



Knowing Our Needs

Purpose

In this lesson, students will consider the difference between human wants and human needs. Based on these discoveries, students will compare human needs to the needs of plants. By the end of the lesson, students will be able to identify the basic needs of plants.

Time

Teacher Preparation:
30 minutes

Student Activity:
Two 30-minute sessions

Materials

For the class:

- ▶ Butcher or chart paper – size of small poster
- ▶ Markers

For each partnership:

- ▶ Set of *Knowing Our Needs* cards (pages 48-49)
- ▶ Envelope or resealable plastic bag

For each student:

- ▶ *Knowing Our Needs* handout (page 47)
- ▶ *Knowing Our Needs* collage template (page 46)

Background Information

All living things have physical needs that must be met in order to sustain life. Depending on the environment and availability of resources, some organisms may be able to survive well, some less well, and some cannot survive at all. Human needs have not changed for centuries. As the world's first explorers set off to discover new lands and map uncharted territories, they had to make sure that basic survival requirements were met. To endure these long voyages, human beings had to make sure they had food, water, air, and adequate shelter on hand. If any one of these basic needs were not met, life would be in jeopardy.

Just like humans, plants require certain elements to develop, reproduce, and survive. Plants need room to grow, the right temperature, light, water, air, and nutrients. When these requirements are limited or aren't provided at all, they can inhibit plant growth or cause the plant to die.

Procedure

1. Prior to the lesson, replicate and cut out a set of *Knowing Our Needs* cards for each student partnership. Organize each set of cards in an envelope or resealable plastic bag.
2. Write the words “need” and “want” on the board. With the help of the class, discuss and form understandable definitions of the words. Write the class determined definitions on sentence strips so they can be referred to throughout the unit.
3. Assign partnerships. Distribute one set of *Knowing Our Needs* cards to each partnership. Instruct students to sort the cards into two categories—human wants and human needs. Explain that students must reach an agreement with their partner as to which category each item belongs. Encourage cooperative discussions between students. Students can create their own need or want on the blank card provided in the set.
4. After students have finished sorting their cards, review each card as a group. If students disagree with each other, encourage them to collaboratively discuss the topic, building on the comments of their peers. Be sure to clarify and highlight these important concepts:
 - ▶ Needs are things people must have to live, and wants are things people would like to have. Needs sustain life, and wants usually enhance living.



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- ▶ Old magazines with a variety of pictures
- ▶ Glue stick
- ▶ Scissors
- ▶ Colored pencils, crayons, or markers

- ▶ Humans require food, water, air and adequate shelter. All other items listed on the cards are human wants.
 - ▶ If humans were denied these needs, human life would cease to exist.
5. Have students summarize their understanding by creating a collage of human needs and wants using images from magazines. Give each student a copy of the *Knowing Our Needs* collage template on page 46. This template shows how students should draw their outlines on their poster papers. Half of the body will represent human wants, and the other half, human needs. Instruct students to make their collage as personal as possible. Display student art in the classroom.
 6. Explain that just like humans, plants require certain elements to develop, reproduce, and survive. Make a Venn diagram on the board. Label one circle “What Humans Need.” Label the other circle “What Plants Need.” If necessary, provide additional information about Venn diagrams. Distribute two sticky notes to each student. Instruct students to write two needs, for either plants or humans, on the sticky notes. Have students place their sticky note in the region that best represents each need. Review responses as a class. Define and clarify the following needs of plants:
 - ▶ **Room to Grow:** The above ground portions of the plant need space so leaves can expand and gather the sun’s energy to carry out the job of making food. Roots also need room to grow.
 - ▶ **Light:** Whether they’re grown inside or outside, plants need light. They use light energy to change carbon dioxide and water into food. This process of food productions is called photosynthesis.
 - ▶ **Water:** Water is essential to all life on earth. No known organism can exist without water. Plants use water for many life processes including moving nutrients throughout the plant.
 - ▶ **Air:** Green plants take in carbon dioxide from air and use it during photosynthesis to make food. Smoke, gases, and other air pollutants can damage plants.
 - ▶ **Nutrients:** Most of the nutrients that a plant needs are taken up by the plant through its roots. The three most important nutrients for plants are nitrogen, phosphorous, and potassium.



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Content Standards

Grade 2

Science

Life Sciences 2e
Earth Sciences 3e

Next Generation Science

Interdependent Relationships
in Ecosystems 2-LS2.A
Developing Possible
Solutions 2-ETS1.B

English Language Arts

Language 5a

Grade 3

Science

Life Sciences 3d

Next Generation Science

Adaptation 3-LS4.C
Growth and Development of
Organisms 3-LS1.B

English Language Arts

Language 5b

Grade 4

Science

Life Sciences 3b

English Language Arts

Language 6

7. Have students record their discoveries in their science journals or on the *Knowing Our Needs* handout on page 47. By the end of the lesson, students should realize that all living things require certain resources to survive. Requirements depend on species, but the basic requirements of food, water, and air are needed by all living things.

Variations

- ▶ Set up a relay in which student teams race to sort the *Knowing Our Needs* cards into categories. Line two teams of students up at the edge of a playing field. Instruct them to select a card, run to the end of the field, and sort the card into bags labeled “needs” and “wants.” Teams can compete with each other or against the clock. At the end of the race, review how each item was sorted and discuss as a class.
- ▶ If magazines are not available, students may illustrate the human wants and needs on the poster paper.
- ▶ Instead of cutting the cards out and distributing in baggies, present them to the class using a document camera. Have a class discussion to develop the definitions of human wants and needs.

Extensions

- ▶ Students write a journal entry describing life without one of the human needs identified in this lesson. Students should address how the resource disappeared, the challenges they now face, and their plan to save the planet.
- ▶ Give students the challenge of growing a plant in outer space. Have students think of the potential challenges and creative ways to meet the plant’s needs. Visit the NASA website, www.nasa.gov, to research real examples of astronauts growing plants in space.

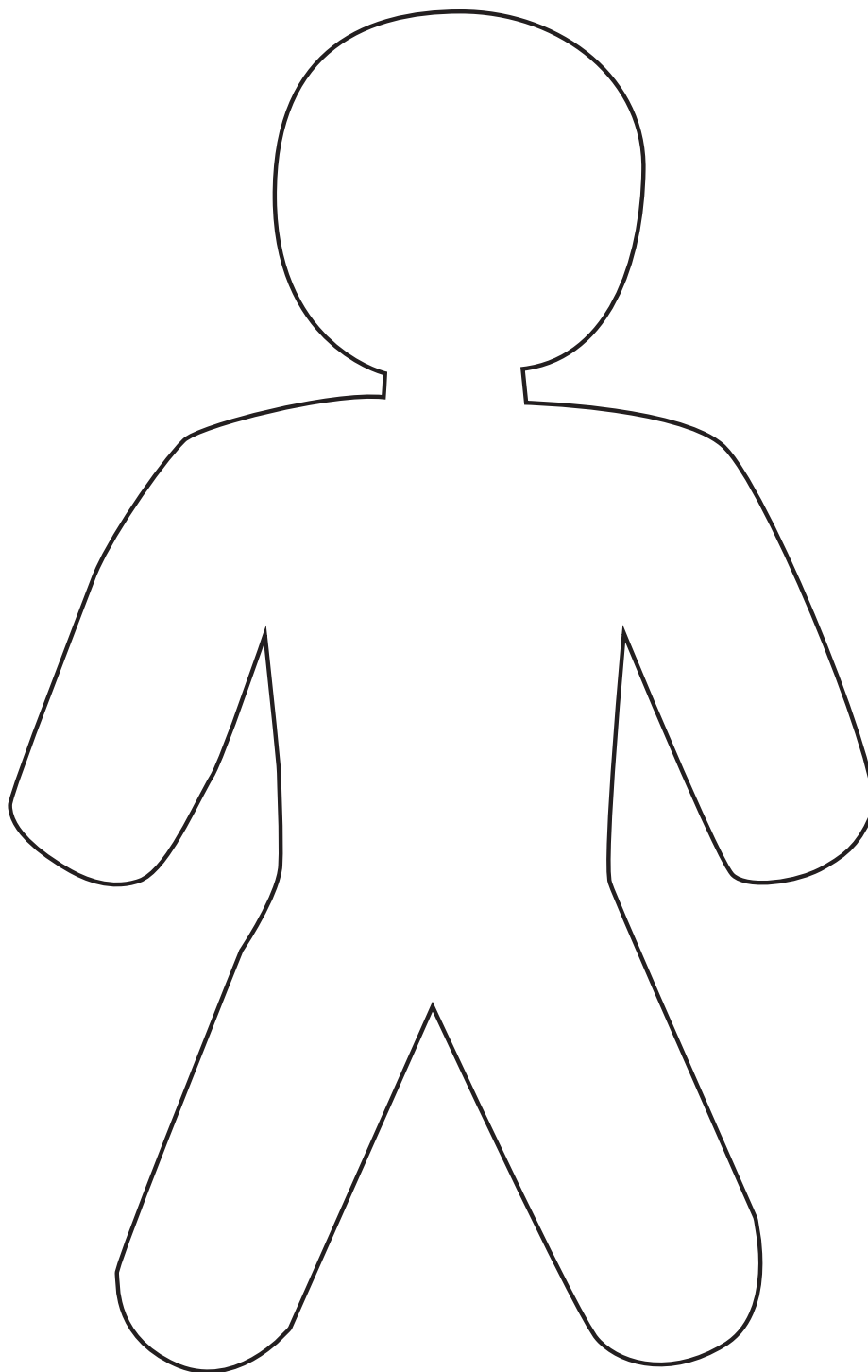
ELL Adaptations

- ▶ This lesson incorporates hands-on art activities. Kinesthetic learning events provide an excellent learning environment for English language learners.
- ▶ On the student handout, *Knowing Our Needs*, have ELL students draw a picture that represents what plants need to grow next to each word.

Knowing Our Needs

Name: _____

(Template for Human Needs & Wants)



Knowing Our Needs

Name: _____

Definitions

Need: _____

Want: _____

What do plants need to grow?

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

List at least three human needs that are provided by plants.

1. _____

2. _____

3. _____