PEI Seed Kit Teacher Guide



PEI SEED KIT Teacher Guide (Gr 3)

The **Prince Edward Island Seed Kit** is an interactive resource that introduces your class to the diversity of crops grown in PEI and the husbandry required to yield successful crops.

While using this kit, students will learn to identify various seed types via interactive classification activities, designed to raise awareness regarding the use of these crops in various industries such as the food and energy sectors.

There are 4 activities included in this kit: Activity 1: Seed Classification Activity 2: The Life Cycle of the Plant Activity 3: How We Use Plants Activity 4: Invent Your Own Crop

Background Information:

Seeds are the tiny powerhouses of agriculture. The seeds develop into plants which accumulate energy from the Sun and convert it into food energy for all living things. Whether plant or animal based, most of our food starts with a seed.

Currently, PEI is best known for its potato production. However, a wide variety of crops are grown across the island. The **PEI Seed Kit** explores 20 crops currently produced in Prince



DID YOU KNOW?

The majority of the seeds in the **PEI Seed Kit** have all been donated by Vesey's Seeds in York, PEI..

Prince Edward Island's Top 10 Crops

Potatoes	85,820 acres
Barley	61,000 acres
Soybean	36,100 acres
Spring wheat	18,200 acres
Grain corn	12,500 acres



¹ Canadian Football Field = 2 acres

To Get Started:

Meet our fellow Canadian farmers including Manitoba seed growers, researchers, and industry in the **Great Canadian Farm Tour** (48:36 min): Free Resources | AITC Canada (aitccanada.ca)

ACTIVITY I: SEED CLASSIFICATION

In this activity, students will:

• Classify and illustrate seeds using the seeds chart key based on their physical properties including color, size, shape, and other characteristics.

Materials:

- PEI Seed Kit
- Seeds Chart Key
- Needed: Students will also need pencils and pencil crayons or markers to complete this activity
- Optional: Ruler

Assess Prior Knowledge:

Suggested Questions for Discussion:

- Every spring, PEI farmers plant seeds which grow into crops that they harvest in the fall. Can you name any seeds or crops that are grown by PEI farmers?
- Seeds are not only important to PEI farmers, they are important to all of us. Why are seeds so important for everyone?
- If we didn't have any seeds, would we have any food?
 Explain.

Seed Classification Activity Instructions:

Divide the **PEI Seed Kit** into 4 or 5 stations:

• Place 4 or 5 tins of seeds at each station.

Divide the class into 4 or 5 groups:

- Provide each group with 4 or 5 seed tins.
- Ask the students if they know the names of any seeds.
- Then provide each student with a copy of the Seeds Chart Key

Students will record the appropriate tin number and sketch each seed on their **Seed Chart Key** to match the appropriate information provided. Allow students about 5 to 10 minutes per station to work through the **Seed Chart Key**, providing guidance when necessary. Have student groups continue to rotate through each station until each group has had a chance to classify all of the seeds.

Teacher Tips:

Students can measure the seeds using their own ruler. Have students measure the length (longest part) of the seed. It may be helpful to measure more than one seed from each tin as not all seeds of the same crop are the same length.

Curriculum Links:

Science: Plant Growth and Changes

- 100-29 draw inferences that identify and investigate life needs of plants and describe how plants are affected by the conditions in which they grow
- 200-1 ask questions that lead to exploration and investigation
- 201-6 estimate measurements of the plant as it grows
- 202-2 place materials and objects in a sequence or in groups according to one or more attributes
- 202-5 identify and suggest explanations for patterns and discrepancies in observed objects and events

Post Activity Discussion:

Suggested Questions for Discussion:

- What was easy and what was difficult about classifying the seeds?
- Why might a farmer need to be able to identify seeds before deciding to grow it?
- Once the seeds are planted, what conditions are important to consider to yield a successful crop?
- What seeds are similar? What seeds are different? How?

Activity I: Seed Classification

Name:

In the blank boxes below, record the number of the tin containing the seeds that best matches the physical properties described in each row and provide a sketch.

Seed Shape Key:

Spherical



Irregular

May be any shape

Tin #	Seed Name	Seed Sketch	Seed Color	Seed Size	Seed Shape	Special Characteristics
	Carrot		Brown, Tan	<0.5 cm	Oblong	Striped
	Rutabaga		Black	<0.5 cm	Spherical	-
	Wheat		Tan	<0.5 cm	Oblong	Groove in the middle
	Corn		Yellow, Tan	>0.5 cm	Irregular	-
	Radish		Brown, Red	<0.5 cm	Spherical	-
	Oats		Tan	>0.5 cm	Oblong	Hollow grooves in the middle
	PEI Soil		Brown, Red	-	-	-

Tin #	Seed Name	Seed Sketch	Seed Color	Seed Size	Seed Shape	Special Characteristics
	Beet		Brown, Tan	<0.5 cm	Irregular	-
	Soybean		Tan	>0.5 cm	Spherical	Smooth
	Нау		Tan	<0.5 cm	Oblong	-
	Cabbage		Yellow, Black, Brown	<0.5 cm	Spherical	-
	Mustard		Black, Yellow, Purple	<0.5 cm	Spherical	-
	Sunflower		Tan, Black	>0.5 cm	Oblong	Striped
	Buckwheat		Black, Tan	<0.5 cm	Irregular	-
	Pumpkin		Tan	>0.5 cm	Oblong	Flat
	Pea		Green	>0.5 cm	Spherical	Wrinkly
	Barley		Tan	>0.5 cm	Oblong	-
	Cucumber		Tan	>0.5 cm	Oblong	Flat and Smooth
	Bean		Tan, Brown, Black	>0.5 cm	Oblong	_
	Lettuce		Black, Tan	<0.5 cm	Oblong	Flat

Activity I: Seed Classification

Name: Answer Key

In the blank boxes below, record the number of the tin containing the seeds that best matches the physical properties described in each row and provide a sketch.

Seed Shape Key:

Spherical



Irregular

May be any shape

Tin #	Seed Name	Seed Sketch	Seed Color	Seed Size	Seed Shape	Special Characteristics
1	Carrot		Brown, Tan	<0.5 cm	Oblong	Striped
11	Rutabaga		Black	<0.5 cm	Spherical	-
19	Wheat		Tan	<0.5 cm	Oblong	Groove in the middle
16	Corn		Yellow, Tan	>0.5 cm	Irregular	-
4	Radish		Brown, Red	<0.5 cm	Spherical	-
18	Oats		Tan	>0.5 cm	Oblong	Hollow grooves in the middle
3	PEI Soil		Brown, Red	-	-	-

Tin #	Seed Name	Seed Sketch	Seed Color	Seed Size	Seed Shape	Special Characteristics
7	Beet		Brown, Tan	<0.5 cm	Irregular	-
15	Soybean		Tan	>0.5 cm	Spherical	Smooth
20	Нау		Tan	<0.5 cm	Oblong	-
2	Cabbage		Yellow, Black, Brown	<0.5 cm	Spherical	-
10	Mustard		Black, Yellow, Purple	<0.5 cm	Spherical	-
13	Sunflower		Tan, Black	>0.5 cm	Oblong	Striped
5	Buckwheat		Black, Tan	<0.5 cm	Irregular	-
12	Pumpkin		Tan	>0.5 cm	Oblong	Flat
14	Pea		Green	>0.5 cm	Spherical	Wrinkly
17	Barley		Tan	>0.5 cm	Oblong	-
6	Cucumber		Tan	>0.5 cm	Oblong	Flat and Smooth
9	Bean		Tan, Brown, Black	>0.5 cm	Oblong	-
8	Lettuce		Black, Tan	<0.5 cm	Oblong	Flat

ACTIVITY 2: The Life Cycle of the Plant

In this activity, students will:

• Design and present a storybook, illustrating the different stages of the lifecycle of the seed in which each student is assigned.

Materials:

- Paper
- Pencil
- Needed: Students will also need pencil crayons, markers or crayons to complete this activity
- Optional: Stapler

Assess Prior Knowledge:

Explain to students the following before starting the activity:

- The major structures of a plant including the root, stem or trunk, seed, flower, and leaf.
- The different stages of plant growth starting at a seed.

Life Cycle Activity Instructions:

Assign each student a particular seed from the PEI Seed Kit:

- Provide each student with the tin of their assigned seed.
- Allow students to create a rough draft outlining the stages of crop growth applicable to their seed, providing guidance wen necessary.
- Each stage should include a rough sketch and short description outlining the major parts of the plant present and the changes that occurred between the last stage.
- Once the stages are all completed, quickly check to ensure satisfaction before asking students to create a final copy of their story book.
- Have students then present their books to the class and exhibit their work in a class display.

Teacher Tips:

Various artistic materials can be used when generating the storybook, encourage students to express their individuality and artistic skills. At the beginning or end of the book, get students to include a personal reflection regarding their feelings towards planting their own garden.

Curriculum Links: Science: Plant Growth and Changes

- 100-28, 203-2 identify and describe parts of plants and their general function
- 100-30, 201-5 observe and describe changes, using written language, pictures, and charts, that occur through the life cycle of a flowering plant



Post Activity Discussion:

Suggested Questions for Discussion:

- What was easy and what was difficult about constructing the storybook?
- Discuss any similarities or discrepancies in the stages of growth between various seeds.

Note:

The completion of the rough draft is at the discretion of the teacher to decide what an acceptable description and illustration is.

ACTIVITY 3: How We Use Plants

In this activity, students will:

• Classify food items derived from the seeds in the **PEI Seed Kit** according to the part of the plant used in production.

Materials:

- PEI Seed Kit
- 'How We Use Plants' Worksheet
- Needed: Students will also need a pencil to complete this activity.

Assess Prior Knowledge:

Explain to students the following before starting the activity:

- The major structures of a plant including the root, stem or trunk, seed, flower, and leaf.
- The general functions of each plant structure.

Vocabulary:

Root: the part of the plant that holds the plant in the ground, absorbs water and nutrients, and stores food. **Stem or Trunk**: the part of the plant that holds the plant up and carries water and nutrients from the roots to the leaves.

Seed: a plant grows from this.

Flower: the part of the plant that makes the seeds. Leaf: the part of the plant where food for the plant is made.

How We Use Plants Activity Instructions:

- Give each student one copy of the 'How We Use Plants' worksheet
- Allow students to work on the sheet, generating ideas of products derived from seeds within the PEI Seed Kit.

Teacher Tips:

This worksheet ma be completed individually or collectively in groups of amongst the entire class.

Curriculum Links:

Science: Plant Growth and Changes

- 102-12 describe ways in which plants are important to living things and the environment
- 102-13 identify parts of different plants that provide humans with useful products, and describe the preparation that is required to obtain these products and how our supply of useful plants is replenished
- 200-1 ask questions that lead to investigation and exploration
- 200-3 make predictions, based on an observed pattern



Activity 3: How We Use Plants

Name:

Using the 20 seeds included in the **PEI Seed Kit**, list a food item that is derived from each seed and determine the specific part of the plant used to make the food item. For example, the seed or grain of wheat is used to make flour.

The parts of the plant that may be used include: root, stem or trunk, leaf, flower, seed.

	Part of the Plant Used	Food Item
Carrot		
Cabbage		
Radish		
Buckwheat		
Cucumber		
Beet		
Lettuce		
Bean		
Mustard		
Rutabaga		
Pumpkin		
Sunflower		
Pea		

	Part of the Plant Used	Food Item
Soybean		
Corn		
Barley		
Oats		
Wheat		
Нау		

Other Uses for Plants

Unscramble the words to determine what other products are manufactured from plants!







rapPe



IhsCeto





Pitna

ACTIVITY 4: Invent Your Own Crop

In this activity, students will apply their knowledge of seeds and crops, their classification and uses to:

- Create their own seed or crop
- Classify and describe the crop according to the physical properties listed in the **Seed Chart Key** and the growing conditions which are optimal for the crop
- Identify and describe the main uses for their crop and the aspect(s) of the plant that will be utilized.

This activity is designed to give students the opportunity to apply what they have learned in creative personalized ways and share their knowledge with others. It also gives you, the teacher, the opportunity to evaluate what the students have learned about the seeds or crops, their classification and uses.

Materials:

- Seed Chart Key Worksheet
- The 'Invent Your Own Crop' Worksheet
- Needed: Students will also need pencils to complete this activity.

Invent Your Own Crop Activity Instructions:

- Provide each student with a copy of the 'Invent Your Own Crop' Worksheet.
- Have the student complete the worksheet, inventing their own crop
- Have students share their invented crop with either a partner, group, or the class and/or create a classroom display of their newly invented crops

Curriculum Links:

Science: Plant Growth and Changes

- 100-28, 203-2 identify and describe parts of plants and their general function
- 100-29 identify and investigate life needs of plants and describe how plants are affected by the conditions in which they grow
- 200-1 ask questions that lead to exploration and discussion
- 201-5 make and record relevant observations and measurements of plant growth during their investigations
- 203-5 respond to the ideas and actions of others and acknowledge their ideas about the uses and replenishing of plants





Invent Your Own Crop



The **PEI Seed Kit** was made thanks to support from



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