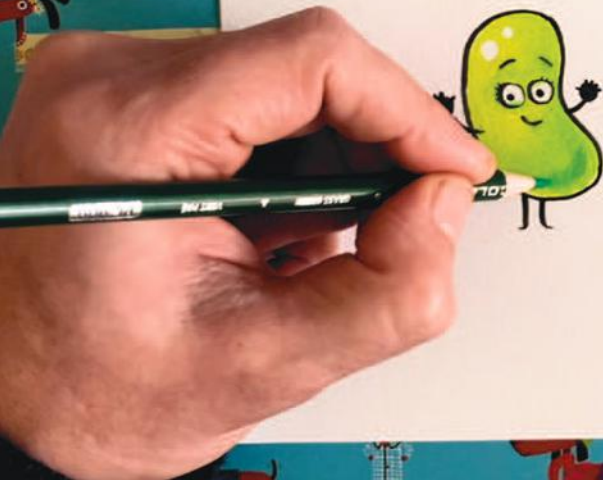


#DRAW
WITH
ROB
CANADA

Educator Guide

Episode 1: Magic Beans



ART ACTIVITIES WITH
A DRAW-ALONG VIDEO



THIS PUBLICATION IS produced by Grain Farmers of Ontario in partnership with Canada Agriculture and Food Museum, with special thanks to Rob Biddulph and Jodie Hart (artist/art educator) for their involvement.



Good in Every Grain is Grain Farmers of Ontario's public outreach campaign, which aims to tell the story of agriculture and grain farming to educators and students across the province. Grain Farmers of Ontario is a not-for-profit organization representing 28,000 barley, corn, oat, soybean, and wheat farmers in Ontario, Canada.

679 Southgate Drive, Guelph, ON, N1G 4S2
Tel: 1 519-767-2773

<https://goodineverygrain.ca>



CANADA AGRICULTURE
AND FOOD MUSEUM
MUSÉE DE L'AGRICULTURE
ET DE L'ALIMENTATION
DU CANADA

The Canada Agriculture and Food Museum is a working farm in the heart of Ottawa. It offers visitors a unique opportunity to explore agricultural science in action, to see diverse breeds of farm animals and to learn about where their food comes from. The museum is a part of Ingenium - Canada's Museums of Science and Innovation.

P.O. Box 9724, Station T, Ottawa, ON, K1G 5A3
Tel: (613) 230-2770 ext. 2000

<https://ingeniumcanada.org/agriculture>



Rob Biddulph is a bestselling and multi award-winning children's author/illustrator whose books include *Blown Away*, *Odd Dog Out*, and *Kevin*. In March 2020, he started #DrawWithRob, a series of draw-along videos designed to involve children were forced to stay home from school due to the pandemic. It has garnered international media coverage and millions of views across the globe

<http://www.robbiddulph.com/draw-with-rob>

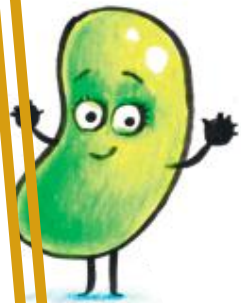
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WELCOME EDUCATORS!

This guide was developed for educators, families and community leaders to accompany Rob Biddulph's Draw with Rob video Magic Beans released on March 30, 2021. See the video at www.goodineverygrain.ca/draw-with-rob

We developed these videos and subsequent activities to help elementary students explore their artistic creativity and grow a lifelong awareness of local farming, food origins and nutrition. Exploring science through art is like creating a portrait; the artist strives to understand the subject and then renders it in their medium of choice.

Rob's narrative and the characters he creates help students explore a bean becoming a plant and subsequently becoming other things. Use the activities at your own pace and adapt them to suit your needs. Remind students there is no wrong way to approach art; perfection is not expected!



OVERVIEW

This is one of three art-based resources to support learning about science through art. Each resource is based on a Draw with Rob video and includes engaging art projects through which students will explore the themes of plant growth, soil health and farm technology.

- **Episode 1 Magic Beans.** Draw sleepy soybean characters in and out of their pod and learn about plant growth and the many uses of soybeans.
- **Episode 2 Wiggly Worm!** Wiggly worms help teach students about soil health and their community of organisms.
- **Episode 3 Tractors in spaaaace!** Students will draw a tractor and learn about farming technology, including satellite guidance.

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Soybean scene

ACTIVITY 1



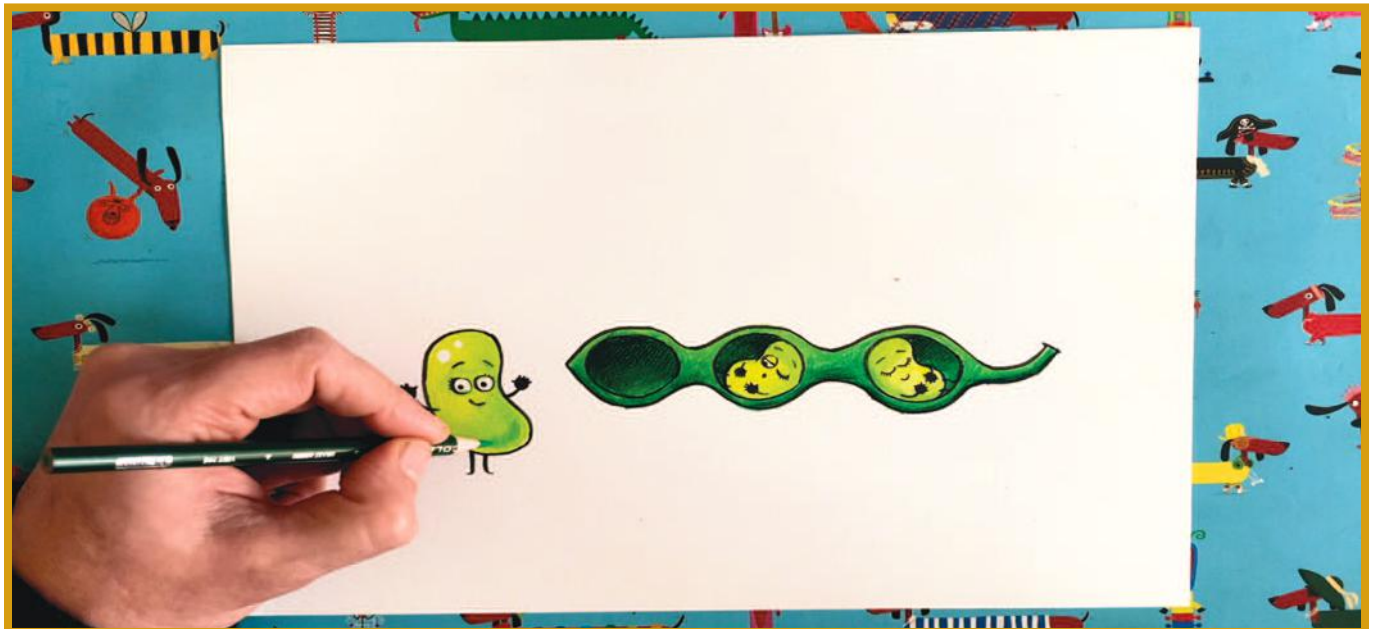
RECOMMENDED GRADE LEVELS: K – 4

TIME: 20 - 40 minutes

BRIEF DESCRIPTION OF ACTIVITY: Students will draw along with the video *Magic Beans* to create cute soybean characters and begin their introduction to soybeans.

KEY CONCEPTS: repetition, form (drawing shapes), beans and their uses

RELEVANT ARTS CURRICULUM: D1. Creating and Presenting; D2. Reflecting, Responding, and Analysing; and Principles of Design: Repetition and Rhythm



SUPPLIES

- access to video and ability to display it to the class
- paper and materials for drawing (pencils, crayons, markers)

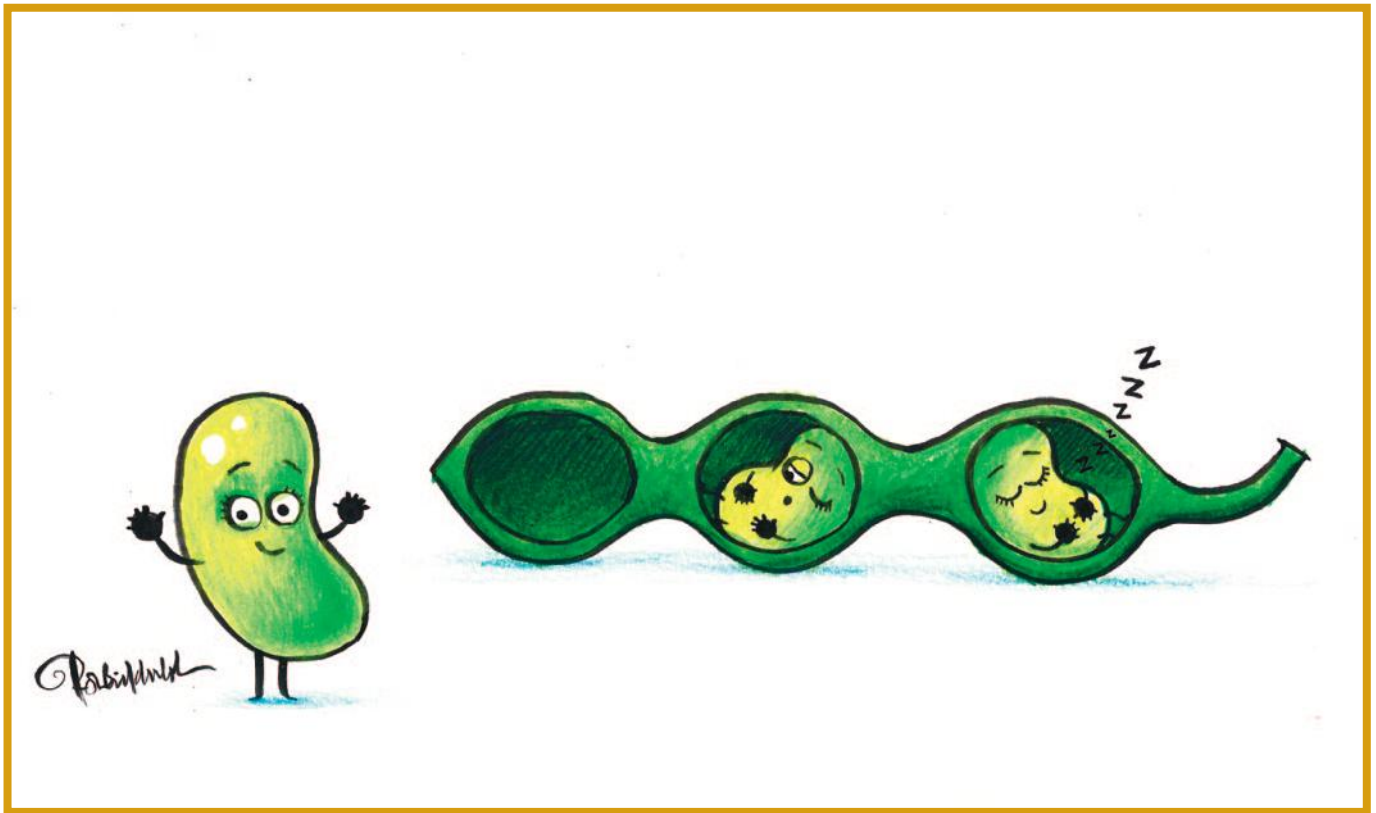
RESOURCES

Video:
Magic Beans

Link: <https://goodineverygrain.ca/draw-with-rob/>

INSTRUCTIONS

1. Watch *Draw with Rob – Magic Beans* with your students. As needed, pause the video to expand on the importance of soybeans and allow students to catch up. For younger students, teachers may wish to provide information about soybeans themselves and advance the video after the introduction to timestamp 2:57 where the drawing instruction begins.



DID YOU KNOW?

Soy ink is used to print newspapers and textbooks – maybe even your library book!

It is made by blending soybean oil with pigments (like powdered paint), resins (hard stuff made from plant sap) and different types of wax.

Soy ink is not edible because of the materials mixed into it.



TEACH MORE ART!

There are many people in Canada who do the same job as Rob! One of them is Robert Munsch. He wrote the *Paper Bag Princess* and *Murmel, Murmel, Murmel*. You can enjoy his drawing in the library or at robertmunsch.com. Another Canadian children's illustrator is Hatem Aly. He draws many different types of pictures. See her work at www.metahatem.com



OUTDOOR LEARNING

After students have seen the video and made their first drawing, head outside with drawing materials to draw characters based on things they see – seed pods, pebbles, plants, bugs.

Soybean sculpture

ACTIVITY 2



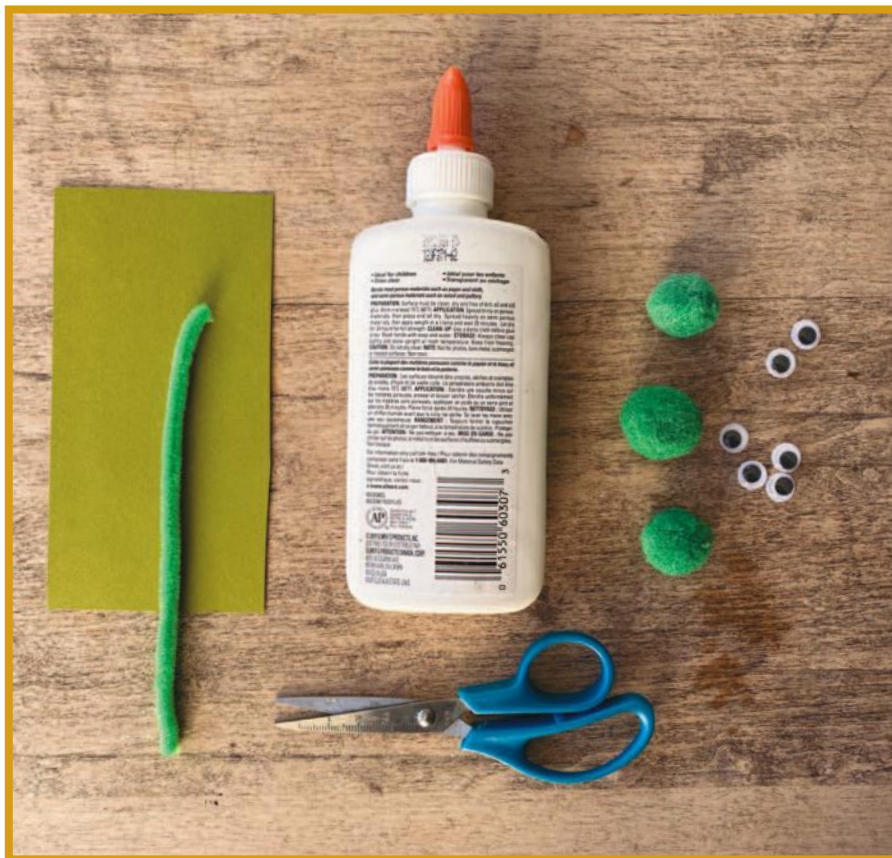
RECOMMENDED GRADE LEVELS: K – 2

TIME: 45 minutes

BRIEF DESCRIPTION OF ACTIVITY: Students will create a sculpture of soybeans in a pod.

KEY CONCEPTS: repetition, form (creating three-dimensional art).

RELEVANT ARTS CURRICULUM: D1. Creating and Presenting; D2. Reflecting, Responding, and Analysing; and Principles of Design: Repetition and Rhythm.



SUPPLIES

- green pipe cleaners for stems
- green material for pod (e.g., foam, felt or construction paper)
- small green pompoms
- wiggle eyes
- scissors
- glue/stapler

RESOURCES

Video:

Grains in Our Lives - How does a soybean plant grow?

Link:

<https://goodineverygrain.ca/video-activities>

INSTRUCTIONS

- 1. Make the pod.** Cut out strips (9 cm x 14 cm) of your green material. Fold it in half to create a long pod. Place a pipe cleaner down the centre of the strip with some of it extending beyond the pod to form the stem; glue it in place. Students can cut out one or more leaves from the green material to glue or staple to the end of the stem. With the stem in place, glue the ends of the material together to create a pod (a staple in each end may make it more secure.)
- 2. Create the beans.** Decorate the pompoms to represent the beans. Students can add wiggle eyes or draw eyes or facial features with a marker (like Rob!). Each student should create three to five “beans” for their pod. Glue the beans into the pod or leave them loose.



DID YOU KNOW?

Many artists enjoy drawing and painting trees. In Canada, the Group of Seven painted landscapes in new ways during the 1920s.

Ask students why they think artists enjoyed making pictures of nature. Have they ever created a painting outside?



TEACH MORE ART!

Show students A.Y. Jackson's landscape paintings such as *Terre Sauvage*, *Red Maple*, or *Nellie Lake*. See them at arthistoryarchive.com/arthistory/canadian/The-Group-of-Seven.html. Discussion questions: Did Jackson paint each leaf or rock individually? Do you see examples of repetition and rhythm in the painting? What effect does this create?



OUTDOOR LEARNING

Head outside with drawing paper and pencils/crayons. Look for different types of leaves to draw. Students may be interested in doing leaf rubbings with charcoal. Compare the leaves to the shape of the soybean leaf and make observations. If the season is right, hunt for other seed pods, such as maple keys. Observe them and draw what you see.

Bean mosaic

ACTIVITY 3



RECOMMENDED GRADE LEVELS: K – 4

TIME: 45 minutes

BRIEF DESCRIPTION OF ACTIVITY: Students will use seeds and beans to create a mosaic.

KEY CONCEPTS: assemblage of a mosaic, texture, value and colour.

RELEVANT ARTS CURRICULUM: D1. Creating and Presenting; D2. Reflecting, Responding, and Analysing; and Principles of Design: Variety.



SUPPLIES

- templates printed onto card stock (page 10,11)
- white glue
- soybeans
- seeds and other beans
- Q-tips

RESOURCES

All About Soybeans Fact Sheet (page 21).

Need Seeds? Grain Farmers of Ontario will send any Ontario classroom free seeds! All you have to do is sign up at www.goodineverygrain.ca/draw-with-rob or email web@gfo.ca directly.

INSTRUCTIONS

1. Spend some time looking at the shape and colour of the soybeans. Show the other seeds and beans, noting the similarities and differences in size, shape, colour and texture.
2. Distribute templates, glue, beans, and seeds . It helps to put the beans and seeds in paint palettes or empty egg cartons. Students can fill the template design with beans and seeds to create the mosaic. The best way to apply the beans is to fill one section at a time with glue and spread it with a Q-tip. The beans should be applied to each section while the glue is wet. A thick layer of glue is required for the beans to stick well.



DID YOU KNOW?

Mosaic is an ancient art form that has been used for thousands of years. The ancient Greeks used coloured stones and pebbles, as well as shells, to make beautiful and durable images. People still make mosaic art.

Ask your students to think of some other benefits to using mosaic as an art form.



TEACH MORE ART!

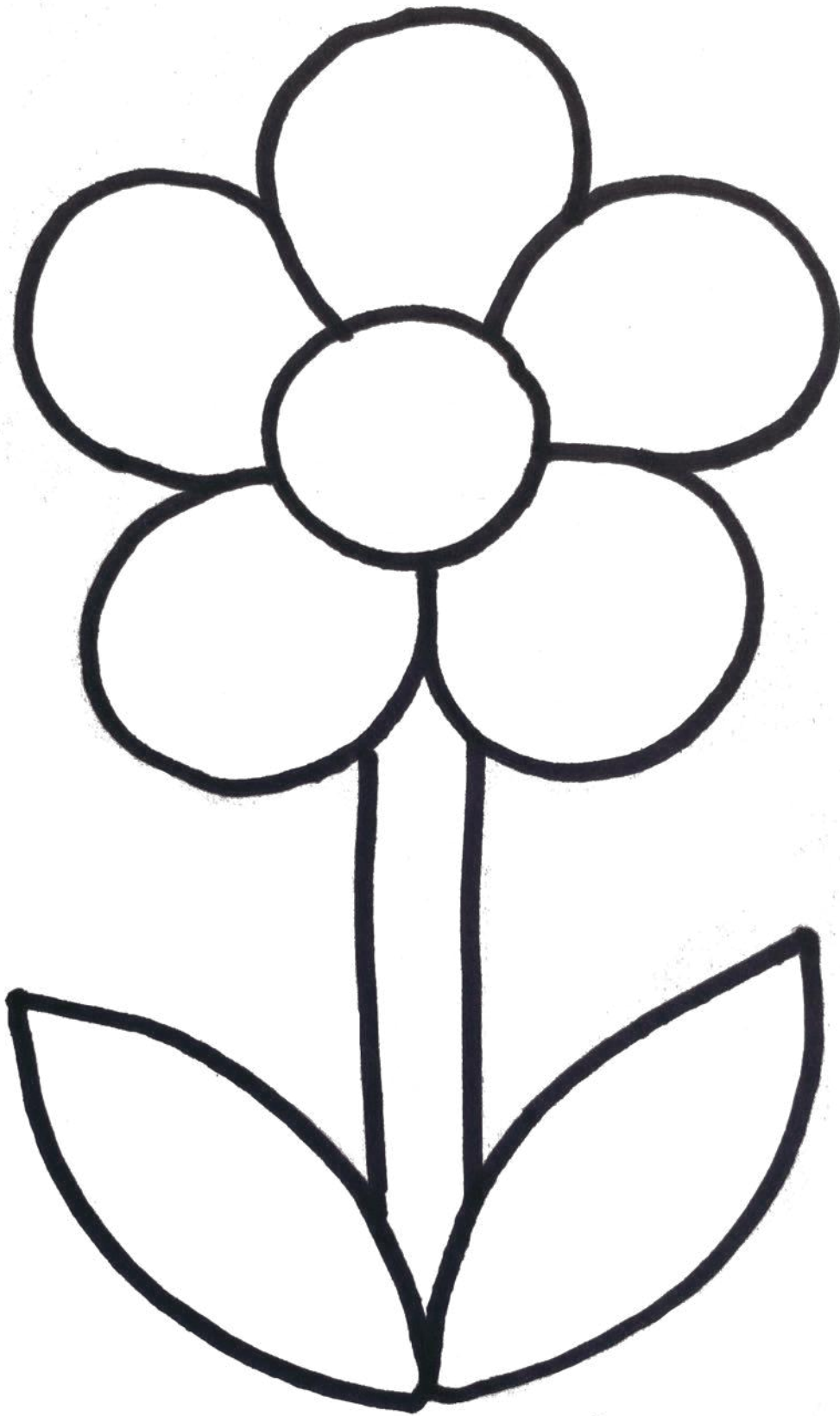
Show your students the work of Canadian mosaic artists such as Sheryl Crowley at <https://www.fracturedartmosaics.net> or Terry Nicholls at <https://terramosaic.com/nicholls/>. Ask questions such as: What do you think they use to make their mosaics? Do you think it must take them a long time? Do you feel different looking at a mosaic rather than a painting?

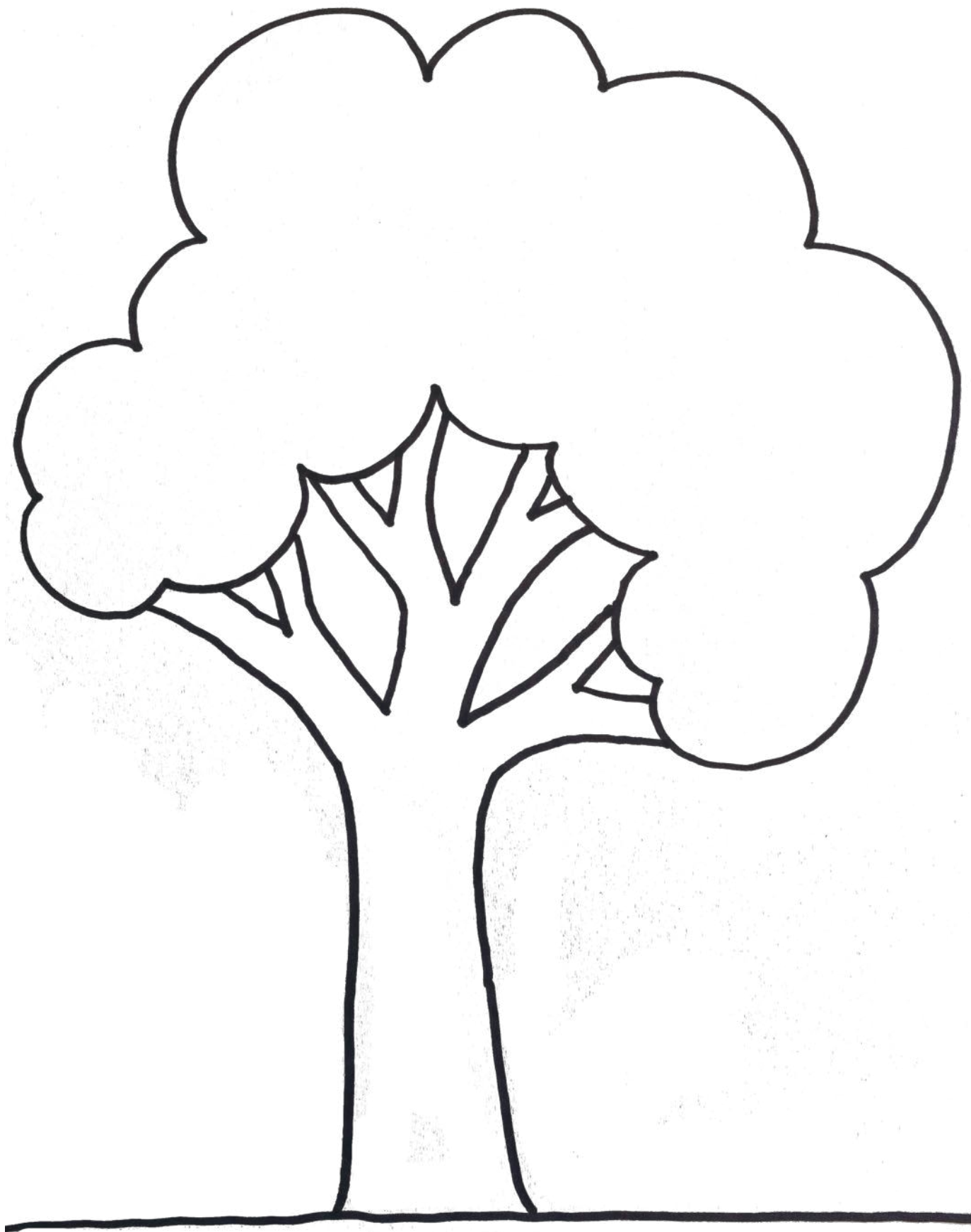


OUTDOOR LEARNING

In addition to beans and seeds, other natural elements can be introduced into the image.

Students can go outside to gather other elements that they feel would enhance their mosaic.





Dramatic life cycle

ACTIVITY 4



RECOMMENDED GRADE LEVELS: K – 2

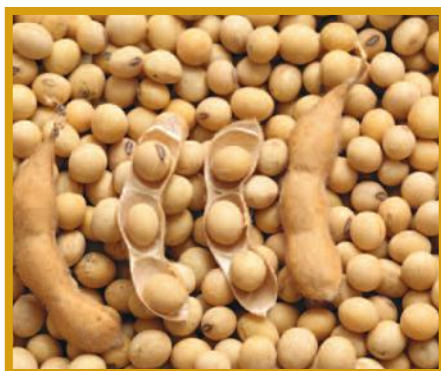
TIME: 15 - 20 minutes

BRIEF DESCRIPTION OF ACTIVITY: Students learn the concept of a life cycle, with the opportunity to move their bodies.

KEY CONCEPTS: Plant's life cycle and needs, movement.

RELEVANT ARTS CURRICULUM: D2. Reflecting, Responding, and Analysing.
Dance A1. Creating and Presenting.

RELEVANT SCIENCE AND TECHNOLOGY CURRICULUM: Understanding Life Systems Needs and Characteristics of Living Things.



SUPPLIES

- Sequence cards (printed onto card stock (page 14))
 - seed
 - seedling
 - small plant
 - adult plant
- Props:
 - watering can
 - yellow ball or flashlight as the sun

RESOURCES

Video:

Time lapse video of soybean plants growing

Link:

https://www.youtube.com/watch?v=G85PgCh8_7c

INSTRUCTIONS

1. For context, explain that a life cycle is the stages a living thing goes through.
2. Describe the life cycle of a soybean plant, which starts as a tiny seed and grows into a plant that makes new seeds, restarting the cycle.
3. Show students the sequence cards and discuss each one.
 - a. A soybean seed that starts in nice, warm soil and begins to grow or germinate once it gets water. It grows a tiny stem and begins to make roots. The stem grows tiny leaves and pushes out of the ground.
 - b. A seedling is a baby plant. It has a stem, tiny roots, and a few leaves. It needs water, food, and sunshine to grow.
 - c. The small plant has more leaves and bigger roots and begins to make buds. These buds will become flowers, which help the plant make seeds.
 - d. On the adult plant, the flowers fade and drop off, the plant makes pods in the places that had flowers, with soybeans inside them. The beans are ready to harvest when the pods are brown and the beans are plump, and a tan colour.
4. Order the cards to show the plant's life cycle.
5. Having learned the plant's life cycle, students can use their bodies and imaginations to be plants.
 - a. Pretend you're a seed planted in a garden! Spread out so you have room to grow.
 - b. Use your bodies to show what a seed looks like. Remember they are small and round. I will water you and warm you up with sunlight (props).
 - c. You have everything you need to germinate and will slowly start growing by opening and making a tiny root that digs into the soil. Remember that roots don't move. I will give you more water and sunlight.
 - d. When I clap my hands, push your tiny leaves out of the soil and reach for the sun. Here comes more water and sunlight! *Clap!*
 - e. When I clap again, grow into adult plants with leaves, flowers and strong roots. *Clap!*



DID YOU KNOW?

In Canada, we grow soybeans in Manitoba, Ontario, Quebec and the Maritimes.

Ontario grows over half of the soybeans grown in Canada!



TEACH MORE AG!

Canada Agriculture and Food Museum offers a variety of teaching resources.

Check out *A Handful of Soil* for more activities on plant growth.

Visit ingeniumcanada.org/agriculture.



OUTDOOR LEARNING

This is an easy activity to do outdoors with your students!

Life cycle of a plant

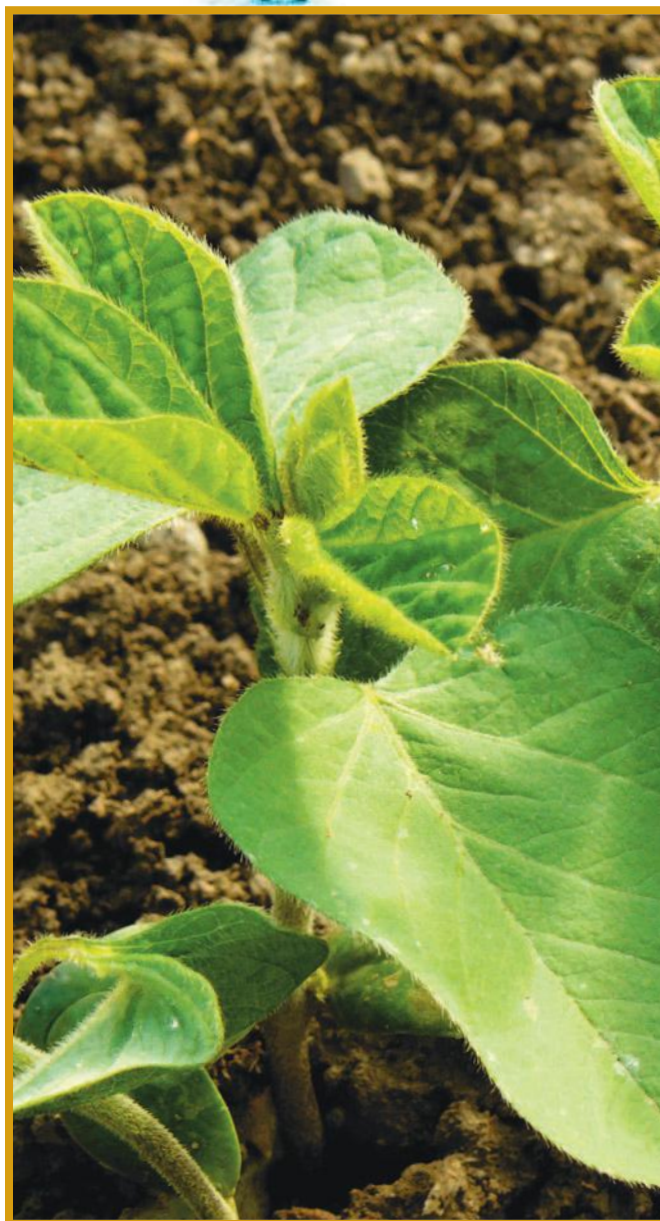
SEQUENCE CARDS



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1. Soybean seeds



2. Soybean seedling with tiny leaves



3. Soybean plant with flowers



4. Mature plant with full pods

Multimedia collage

ACTIVITY 5



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RECOMMENDED GRADE LEVELS: 3 – 4

TIME: 45 minutes

BRIEF DESCRIPTION OF ACTIVITY: Students will create representations of soybean growth using a variety of materials.

KEY CONCEPTS: observations of plant construction, creation of a collage, texture, value and colour.

RELEVANT ARTS CURRICULUM: D1. Creating and Presenting; D2. Reflecting, Responding, and Analysing; and Principle of Design: Variety.



SUPPLIES

- poster board or paper
- scissors
- glue
- magazines
- markers
- paint
- fabric
- other materials at hand that appeal to students
- plants or images of plants
- free seeds from Grain Farmers of Ontario (optional).

RESOURCES

Video:

Grains in Our Lives - How does a soybean plant grow?

Link:

www.GoodinEveryGrain.ca/video-activities

All About Soybeans Fact Sheet (page 21).

INSTRUCTIONS

1. **Explain collage**, if required, as a visual art form that uses a variety of materials pasted together to represent something. It could be abstract or a true representation of an object, person, place or event. If students are unfamiliar with collage, there are many examples online.
2. **Show students the video of soybean growth** linked under resources and ask them to pay particular attention to the close-ups of the soybean plants and the processes of the plant (e.g., photosynthesis, which is mentioned at time stamp 1:09). Or show them images of soybean plants and discuss the plant's parts.
3. **Allow students to explore the various art supplies** on hand and think about how they could use them to represent a plant. They may wish to make a picture of a plant – with stems, leaves, flowers or seed pods – perhaps using images of things made from soy, or create something that conveys the idea of “plantness.”
4. **When the collages are complete, ask students to explain their artistry** – what they have represented about plants and why, orally or in writing. Remember, there is no wrong way to create a collage!



DID YOU KNOW?

The word "collage" comes from the French word "coller" – "to glue." The collage art form was developed around 1910. Artists experimented with different materials and applied collage to other artistic styles, including film.

Arthur Lipsett was a Canadian artist who used bits of film leftover from other films to make collage films.



TEACH MORE AG!

Canada Agriculture and Food Museum offers a variety of teaching resources.

Check out *A Handful of Soil* for more activities on plant growth.

Visit ingeniumcanada.org/agriculture.

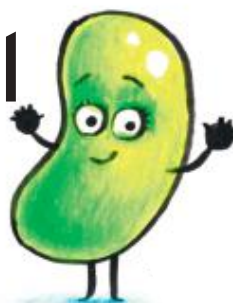


OUTDOOR LEARNING

Take students on a walk around an area with plants or trees to study how plants are constructed – how leaves branch off from stems, the veins in leaves that carry nutrients, where buds and flowers develop, and how flowers become seed heads.

Multimedia portrayal

ACTIVITY 6



RECOMMENDED GRADE LEVELS: 3 – 4

TIME: 45 minutes

BRIEF DESCRIPTION OF ACTIVITY: Students will depict products made from soybeans using a variety of drawing/painting mediums. They will observe the works of Indigenous artists for inspiration.

KEY CONCEPTS: understanding of plant uses, drawing, painting, colour, contrast.

RELEVANT ARTS CURRICULUM: D1. Creating and Presenting; D2. Reflecting, Responding, and Analysing; and Principles of Design: Variety, contrast, colour and form.



SUPPLIES

- poster board or paper
- markers
- paint, crayons, pastels or other drawing mediums at hand
- recipe-sized cards for gallery cards

RESOURCES

Video:

Draw with Rob's video Magic Beans, <https://goodineverygrain.ca/draw-with-rob/>

Access to images of the works of Indigenous artists Norval Morisseau and Daphne Odjig, available for viewing at Key Works, www.aci-iac.ca/art-books/norval-morisseau/biography artnet.com/artists/daphne-odjig/

All About Soybeans Fact Sheet (page 21).

INSTRUCTIONS

1. Review the portion of Rob's video where he talks about products made from soybeans. Expand on the list: tofu, soy butter, ice cream, Jell-O, lipstick, bubble gum, ink, fabric, etc.
2. Show students the work of Morisseau and/or Odjig. Ask them to describe how they think the artists went about creating them, paying attention to line, colour, texture and form.
3. Distribute drawing and/or painting supplies and have students take their inspiration from Indigenous art to represent products in their lives that are made from soybeans – e.g., their healthy lunch featuring a soy butter sandwich, a still life of crayons drawn with crayons made with soybean wax, a portrait of a woman wearing lipstick made with soybeans blowing a bubble of gum made with soybeans. Ask students to explore what they observed in the art pieces they saw.
4. Have students prepare a gallery card to explain their work and their understanding of soybean products.



DID YOU KNOW?

Indigenous artists often represent the things around them. If you look around, you are likely to see products made from soybeans!

A textbook, a favourite stuffy, modelling clay, a jigsaw puzzle. The list is long!



TEACH MORE AG!

Is your class interested in talking to a local farmer?

Grain Farmers of Ontario can connect you to a farmer who can talk to your students about their farm and Ontario grains.

Email web@gfo.ca to arrange this virtual class visit.



OUTDOOR LEARNING

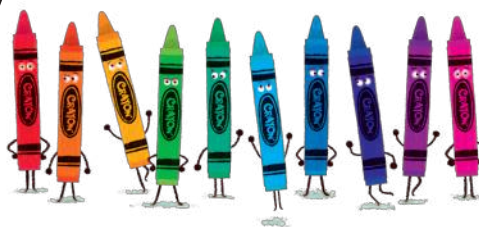
Drawing and painting outdoors is a satisfying way to reflect on natural subjects.

Weather permitting, have students bring their materials along to a comfortable outdoor location for creating art.

Bonus activity

ACTIVITY 7

How to Draw... a crayon



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1. A nice, easy start. Draw a tall, thin rectangle.



2. At the top, draw another rectangle, this time wide and short. Make it slightly narrower than your original shape.



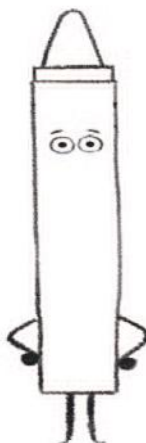
3. Using this small rectangle as a base, draw a triangle with a rounded end. This is the top of your crayon.



4. Draw two circles as shown, each with a dot in the middle. These are our crayon's eyes. Add a dash above each eye. These are the eyebrows.



5. Draw two vertical lines coming down from the base of the rectangle. Finish them off with a slight curl.



6. Towards the base of the rectangle, draw a rounded triangle on each side. Add two small black circles at the bottom for hands.



7. Time to design your crayon's body! I have drawn black stripes and a black oval inside which I have written 'CRAYON' in a fun typeface.



8. Now colour in your crayon. Remember to try and keep inside the lines. Choose whatever colour you like – in fact, why not make an entire rainbow of crayons.

All about soybeans

FUN FACTS

LEARN MORE AT:

<https://goodineverygrain.ca/2018/03/01/grainsweek-soybeans/>

- Soybeans, also called soya beans, are part of the pea family.
- Economically, the soybean is the most important bean in the world. It provides vegetable protein for millions of people and ingredients for hundreds of products.
- They are the largest field crop in Ontario; on average, three million acres are planted annually, producing 3.8 million metric tonnes. Ontario grows 53 per cent of Canada's soybeans.



- Seeds are mostly tan or brownish, but can be yellow or black. They are planted when danger of frost is past and prefer fertile, well-drained, loamy soil. Like other legumes, soybeans add nitrogen to the soil, which helps to enrich it.
- Soybean plants can grow to two metres tall.
- The flowers are self-fertilizing (cleistogamous) and are white or shades of purple.



- Young beans are called edamame and are eaten steamed or boiled or straight from the pod.
- Soybeans contain 17 per cent oil and 63 per cent meal, 50 per cent of which is protein. Soybeans contain no carbohydrates, so they are a good source of protein for diabetics.
- Soybeans are harvested mechanically using a combine



after the leaves fall off and the plants have dried out to a brown colour.

- 53 per cent of Ontario's soybeans are exported worldwide to countries like China, the UK, Ireland, Japan, Malaysia and Vietnam.
- Soybeans can be sold as commodity beans (those used as an ingredient to make a product) or as food grade where the beans are used directly in food production.
- There are many uses for soybeans: its oil can be made into margarine, shortening and vegetarian cheeses. It can be used as a meat substitute in many food products, including baby foods and vegetarian foods. It is an ingredient in paints, adhesives, bio-diesel fuel, fire-extinguisher fluids and more.
- Soybeans do not need insects for pollination but most plants do. Learn more about pollinators by downloading your FREE Busy Bees Digital Learning Kit at ingeniumcanada.org/agriculture.



Recommendations

BOOKS FOR STUDENTS



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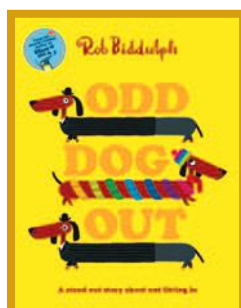
BOOKS BY ROB BIDDULPH



BLOWN AWAY

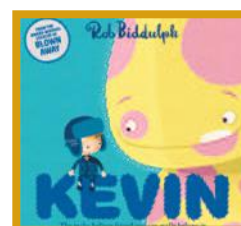
Penguin Blue is a brave little penguin who gets blown away with his new kite. He and his friends

Penguin Flo, Penguin Jeff, Wilbur Seal and Clive the polar bear have an exciting adventure as they learn about homesickness and the problems of kites.



ODD DOG OUT

Life in the big city is hard for a little dog who doesn't fit in. She packs her bag and travels the world to find her place. Will she find it? Or will she learn she was where she belonged all along?



KEVIN

When Sid Gibbons gets in trouble – again! – he blames it on his big, furry, vanilla-and-pink, make-believe friend Kevin. Sid gets a bit surprised when he discovers that Kevin might not be so imaginary after all.

Sid gets a bit surprised when he discovers that Kevin might not be so imaginary after all.

BOOKS ABOUT PLANT GROWTH AND SOYBEANS

My Family's Soybean Farm *By Katie Olthoff*

Alexander lives on a soybean farm. He explains what happens on a soybean farm and what it's like to live there. He'll show you how soybeans grow, how they're harvested and what they're used for.

Albee and the Big Seed *By Kirsten Irving, Lizzie Walkley*

Albee the curious bee finds a seed and plants it. It grows into a flower so amazing that even the queen bee wants to see it! But will it be ready for the Grand Hive Ball?

Oh, Say Can You Seed? *By Bonnie Worth*

The Cat in the Hat is the guide as students learn about all the parts of seeds and plants and what they do and how they become other things.

The Tiny Seed *Eric Carle*

A tiny seed goes on a big adventure when it floats across the sky! The other seeds were burned by the sun, fell into the ocean, or were eaten by birds! But the tiniest seed finds itself in the ground, ready for what comes next.

How Do Apples Grow? *By Betsy Maestro*

Have you ever eaten part of a flower? You have if you've eaten an apple! Learn how an apple grows from a bud to become a fruit.

