

# Parts of Plant: Tops and Bottoms (4<sup>th</sup> Grade)



## NUTRITION OBJECTIVES CHECK LIST

- Students **prepare** and **taste** a vegetable salad.
- Students **express ways** they can **eat a variety of vegetables every day.**
- Students **explain** the **health benefits** of eating vegetables.
- Students **identify** that broccoli, radishes, lettuce, and carrots fit in the vegetables group of MyPlate.

## MATERIALS AND INGREDIENTS

Bins	Teacher Provides	Will be Delivered
<p><b><u>In Kitchen Bin</u></b></p> <ul style="list-style-type: none"> <li>- cutting board (teacher only)</li> <li>- chef knife (teacher only)</li> <li>- mixing spoon</li> <li>- large bowl</li> </ul> <p><b><u>In Paper Goods Bin</u></b></p> <ul style="list-style-type: none"> <li>- plastic knives*</li> <li>- plastic spoons*</li> <li>- napkins*</li> <li>- plastic gloves (2 per student)</li> </ul>	<ul style="list-style-type: none"> <li>- text “Parts of Plants: Roots” copies*</li> <li>- activity sheet copies*</li> <li>- recipe copies*</li> <li>- small plastic bowls for scrap gardening activity</li> </ul>	<ul style="list-style-type: none"> <li>- book: “Tops and Bottoms” by Janet Stevens</li> <li>- 2 carrots</li> <li>- 2 tomatoes</li> <li>- romaine lettuce (3 heads)</li> <li>- 1 broccoli crown</li> <li>- 1 bunch green onion</li> <li>- low-fat salad dressing (ranch)</li> <li>- plastic coated paper plates*</li> <li>- portion cups*</li> </ul>

\*one per student

## SET-UP

### Copies:

- Make copies of text or plan to use on overhead device (each student), activity sheet (each student) and recipe (each student).

### Work area:

- Students will work individually at their desks.
- Have nutrition table ready for materials and ingredients.

### Food-prep:

- Wash vegetables.
- Before lesson starts put out ingredients on nutrition table with cutting board.
- **Important: Plan to show students full vegetables, “tops and bottoms”. Save the roots of the lettuce and green onions for the scrap gardening activity.**
  - 3 heads of Romaine lettuce-
    - leaves (top) will go in salad
    - **root (bottom) save for scrap-gardening activity**
  - bunch of green onions
    - stem (top) will go in salad
    - root (bottom) some can go in salad
      - **save some for scrap-gardening activity**
  - carrots
    - root (bottom) will go in salad
  - broccoli head
    - flower (top) will go in salad
  - tomatoes
    - fruit (top) will go in salad
- Have plastic coated paper plates, plastic knives, gloves, ready to pass out for students to cut up veggies for salad.
- Have salad dressing and forks ready for eating the salad.

### Other-prep:

- Have the book “Tops and Bottoms” ready to read to the class.
- Scrap Gardening Activity
  - Have plastic bowls/containers (teacher provides) ready for the scrap gardening activity.
  - Place root (bottom down) of lettuce in bowl of water and put in window
  - Place root (bottom down) of a couple of the green onions in bowl of water in window
  - Watch the leaves and stems (tops) start to grow back!

## INTRODUCTION WITH STUDENTS

- Ask students to tell you why they think plants are important.
- Display the text “*Parts of the Plant?*”, read together and do the Venn Diagram as a class.

- Refer to the Key Behavior on the board and tell students that we eat different parts of different plants. Many of the parts of plants are vegetables and that we should “vary our veggies” and eat them every day.
- Show the book “Tops and Bottoms” to students and ask them what they think it will be about. Read the story and then discuss by asking the following questions:
  - ✓ What information did the hare need to be able to trick the bear?
  - ✓ Can you think of other vegetables that could have been used?
- Tell students that today they will make and eat a healthy and delicious “Tops and Bottoms Salad” and do some “scrap gardening”. Remind them of the importance of eating vegetables every day.

## PROCESS

Step 1: Have students wash their hands with soap and warm water.

Step 2: Go over the recipe with students as a class. Go over whether each ingredient is a “top” or “bottom”.

- 3 heads of Romaine lettuce-
  - leaves (top)- will go in salad
  - root (bottom)- save for scrap-gardening activity
- bunch of green onions
  - stem (top)- will go in salad
  - root (bottom)
    - some can go in salad
    - save some for scrap-gardening activity
- carrots
  - root (bottom)- will go in salad
- broccoli head
  - flower (top)- will go in salad
- tomato
  - fruit (top)- will go in salad

Step 3: Teach students how to “Scrap Garden”.

- Scrap gardening is using the scraps of the vegetables we eat to replant, grow, and eat.
- Put the roots (bottoms) of the lettuce and onions, root side down, leaf/stem side up, in containers of water and put in the window.
- Ask students to predict/guess what will happen to them over the next few days weeks.
- Encourage students to try it at home.

Step 4: Remind students that all vegetables are healthy, and they provide us with carbohydrates, vitamins, minerals, and fiber, all very important nutrients to keep us healthy.

- Step 5: Pass out plastic coated paper plates, plastic gloves and plastic knives along with the vegetables. Have students cut into small pieces.
- Step 6: When students have finished cutting the vegetables, collect the cut-up pieces into the bowl and mix in lettuce and salad dressing.
- Step 7: Pass out the activity sheet to students. Have them work on the activity sheet as you pass out the salad.
- Step 8: **Let's Eat, Let's Talk.** While students eat ask them what they learned. **Help students personalize ways they can eat more vegetables. Ask and discuss the questions in the box Make Health Happen.**
- Step 9: Remind students to take their recipes home to share with their family.

*Make Health Happen*

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If you eat this salad you are getting more vegetables. What steps can you take to make and eat this salad at home?

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Where else can you get the vegetables your body needs?

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How can you make sure to eat a vegetable at lunch and a vegetable at home every day?

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### REINFORCING STANDARDS

#### **Comprehensive Health**

- **GR.3-S.2-GLE.1** Demonstrate the ability to make and communicate appropriate food choices.

#### **Reading, Writing and Communicating**

- **GR.3-S.1-GLE.1** Oral communication is used both informally and formally.
- **GR.3-S.1-GLE.2** Successful group activities need the cooperation of everyone.
- **GR.3-S.2-GLE.1** Strategies are needed to make meaning of various types of literary genres.
- **GR.3-S.2-GLE.2** Comprehension strategies are necessary when reading informational or persuasive text.

- **GR.3-S.2-GLE.3** Increasing word understanding, word use, and word relationships increases vocabulary.
- **GR.3- S.3-GLE.3** Appropriate spelling, capitalization, grammar, and punctuation are used and applied when writing.

## BACKGROUND INFORMATION

- Plants have different parts. The part that grows above the ground and up towards the sun is generally called the stem. The part that grows into the ground is called the root. The root brings water and nutrients from the soil to the plant. The root helps hold the plant in place. The green part of the plant makes food with water, sunlight, and carbon dioxide and the root stores food for plant growth. Throughout history, edible roots have played a significant role in the human diet.
- Roots, tubers, and bulbs grow underground and store nutrients. They store energy in the form of carbohydrates. Examples of root, tuber, and bulb vegetables are: potatoes, sweet potatoes, onions, turnips, rutabagas, beets, carrots, radishes, and parsnips. Sweet potatoes and carrots provide an excellent source of beta-carotene (precursor of vitamin A). Radishes, turnips, rutabagas, and potatoes are high in vitamin C, and onion and garlic have cholesterol-lowering properties.
- Leaves come in a huge variety of shapes and sizes. All leaves, regardless of shapes and sizes, have one function in common. They produce food for the plant through photosynthesis. Plants with chlorophyll in their leaves can make food.
- Chlorophyll uses energy absorbed from sunlight to turn carbon dioxide and water into a simple sugar called glucose. The plant uses glucose as food. Its waste product is oxygen, which is released into the air and breathed in by all aerobic (oxygen-using) organisms. Chlorophyll is green in color.
- Leaves also contain red, yellow, and orange pigments, usually hidden by the chlorophyll. In fall, there is not enough light to maintain chlorophyll so the chlorophyll in deciduous trees breaks down and the leaves change color. The tree uses stored food through autumn and winter.
- Leafy vegetables contain a lot of water and only a few carbohydrates (or calories). They are, however, nutrient-rich. The darker the green color is, the higher the nutritional values are. Most green leafy vegetables are excellent sources of beta carotene, lutein, and vitamin C, good sources of fiber and folacin, and a few are rich in iron and calcium. Leafy vegetables include spinach, collards, kale, lettuce, Swiss chard, and the tops of root vegetables like turnips and beets.

Dear Family,

Today we made a salad out of both the tops and bottoms of plants (roots, stems, leaves, flowers). Did you know that broccoli is a flower? Let's try making this salad at home. We can start by putting these vegetables on our shopping list.

*Parent Tip: Next time you shop with your child, ask him or her to pick out 2 different colored vegetables to try at home.*

*Scrap Gardening: Try putting the cut-off bottom of the lettuce and bottom of a green onion in some water and watch their tops start to grow back!*

## Tops and Bottoms Salad


**Makes: 4 servings**

### Ingredients

Romaine lettuce head  
2 carrots  
1 small head of broccoli  
1 bunch green onion  
½ cup low-fat ranch dressing

### Directions

1. Wash vegetables.
2. Cut carrots, broccoli, and green onions into small pieces.
3. Add lettuce and salad dressing and mix.
4. Eat and enjoy!



**Broccoli is jam  
packed with nutrition!  
Broccoli is high in fiber,  
vitamin C, & K.**

**Vary your veggies by eating different parts of the plant!**

Querida Familia,

Hoy hicimos una ensalada con todas las partes de las plantas (raíces, tallos, hojas, flores). ¿Sabías que el brócoli es una flor? Intentemos hacer esta ensalada en casa. Podemos empezar poniendo estas verduras en nuestra lista de compras.

Consejo para padres: La próxima vez que vaya de compras con su hijo, pídale que escoja 2 verduras de diferentes colores para probar en casa.

Jardinería con las sobras de comida: ¡Intenta poner los tallos de la lechuga y de una cebolla verde en un poco de agua y observa cómo la parte de arriba comienza a crecer nuevamente!

## Ensalada de todas las partes

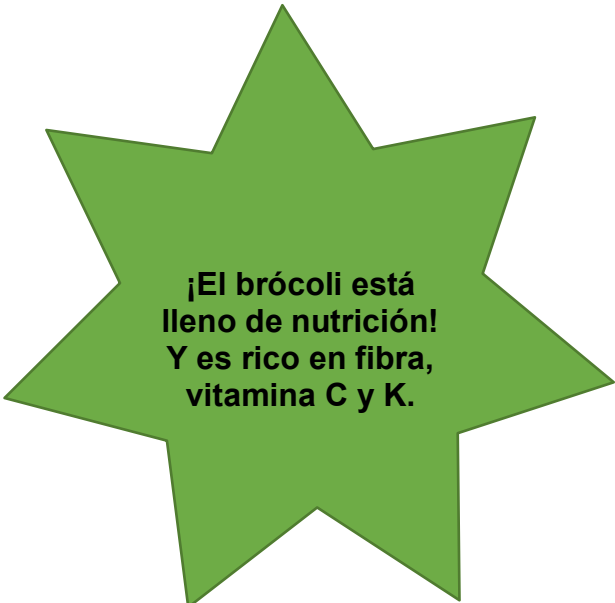
Rinde: 4 porciones

### Ingredientes

- Cabeza de lechuga romana
- 2 zanahorias
- 1 cabeza pequeña de brócoli
- 1 manojo de cebolla verde
- ½ taza de aderezo ranch bajo en grasa

### Instrucciones

1. Lave las verduras.
2. Corte las zanahorias, el brócoli y las cebollas verdes en trozos pequeños.
3. Agregue la lechuga y el aderezo para ensaladas y mezcle.
4. ¡Coma y disfruta!



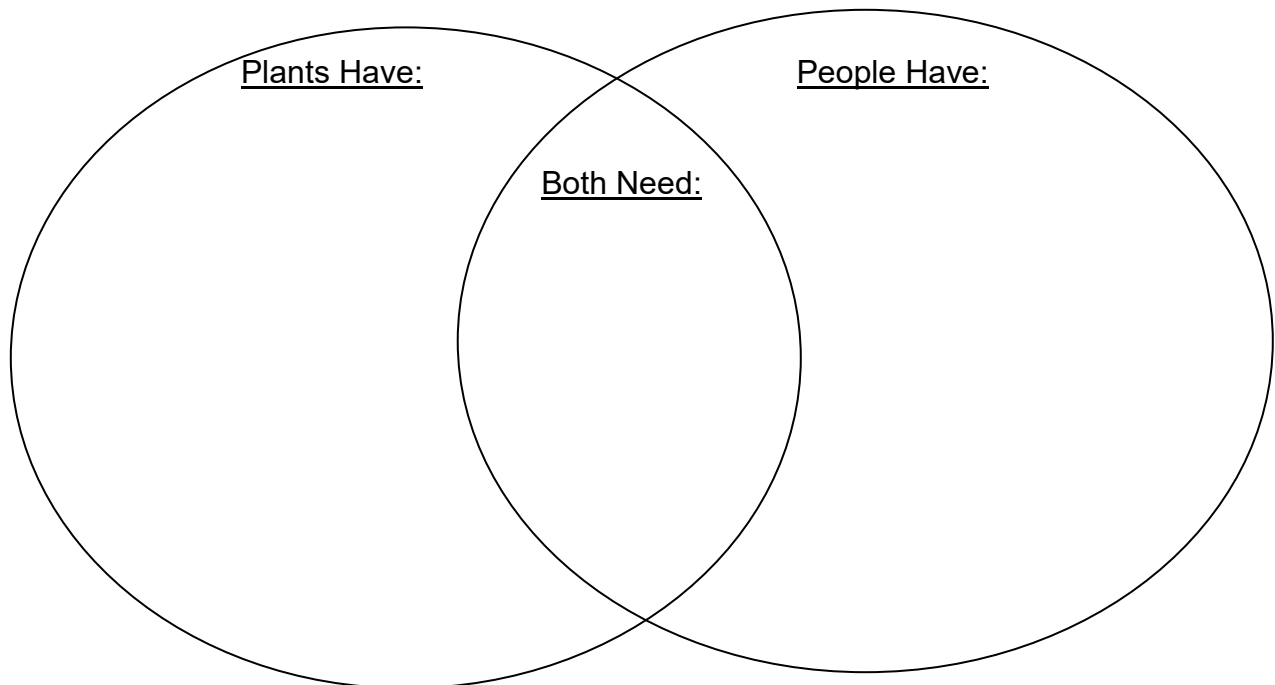
¡El brócoli está  
lleno de nutrición!  
Y es rico en fibra,  
vitamina C y K.

**¡Varea tus verduras comiendo diferentes partes de la planta!**

## Parts of a Plant

Plants need sunlight, water, air, soil and food to live. A plant has four main parts, which are the roots, stem, leaves and flowers. Seeds and fruit are also parts of a plant. Each part helps the plant live. The roots take in water from the ground. The stem holds the plant up and carries water to the leaves. The leaves use sunlight to make food for the plant. The flowers make seeds. The fruit of a plant holds the seeds. Seeds are baby plants.

Can you think of some ways that plants and people are the same?  
Can you think of some ways they are different? Fill in the Venn diagram.



List some ways that plants help people:

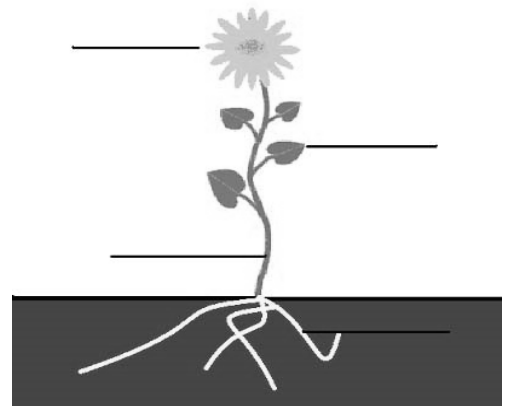
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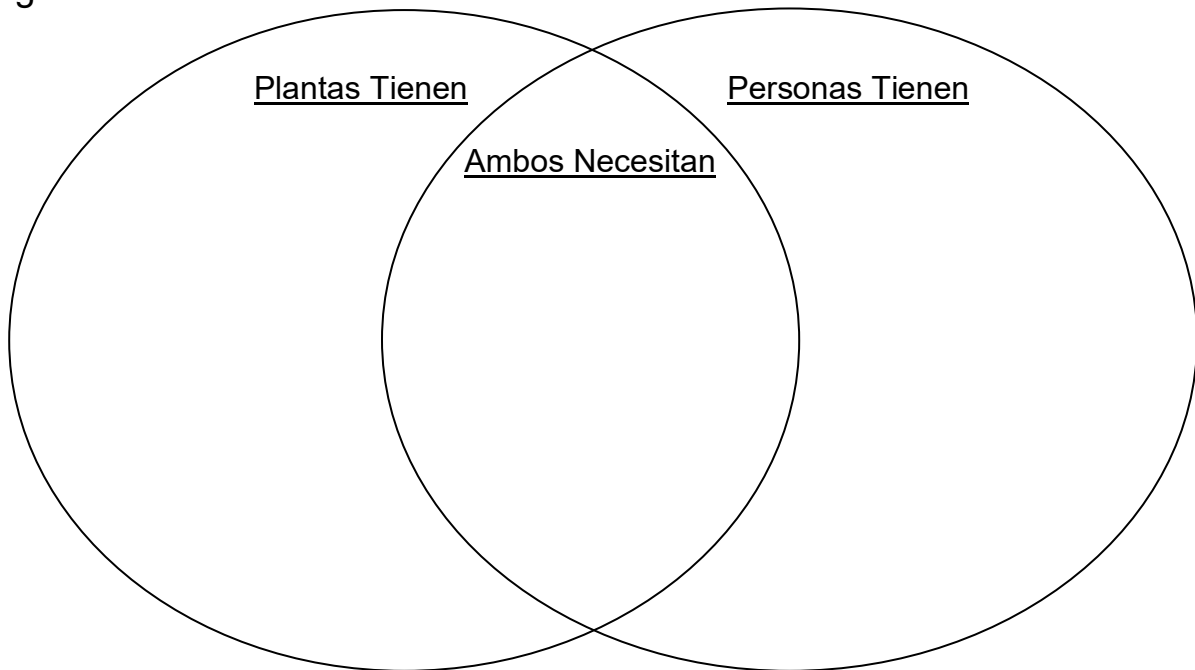




# Partes de una Planta

Las plantas necesitan la luz solar, agua, aire, tierra y alimentos para vivir. Una planta tiene cuatro partes principales que son las raíces, el tallo, las hojas y las flores. Las semillas y los frutos también son partes de una planta. Cada parte ayuda a la planta a vivir. Las raíces toman agua de la tierra. El tallo sostiene la planta y lleva el agua a las hojas. Las hojas usan la luz del sol para producir alimentos para la planta. Las flores producen semillas. El fruto de una planta contiene las semillas. Las semillas son plantas bebés.

¿Se te ocurre alguna manera en que las plantas y las personas son iguales? ¿Se te ocurre alguna manera en que son diferentes? Completa el diagrama de Venn.



Haz una lista de las maneras en que las plantas ayudan a las personas:

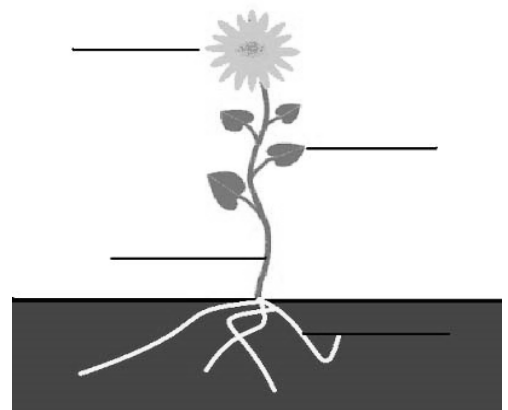
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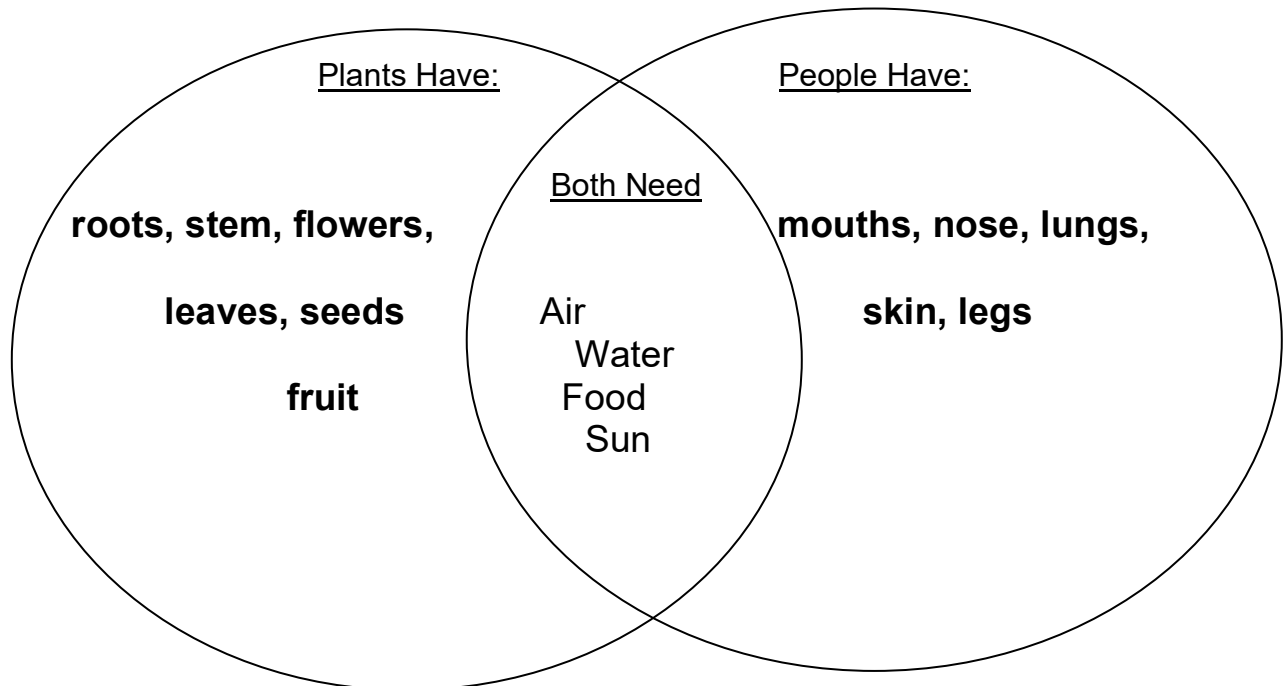


## *Parts of a Plant*

### (Teacher Answer Sheet)

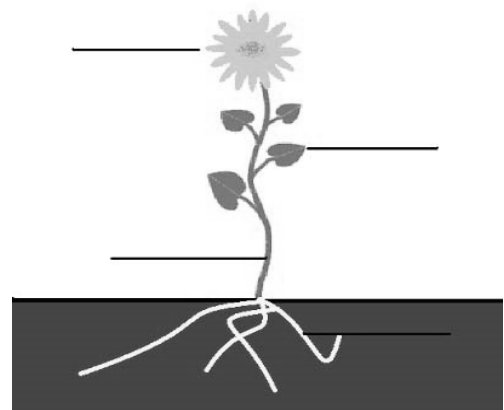
Plants need sunlight, water, air, soil and food to live. A plant has four main parts, which are the roots, stem, leaves and flowers. Seeds and fruit are also parts of a plant. Each part helps the plant live. The roots take in water from the ground. The stem holds the plant up and carries water to the leaves. The leaves use sunlight make food for the plant. The flowers make seeds. The fruit of a plant holds the seeds. Seeds are baby plants.

Can you think of some ways that plants and people are the same? Can you think of some ways they are different? Fill in the Venn diagram.



List some ways that plants help people:

1. They are food that help us grow and live.
2. They give us shade.
3. They are beautiful.



# Parts of Plants: Tops and Bottoms



Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. Fill in the blanks.

Roots bring \_\_\_\_\_ and \_\_\_\_\_ from the soil to the plant.

Roots help \_\_\_\_\_ the plant in place.

Some plants store \_\_\_\_\_ in their roots to help them grow.

Leaves help plants make \_\_\_\_\_.

Leaves take in \_\_\_\_\_ and give out \_\_\_\_\_.

2. How did the clever hare trick the lazy bear in the book?

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3. Match today's salad ingredients to its part.

radish  
lettuce  
broccoli

leaves  
roots  
flower

## Answers to fill in the blank.

food  
water  
oxygen  
carbon dioxide  
hold  
minerals

carrots



## Las partes de las Plantas: Tapas y Fondos

Nombre: \_\_\_\_\_ Fecha: \_\_\_\_\_

1. Completa las oraciones.

Las raíces llevan \_\_\_\_\_ y \_\_\_\_\_ de la tierra a la planta.

Las raíces \_\_\_\_\_ la planta en su lugar.

Algunas raíces almacenan \_\_\_\_\_ para que la planta crezca.

Las hojas ayudan a la planta a producir \_\_\_\_\_.

Las hojas toman \_\_\_\_\_ y liberan \_\_\_\_\_.

2. ¿Cómo hizo liebre inteligente para engañar al oso perezoso en el libro?

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3. Une con una línea el ingrediente de tu ensalada con la parte de la planta a la cual pertenece.

rábano  
lechuga  
brócoli

hojas  
raíces  
flores

Respuestas para completar las oraciones.

alimentos

agua

oxígeno

dióxido de carbono

mantienen

minerales

zanahorias

## Parts of Plants: Tops and Bottoms (Teacher Answer Sheet)

1. Fill in the blanks.

Roots bring water and minerals from the soil to the plant.

Roots help hold the plant in place.

Some plants store food in their roots to help them grow.

Leaves help plants make food.

Leaves take in carbon dioxide and give out oxygen.

2. How did the clever hare trick the lazy bear?

**The hare understood what parts of the plant we eat. He used that information to trick the bear.**

3. Match today's salad ingredients to its part.

radish	leaves
lettuce	roots
broccoli	flower
carrot	