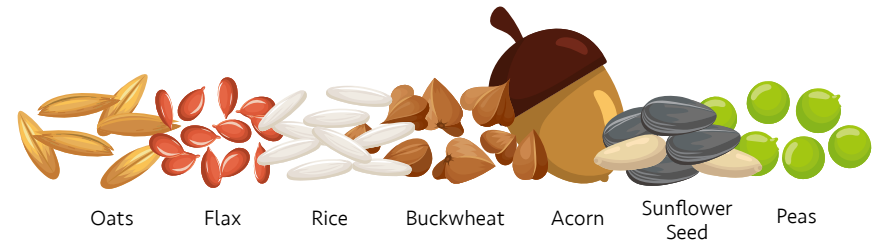
This activity book includes connections to the Ontario science curriculum related to habitats, soils, food chains, the water cycle, and more. Recommended for Grades K-5.



My Seeds

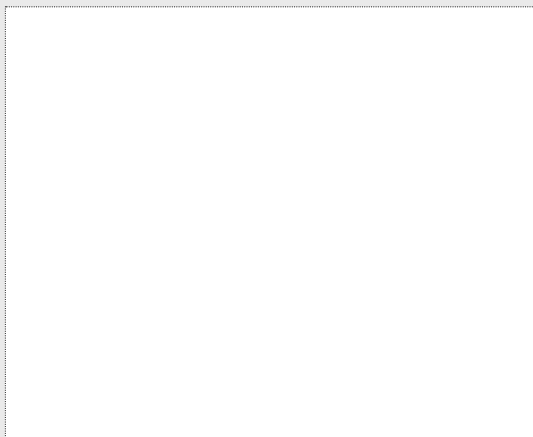
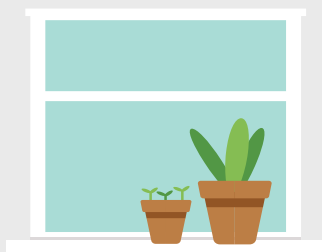
Open your kit! What did you get? Use this chart to keep track of all your seeds. You can write or draw in the chart below. Use the example to get started.

Seed Type	Date Planted	Guess what date you think it will sprout. <i>Hint: Your package tells you how long it takes.</i>	Give your seeds a fun name
Tomato	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----



Let's give a warm welcome to your new seed friends! You'll be responsible for them over the coming weeks. That starts with choosing the perfect spot for them to sprout.

Describe or draw where their new home will be. Consider where you should place your pots and where the light will come from.



Quiz: Get to know your seeds

1. Which of the following have seeds?

- A. Fruits
- B. Plants
- C. Trees
- D. Vegetables
- E. All of the above

2. Where can seeds be found?

- A. On the ground
- B. In a fruit or vegetable
- C. In the air
- D. All of the above

3. An acorn is a seed.

True / False

4. A coconut is a large seed.

True / False

5. How do seeds move?

- A. Seedmobiles
- B. Wind, water & animals
- C. They move themselves
- D. Seeds don't move

6. How do animals spread seeds?

- A. They stick to their fur
- B. They drop them by accident
- C. They poop them out
- D. They eat a seed then get eaten by a predator who poops them and the seed out
- E. All of the above

Answers: 1. E 2. D 3. True 4. True 5. B 6. E

Now that your seeds have a cozy new home, let's think about what they need to survive.

Draw each of the things you think seeds need to survive. To help you get started, think about what plants get from nature. Seeds need very similar things!



Right now your seeds are inside, so you're the one responsible for watering! Take the following quiz to test your knowledge on how to water your seeds.



Quiz: Test your knowledge on watering your seeds

1. How many times a day should I water my seeds?

- A. 10 times
- B. 100 times
- C. 1000 times
- D. Enough to keep the soil moist

2. If a seed were a human, would it take baths or showers?

- A. Baths
- B. Showers

3. At the bottom of my seed's pot there should be:

- A. Tiny holes and a place to catch the water
- B. Gigantic holes
- C. No holes at all!
- D. Acorns for the squirrels to dig up

4. What's it called when water from my pot is absorbed into the air?

- A. Cloud vacuums
- B. Rainification
- C. Evaporation
- D. The squirrels have straws

★ Bonus: What's the fancy word for rain?

- A. Cloud droppings
- B. Precipitation
- C. Condensation
- D. Transpiration



Answers: 1. D 2. B (Seeds like the water to drain away, and don't like to sit in water for too long!) 3. A 4. C Bonus: B

So, your seeds need water, warmth, nutrients and light to survive. But are they alive? Let's dig deeper to find out.



Draw some things that are **alive**:

Draw some things that are **not alive**:

What do seeds have in common with the things that are **living**?

What do seeds have in common with the things that are **non-living**?

What do you think: Are seeds alive or not alive? Why?

Almost every living thing starts as something as small as a seed and grows into something much bigger. Fill out the chart to figure out what you have in common with seeds, and then turn it into a short song or poem about seeds!

What I have in common with a seed?

How am I different from a seed?

I grow more each day.

I am much bigger than a seed.



Outdoor Activity

In your yard or neighbourhood park, look for anything from nature that reminds you of yourself or you think is very different from you. Fill out the chart below.

Object

How is it like me? How is it not like me?

Tree branch

It is like me because it is smooth like my skin and the spring buds are red, which is my favourite colour.

Soon your seeds will transform into something else – sprouts! For now, let's use our imaginations to dream about what our seeds will become when they emerge from the soil.

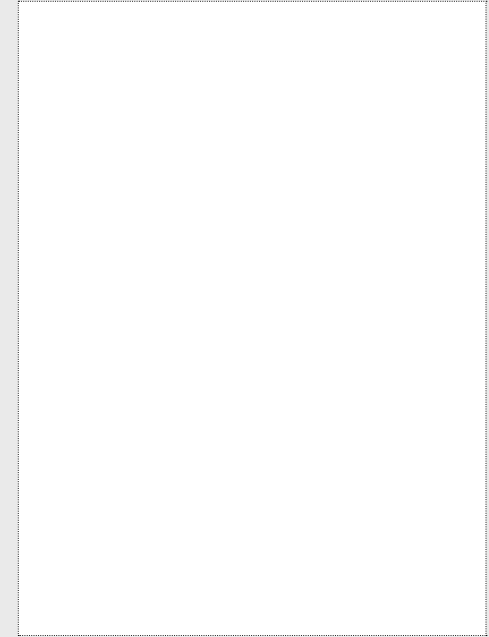
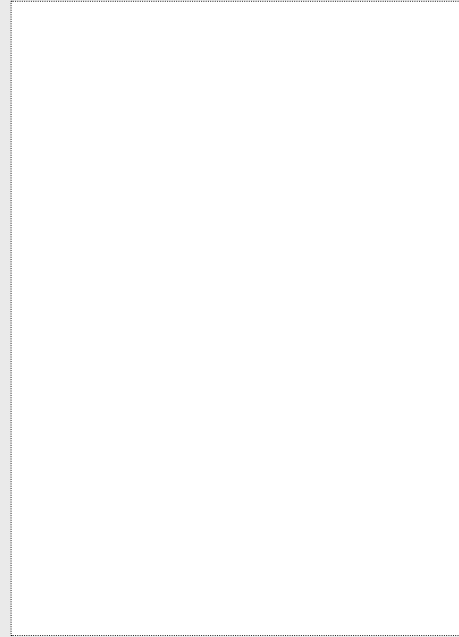


Draw a picture of a seed.

Now it's time to use your imagination. Draw your seed again and this time, add to it until it becomes something else. It can be anything at all, just not a seed!



My comic strip:



Great! Now you're going to make a comic starring a seed and what you drew in your second drawing. Fill in the 4 panels on the next page and make sure to make it as silly as possible!

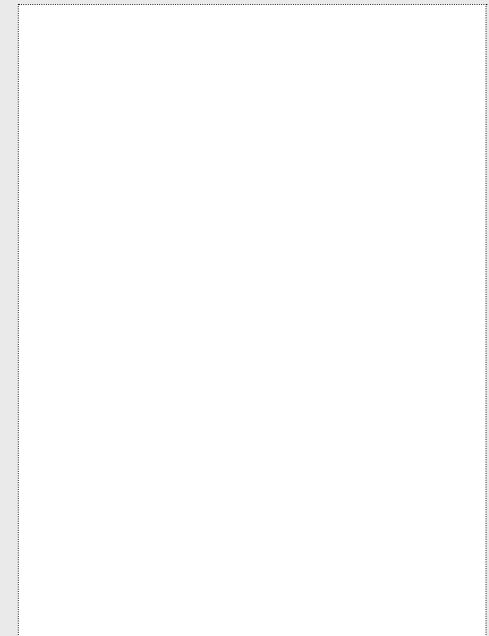
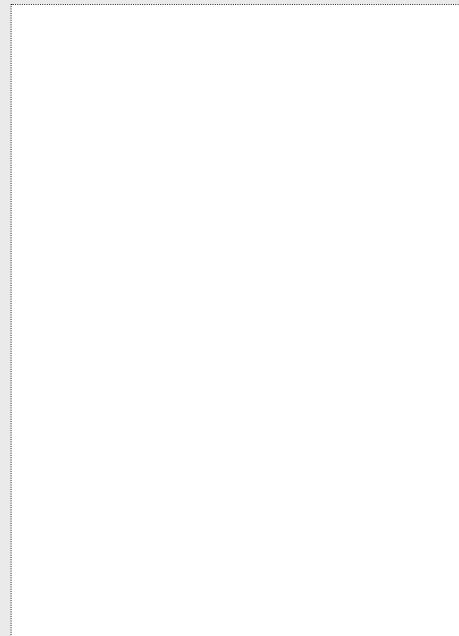


Outdoor Activity

Let's make a mobile to celebrate seeds and plants. Mobiles are hanging art that blow in the breeze. They are a great way to decorate an indoor or outdoor space. Your task on your next walk is to find artifacts in nature – like pinecones, sticks, leaves or rocks. You'll need string or wire from your house and you're ready to make a mobile.



Here are some examples to help you get crafty.









Seeds have different ways of moving through nature, also known as **dispersal**. Today we'll think about the way wind, animals and water help spread seeds.



Outdoor Activity

In your local park or ravine, see if you can find the seeds in the chart. Once you've collected the seeds, let's test how they are dispersed: wind, animals or water. Follow the questions below for each type of seed you find.

Plant	Wind: Does any part of the plant float in the wind?	Animals: Might an animal eat this? Could this stick to an animal?	Water: Could this plant float in the water?	How does it spread its seed? Wind, animals or water?
Cattail 	-----	-----	-----	-----
Burdock 	-----	-----	-----	-----
Milkweed 	-----	-----	-----	-----
Acorn 	-----	-----	-----	-----
Goldenrod 	-----	-----	-----	-----
Maple Key 	-----	-----	-----	-----

Seeds, like the ones in your pots, find their way up the food chain.



Quiz: Which of the following animals eats seeds?

- A. Chickadees
- B. Foxes
- C. Squirrels
- D. Opossums
- E. Skunks
- F. All of them

Answer: F

Let's explore what we know about squirrels. What local animal might eat a squirrel?

Awesome. Now is there any local animal that might eat that animal?

Draw a food chain, starting from a seed and leading to the last animal you chose:



Now that you are an expert on the way seeds grow and move, let's dig deeper into the science of seeds. Today, we'll be doing an experiment!

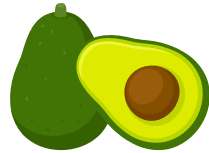


Experiment

Can you sprout an avocado?

If you have an avocado, remove the pit and set it aside. This pit is a seed, and it doesn't need soil to sprout! Let's see if we can get the avocado to sprout.

1. Gather 4 toothpicks and place them in the avocado, like the picture on the right.
2. Place the avocado on the top of a clear cup. Fill the cup with fresh water so that half of the pit is under water.
3. Any time the water appears a bit green, replace with fresh water.
4. Continue to change the water for 3 weeks or 21 days.



After 21 days, what do you notice?

Wait until the nights are warm (5-10 °C) before starting this activity.

Your seeds have likely sprouted by now. Plants need to get used to the outdoors, which is also called **hardening off**. Over the next week, you'll be training them to prepare for their big move outdoors!

Start by gathering your sprouts and placing them in a shady place outside for one hour. Tomorrow, you can place them outside for 2 hours. Continue to increase the time they spend outside every day until they are ready to live outside permanently. Once your sprouts reach approx. 10 cm, they will be ready to live outside!

You can use the chart below to help track how much time your plant is spending outside.



Day	How long did the sprouts spend outside?	Draw how the sprout looks	How tall are the sprouts?
Day 1	1 hour	<hr style="border-top: 1px dashed black;"/>	2 cm
Day 2	2 hours	<hr style="border-top: 1px dashed black;"/>	
Day 3	3 hours	<hr style="border-top: 1px dashed black;"/>	
Day 4	4 hours	<hr style="border-top: 1px dashed black;"/>	
Day 5	6 hours	<hr style="border-top: 1px dashed black;"/>	
Day 6	8 hours	<hr style="border-top: 1px dashed black;"/>	
Day 7	10 hours	<hr style="border-top: 1px dashed black;"/>	

They grow up so fast! The care and attention you show to your sprouts at a young age will help them grow into strong plants with roots deep in the earth and leaves tall in the sky. Think into the future! How do you want your sprout to be when it grows up?



Draw what you think your seed or sprout will look like when it becomes a **baby plant**:

Draw what you think your seed or sprout will look like when it becomes a **teenage plant**:

Draw what you think your seed or sprout will look like when it becomes an **adult plant**:

It can be tough out there for sprouts as they establish their roots and start to grow strong. Once your sprouts move outside, there are things in nature that will think of your plant as a tasty snack or home of their own.



Which elements (rain, wind) might harm your sprouts?

What insects might eat your sprouts?

What animals might eat your sprouts?

Awesome! Now let's pretend one of our sprouts is a **superhero**.

What would its superhero name be?

What would be its superpower?

Draw your superhero sprout! How would it defend itself against elements, insects and animals?



Experiment

Now let's make something that will help defend our sprouts from bugs.

You will need:

- A spray bottle
- A little bit of dish soap
- Water

1. Empty out the spray bottle and put 4 drops of dish soap inside. Fill the rest with water.
2. Once your sprouts move outside, you can use this to defend them from insects! Insects tend to not like the taste of the soapy water, and it can be washed off later!

At this point, your sprouts might be bursting to the surface of the soil, reaching towards the light. Now that we've learned about protecting our sprouts, let's think more about the animals that might eat them, and what kind of protection they need too.



Draw some animals that eat sprouts. Which of these animals is your favourite? Why?

If this animal has any predators, draw one of them here.

What kind of home does this animal build? You can do some research if you like.



Experiment

Now let's build a home for this animal! Ask yourself:

- What else does this animal eat?
- How does this animal protect itself from weather?
- Does this animal have predators? How does it protect itself from them?

Things you can collect inside:

Fabric / Buttons / String
Tape / Cardboard boxes
Dry materials from the recycling

Things you can collect outside:

Sticks / Leaves / Rocks / Pinecones

Now you are ready to build a habitat for your animal of choice!

Hurray! You've made it far in your journey from seed to sprout. It is time to test your skills and strength in **The Seed Games!**

Seeds of Mystery



Count out a number of seeds or beans and put them in a jar. Get everyone in your household to put in a guess. The closest one gets a Seed Games medal that you design!

Seed Sailors



Can you build a boat out of a piece of paper that can hold a seed and float? The contestant whose seed stays dry the longest wins a medal. Make sure that all participants are working with the same materials.

Go Bananas!



Each participant chooses a vegetable or fruit in the fridge that they think has the most seeds. This is also a great way to help prepare dinner! After everyone has made their choice, dig in and count how many seeds you can find. The medal goes to the person who found the most seeds, but you all get a nice snack when you're done!

Seedsketball



Set up one of your extra paper pots on a table. Stand about 5 steps away and mark that place with an object or tape. Everyone gets 5 shots to try and get the seed in the pot. The person who sinks the most shots wins a Seed Games medal!

The Seed Games Scorecard:

Medal Winner



Seeds of Mystery

Seed Sailors

Go Bananas!

Seedsketball

It's around the time for your sprouts to go outside. Maybe you've already put them outside! Let's wish them well. Now that you are an expert at growing seeds to sprouts, let's keep the momentum going.

In Toronto, our ravines and parks are full of plants and trees whose seeds could use your help. Next time you are out on a walk, look for seeds in nature that you've learned about in this book - it could be an acorn or the seeds of a wildflower. Grab a few and start the seed to sprout process you know so well.



When you choose a plant to care for, nature will thank you back.



