Instruction

Plant Reproduction and Life Cycle

Like all other living creatures, plants **reproduce**—they make new plants. They do this by making seeds.

A seed contains stored energy and food, which is used to grow a new plant. Sometimes, a seed will end up in a good place in the soil, where it may grow. A tiny plant comes out of the seed and pokes up out of the soil. This process is called **germination**.

keep in mind

Any food that contains seeds—including tomatoes, pumpkins, and cucumbers—can be considered fruit.

You have already learned about animal life cycles and life spans. The life cycle of a plant starts with germination. The young plant takes in nutrients and grows into a mature plant, which then produces seeds of its own. After a year, or even many years, the plant will die. This period of time, from the time a seed begins germination to the time a plant dies, is called the plant's life span.

Flowers

Many plants have flowers. Flowers are the part of a plant that can eventually turn into **fruit**. Perhaps you've seen an apple tree in early spring—instead of apples, the tree has many small flowers. These flowers turn into apples as time goes on, and the apples have seeds inside them. Think about some other fruits that contain seeds or pits. Some examples are grapes, peaches, and plums.

Science Term	Example
reproduction	
fruit	
germination	

B

How Do Plants Spread Their Seeds?

Plants produce seeds, but often a new plant cannot grow too close to its parent. There might not be enough water, nutrients, or sunlight for two plants to grow right next to each other. Because plants cannot move, they need a way to spread their seeds to new areas so the seeds can grow into new plants. This is called **dispersal**. You have just learned one way that plants disperse, or spread, their seeds—by using fruit!

Remember that plants use the energy from sunlight to make sugar. A plant can store a lot of sugar in a fruit, making it taste sweet. Animals then eat the delicious fruit and carry the seeds far away with them. By producing fruit, plants get animals to disperse their seeds.

Not all plants produce fruit. Different plants use different ways to disperse their seeds. The seeds of some plants have little wings. This way, they can be carried away by the wind. Other plants put their seeds in burrs—hard, prickly shells that cling to the fur of animals. The animals carry the seeds away on their fur.

Fruit also provides extra food to help a seed grow.

Plants that live in different environments have different traits, or characteristics, that help them disperse their seeds.

For each kind of plant seed below, fill in the chart with how you think it gets dispersed. One example has already been filled in for you.

Type of seed	How the seed is dispersed
Seeds with small wings	*Seeds are carried by the wind*
Very light seeds that float on water	
Seeds in very sweet fruit	
Seeds with many tiny hooks	

B

Make a Smart Guess

Sometimes you may eliminate the choices you know are wrong and you still don't know the answer to a question. Don't give up—it's time to make a Smart Guess. Making a Smart Guess just means picking the best answer after the others have been crossed out. It's like an "educated guess," but better. You make a Smart Guess after you have underlined the keywords, made a prediction, and eliminated the wrong answer choices.

Making a Smart Guess

- From the remaining choices, pick the answer that makes the most sense.

keep in mind

Don't worry if you are unsure about your choice. Make a Smart Guess and move on. If you have time at the end of the test, you can come back.

Try It Out!

Apply the entire 4-Step Method for Multiple-Choice Questions. First, read the question and underline keywords. Then cover the answer choices with your hand and try predicting the correct answer. If some of the answer choices don't match your prediction, eliminate the wrong answers. If you still are unsure, make a Smart Guess.

1 Where does a new plant get the energy it needs for germination?

A from its parent
B from the food stored in the seed
C from dead things in the soil
D from sunlight

At what step did you know the correct answer? _____

Why should you not continue applying the 4-Step Method if you already know the answer?

_____

_____

B

Use the methods and strategies you know to answer the following questions together as a class.

1 Which of these examples describes a plant's adaptation to its environment?

A A plant cannot grow because it does not get enough sunlight.
B A plant has roots, a stem, and leaves.
C A plant germinates from a seed that has fallen next to the parent plant.
D A plant grows in an area with many rabbits, and has bitter-tasting leaves.

2 What structure does a plant use to produce fruit?

A roots
B stems
C leaves
D flowers

Name_____ Date_____

3 What is one reason why we classify plants as living things?

A They are green.
B They reproduce.
C They taste sweet.
D They eat other plants.

hint *What is true about all living things?*

4 When does a plant's life span begin?

A when it first produces seeds
B when it travels far away from its parent
C when it germinates from a seed
D when it uses sunlight to make food

hint *What do you remember about animal life spans?*

5 A plant grows in an environment that gets a lot of rain, does not get a lot of sunlight, and contains many birds that eat plants. What are two traits that could allow the plant to adapt to this environment? [2]

_____

_____

_____

hint *How can the plant use special characteristics to help it grow and reproduce?*

B

Name _____ Date _____

KAP Wrap

Plants are different in many ways. Yet, they also have many things in common. Think about the plants you know. What do they have in common? How are they different?

Look at the diagram below and compare and contrast the two plants.

What structures do these plants have in common?

_____

_____

What are some differences in these structures? Are there any structures in the two plants that have different names?

_____

_____

How do you think these plants disperse their seeds?

_____

_____

In what kinds of environments would you expect to find these adaptations?

_____

_____

B