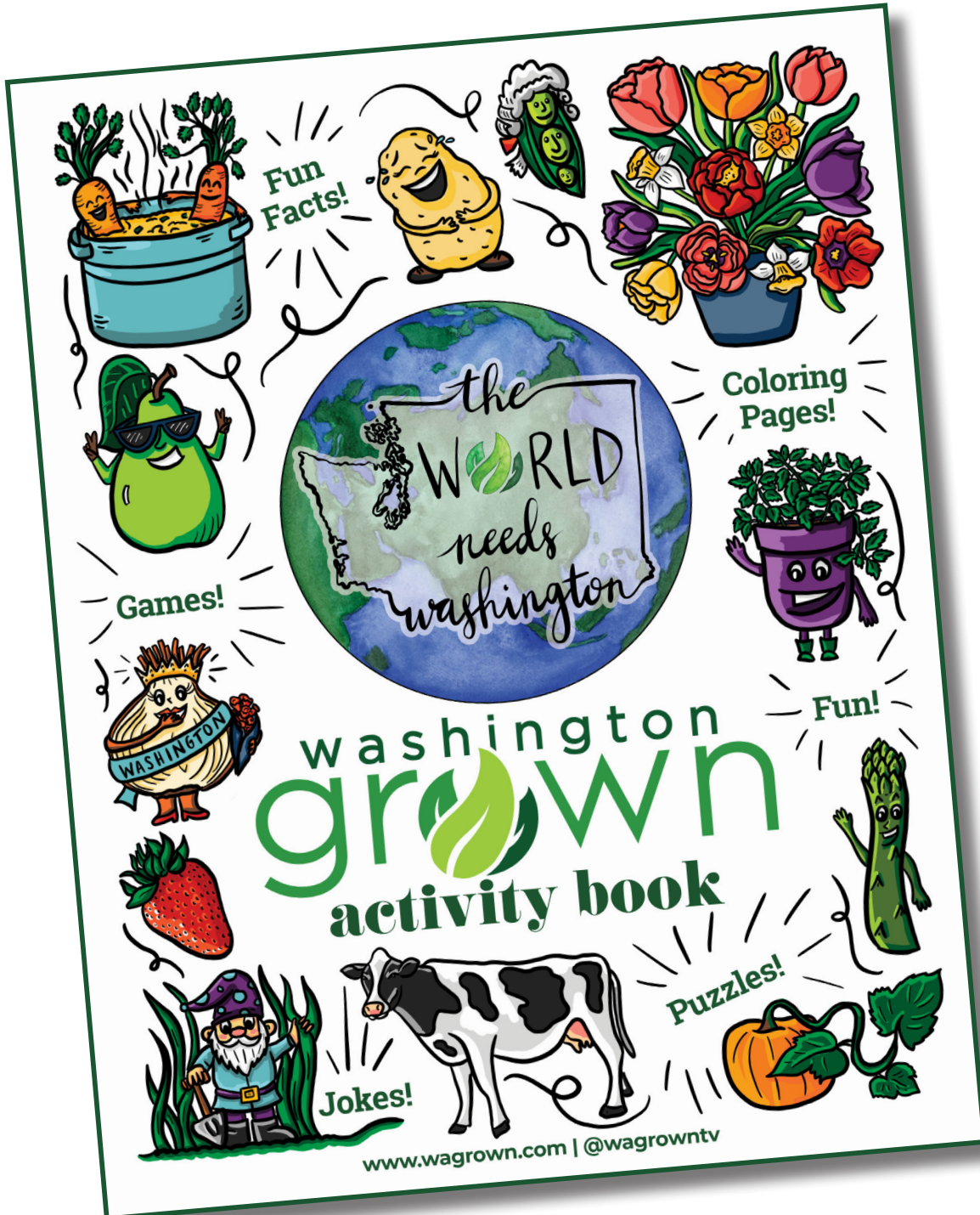


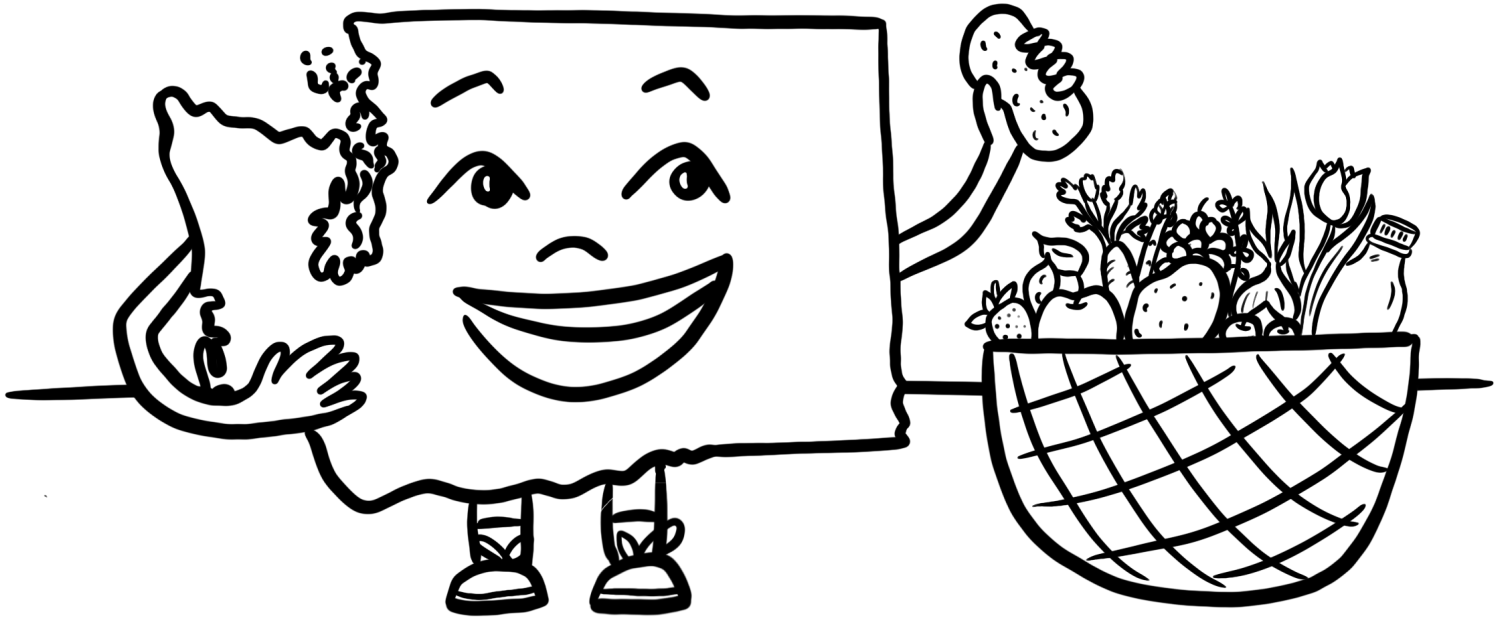
washington grown teacher's guide



Discussion questions, vocabulary words, and other resources to help students get the most from the Washington Grown activity book

Recommended ages

This activity book is geared toward children in grades 1-3, but most of the activities can be enjoyed by younger and older kids as well.



A note for educators

Thank you for sharing this Washington Grown Activity Book with your students! We hope this book will help Washington kids learn about where their food comes from, as well as expose them to the hardworking farmers who grow incredible crops right here in their home state. Of course, we also hope they have a great time coloring the illustrations, doing the

activities, playing the games, and learning some new silly jokes!

We recommend spending some time reading through the activity book with your students, and we've provided additional discussion points and lessons in this teacher's guide to supplement the activity book.

Before reading

While some students will be familiar with Washington farms, produce, and agriculture, others may not know that many of the fruits and vegetables they eat are grown right here in our state! Before you begin working through the activity book, ask the kids if they've ever been on a farm. Ask them what they saw growing there, and what their favorite fruits and vegetables are.

Vocabulary words

We have included relevant vocabulary words in **bold** throughout the activity book. Below are student-friendly definitions, adapted from Merriam-Webster.com, in order of appearance.

Nutrient: A substance or ingredient that helps plants and animals grow, get energy, and stay alive.

Export: To bring or send something to another country, usually so it can be sold.

Tuber: A short, fleshy stem (like a potato plant) usually found underground that can produce a new plant.

Drupelet: One of a group of small individual fruits that form a larger fruit, like a blackberry or raspberry.

Melatonin: A hormone, usually created when it becomes dark, that helps your body sleep.

Pollen: Fine powder in the stamen of a flower that fertilizes the seeds.

Stone fruit: A fruit with flesh or pulp around a single stone, with a seed inside the stone.

Combine harvester: A machine that cuts, cleans, and sorts grains while moving over a field.

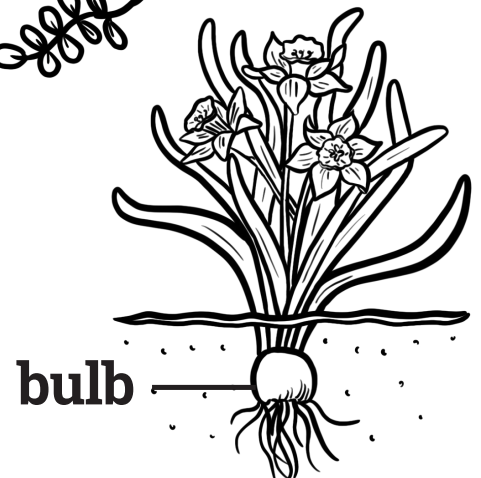
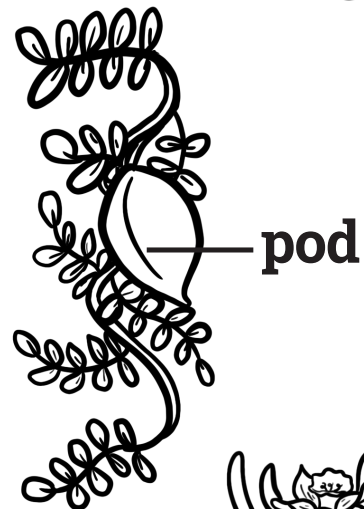
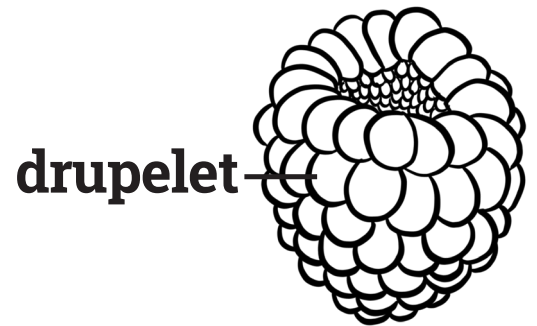
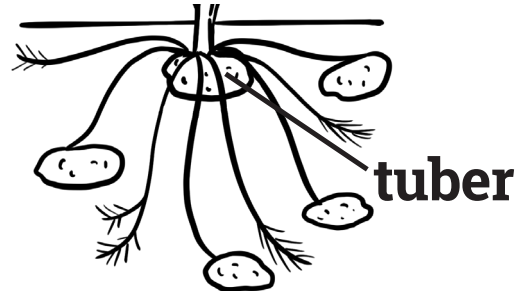
Pod: A fruit that is dry when ripe and then splits open to free its seeds.

Core: The center of some fruits, like pineapples or apples, that usually can't be eaten.

Family: A group of related plants or animals.

Bulb: An underground resting stage of a plant (like an onion or tulip).

Dairy: Food (like ice cream, cheese, or yogurt) made primarily from milk.



The world needs Washington



Introduction

We recommend reading the article on **page 3** with your students as a group, leaving time for them to ask questions and get clarification on anything they don't understand. After you read the article, you can discuss the following questions.

What are three reasons that Washington farmers can grow so much extra food?

1. Washington has great soil with lots of nutrients.
2. We get plenty of water and sunshine.
3. Our crops don't get as many bugs and pests.

Why is it easy for Washington to ship food to Central America, Canada, and Asia?

Since Washington is on the West Coast and next to the Pacific Ocean, our farmers can send lots of food quickly by ship or airplane to many countries.

What does a bigger population in the future mean for our farmers?

Farmers will need to produce more food on less land, using less water, to make sure everyone has enough to eat.

We send lots of different foods to other countries, but what are the top four mentioned in this article?

1. Potatoes
2. Wheat
3. Apples
4. Cherries

Percentages

Use this section to help kids understand the concept of percentages, which are referenced on **page 3** and throughout the activity book. Show the charts below to help them solidify the concept, as well as the french fry graphic from **page 5**.

“Percent”

The word **percent** means one part out of 100. On page 3, when we say Washington farmers send 30% of our apples to other countries, we mean they export 30 out of every 100 apples. When we say we need to produce 60% more food by 2050, we mean we need to grow 60 out of 100 more pieces of food than we do now.



How to show percentages

We can use numbers, charts, or graphs to show percentages. Another way to show percentages is to simplify the numbers even more. For example, on **page 5**, students are asked to color 7 of 10 french fries to show that 70% of potatoes are exported to other countries.

Bar
chart

Original
Amount

60%
Increase

Pie
chart

70%

30%

Exporting & importing

Use this section to explain exporting and importing to students and why they help create jobs in our state. Discuss the jobs with the students, and how each person helps Washington crops get where they need to go.

Exporting is sending goods to other countries.

Importing is bringing in goods from other countries.

Transporting means moving goods around by boat, truck, or plane.



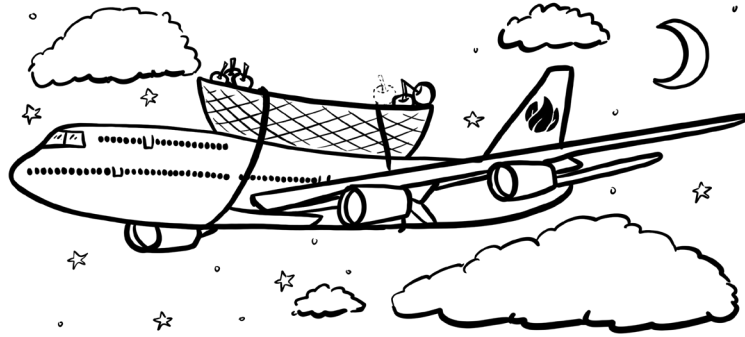
Each year, Washington exports an average of \$8 billion worth of food and agricultural products. This creates many jobs throughout the state. In 2022, according to the U.S. Global Leadership Coalition, more than 931,000 Washington jobs relied on international trade.

These jobs include:

- Farm employees, who grow and pick the food
- Food processors
- Food packagers
- Truck drivers
- Rail workers
- Grain elevator operators
- Port employees
- Longshoremen, who load and unload ships

Washington's exports

Washington exports food to many countries around the world. Use the map on the following pages to help the students understand how far Washington-grown food travels and which foods are the most popular internationally.



Top exports and countries in 2023

Potatoes

Japan, Mexico, South Korea

Berries

Canada, Vietnam, Philippines

Cherries

Canada, South Korea, Taiwan

Hops

Belgium, Germany, Canada

Grapes

Canada, Sweden, Germany, South Korea

Wheat

Philippines, China, Japan

Chickpeas, lentils, and peas

China, Spain, Canada

Apples

Mexico, Canada, Taiwan

Mint

Germany, China, Mexico

Dairy

Indonesia, Japan, Mexico

Top exports around the world

- Potatoes
- Berries
- Cherries
- Hops
- Grapes
- Wheat
- Chickpeas, lentils, and peas
- Apples
- Mint
- Dairy



Plant life cycle

Discuss with the students how a seed grows into a mature plant. Explain how the plants have a life cycle in which the seeds from one plant can help another plant grow.

1: Seeds

Plants start their life as seeds, which come in many sizes, ranging from tiny and almost invisible to nearly a foot long. Seeds travel to the soil in many ways. Some are planted by people, and others are dropped, blown in the air, or brought by animals.

2: Germination

A seed needs water, nutrients from the soil, and sunshine in order to germinate. In this phase, the seed softens and splits, and it puts down roots as the plant begins to grow upward toward the surface of the soil.

3: Seedling

When the plant appears above the soil and grows toward the sun, it is called a seedling. Leaves begin sprouting, and the plant gets taller and thicker, while the roots underground get stronger.

4: Mature plant

As plants mature, some grow flowers. The stamen of the flower produces pollen, which is used to fertilize other flowers by insects and the wind. When the flowers are pollinated, they produce fruit, which contain seeds. But not all plants make flowers; some plants, like pine trees, grow cones, which have seeds inside, and other plants produce spores, bulbs, or buds instead of flowers.

5: Seeds fall

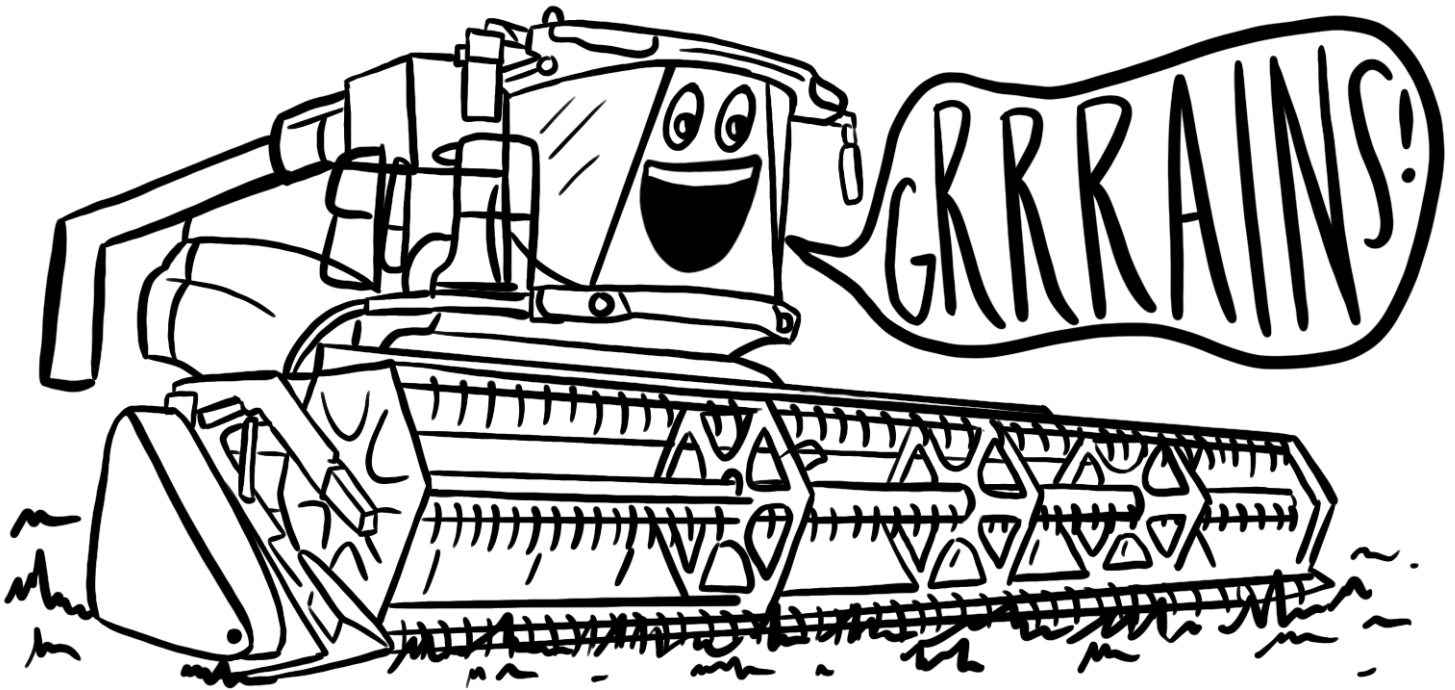
Eventually, plants grow old and die. They break down and decompose, returning nutrients to the soil. The seeds drop, and the cycle begins again.



Note about potatoes: Unlike many crops, potatoes do not grow from seeds. Farmers plant a small "seed potato," which grows stems and roots from its eyes. The stalk grows up, forming leaves, flowers, and even fruits, which are not edible.

Harvesting

In this section, discuss with the students how different crops are harvested or picked commercially.



Farmers harvest plants in many ways, depending on the crop. For more delicate and easily damaged produce, large farms hire workers to pick them by hand, while machines can harvest and sort other fruits, vegetables, and grains.

Crops that farmers pick or harvest by hand:

- Berries
- Peaches
- Pumpkins
- Apples
- Cherries
- Apricots
- Asparagus
- Pears

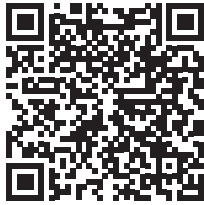
Crops that farmers often machine harvest:

- Potatoes
- Barley
- Onions
- Peas
- Hops
- Mint
- Carrots
- Grapes
- Lavender
- Chickpeas
- Wheat
- Garlic
- Lentils

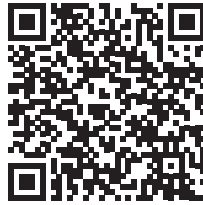
Farm tours

In each episode of Washington Grown, we visit a Washington farm to meet the farmers and learn about how they grow their crops. Click each link or scan the QR codes below to share these clips with your students, so they, too, can meet the farmers growing their food.

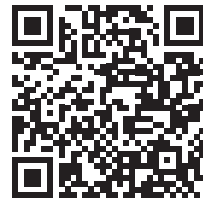
Apples



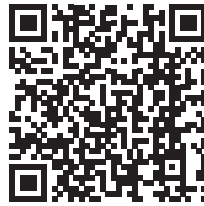
Asparagus



Berries



Carrots



Cherries



Chickpeas



Grapes



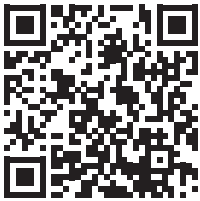
Onions



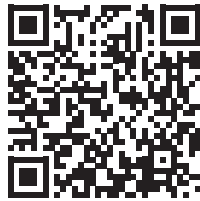
Peaches



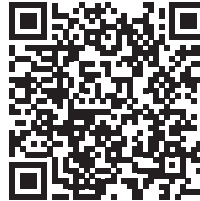
Pears



Potatoes



Spinach



Wheat

