



ESSENTIAL QUESTION

How Can We Classify Plants?



Engage Your Brain

Find the answer to the following question in this lesson and record it here.

The sticky parts of the sundew plant catch insects. How is this sundew like an orchid?



ACTIVE READING

Lesson Vocabulary

List each term. As you learn about each one, make notes in the Interactive Glossary.

Visual Aids

A photo adds information to the text that appears on the page with it. Active readers pause their reading to review the photos and decide how the information in them adds to what is provided in the text.

Sorting Plants

There are so many plants! How can you classify, or group, them? Let's find out.

ACTIVE READING As you read these two pages, draw circles around two words that are key to understanding the main idea.

One way to classify plants is to group them by their type. For example, think about how all trees are the same or how all shrubs are the same.

Another way to classify plants is to look at their parts. You can group plants that have similar leaves, stems, or roots.



vine

Kinds of Plants

There are many kinds of plants. Vines, trees, and shrubs are three kinds of plants. Vines have long, thin stems. Trees are woody plants that grow tall. Trees have one main stem. Shrubs are similar to trees, but smaller and with many stems.



tree



shrub



pine needle

Plant Parts

One plant part you can use to classify a plant is its leaves. Look at their shape, color, and size. Pine needles are long, thin, and green. Maple leaves have many points. They can be many different shades of green. Palm leaves are very large and fan-shaped or feather-like.



palm leaf



maple leaf

How to Group?

How else can you classify plants?

Draw two plants that you can classify this way.

Blooming!

Roses, tulips, daisies—how are they the same? Read on to find out.

ACTIVE READING As you read these two pages, draw circles around the names of flowering plants.

Plants that make flowers are classified as **flowering plants**. Flowering plants are the largest plant group. They are found in deserts, rain forests, and even under water. The flowers of plants have many sizes, colors, and shapes. Let's look at some!

► Circle yes or no to classify these plants.

Does it make flowers?

yes no

Does it make seeds?

yes no



Orchids are the largest family of flowering plants.



The corpse flower is the largest flower of all. It can weigh more than 20 pounds!



Some hibiscus plants grow flowers all year long.

Seeds

Flowers may look pretty, but they have a job to do. They make fruits with seeds. Oranges and strawberries are examples of fruits with seeds. Each seed has a new plant inside it.



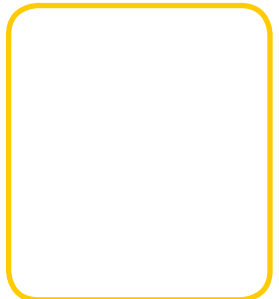
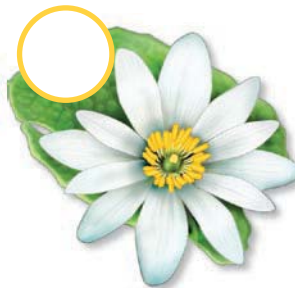
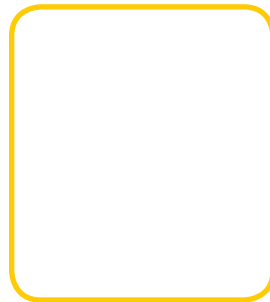
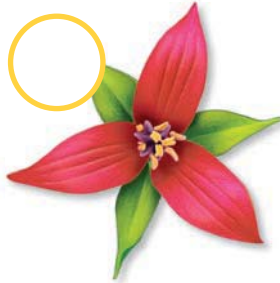
Some magnolia trees grow large, pink flowers.



DO THE MATH

Use Patterns

Write the number of petals on each flower. Then draw a flower that could complete each pattern.



Cones!

Not all plants make flowers. Some plants make seeds in other ways.

ACTIVE READING As you read this page, draw a star next to what you think is the most important sentence. Be ready to explain why.

Non-flowering plants are plants that do not make flowers. Even though they do not make flowers, many non-flowering plants make seeds. Pine trees are non-flowering plants. Their seeds develop inside cones. Take a look at other plants that make seeds in cones.

► Circle yes or no to classify these plants.

Does it make flowers? yes no

Does it make seeds? yes no

Sequoia [si•KWOY•uh] trees grow very tall, but they make small cones!





Joint firs grow in dry places. They make small red cones.



Plant Riddle

Read the riddle, then write the answer.

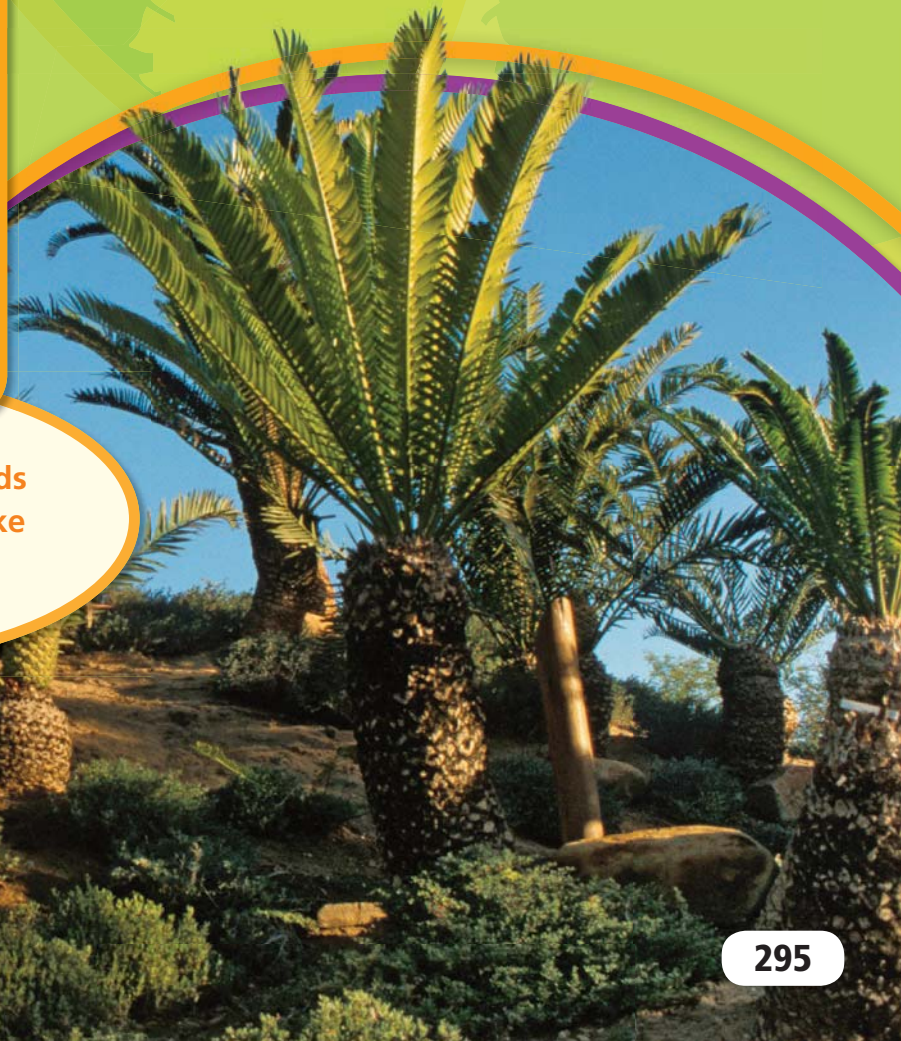
I am very tall.

I grow small cones compared to my size.

What am I?



These eastern cape cycads [SY•kadz] make cones like the ones shown above.



Even More!

Plants with flowers make seeds. Plants with cones make seeds.

Do all plants make seeds? Find out.

ACTIVE READING As you read these two pages, draw a line from each picture to one sentence that describes it.

Mosses and ferns are also non-flowering plants. Mosses are small, soft plants. They often grow together in groups. Ferns are larger plants with leaves called fronds.

Mosses and ferns do not make flowers, cones, or seeds. They make spores. Like seeds, **spores** are plant parts that can grow into new plants.

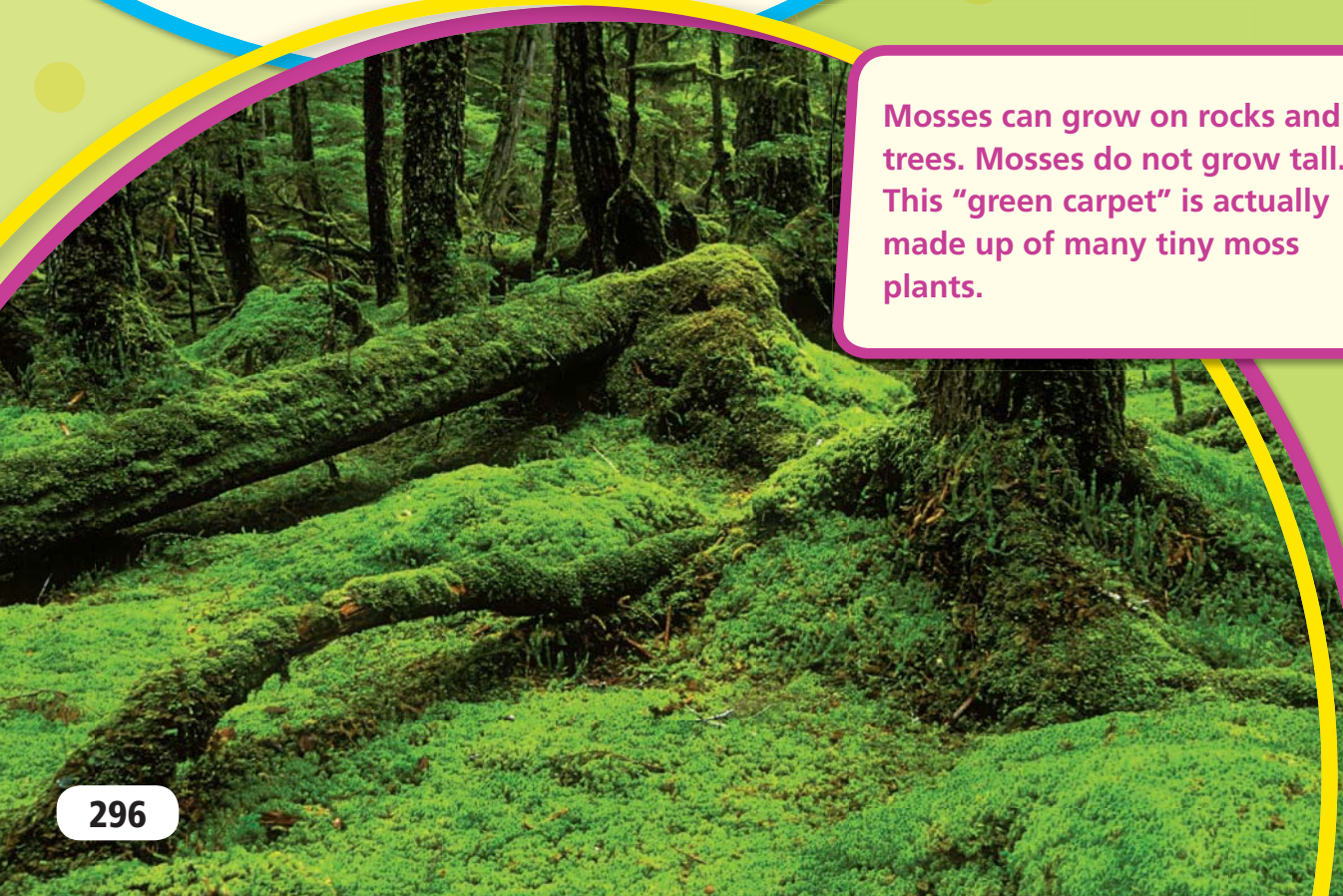
► Circle yes or no to classify these plants.

Does it make flowers?

yes no

Does it make seeds?

yes no



Mosses can grow on rocks and trees. Mosses do not grow tall. This “green carpet” is actually made up of many tiny moss plants.

(b) ©Kevin Schärer/Alamy; (tape) ©Righttiscz/Alamy; (paper) © Photodisc/Getty Images

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Ferns have leaves called fronds. Each leaf has smaller leaflets that branch off from the stem.

Spores

Spores are released from the stalks of this moss. In ferns, spores form in small groups on the underside of the fronds. Each group contains hundreds of spores.

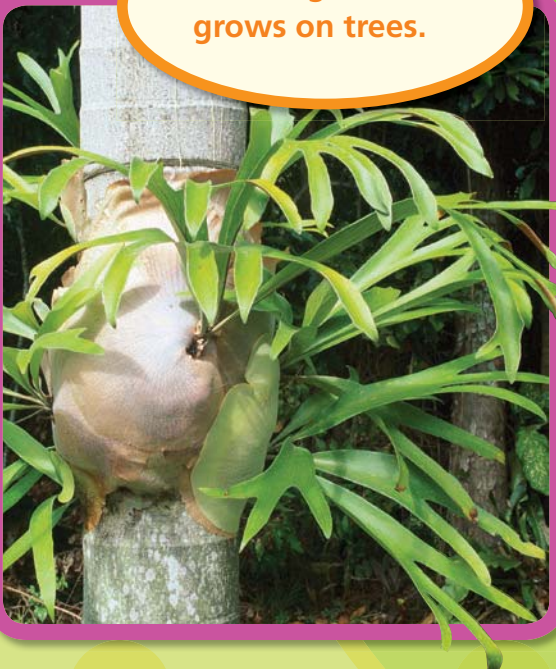


moss



fern

This staghorn fern grows on trees.

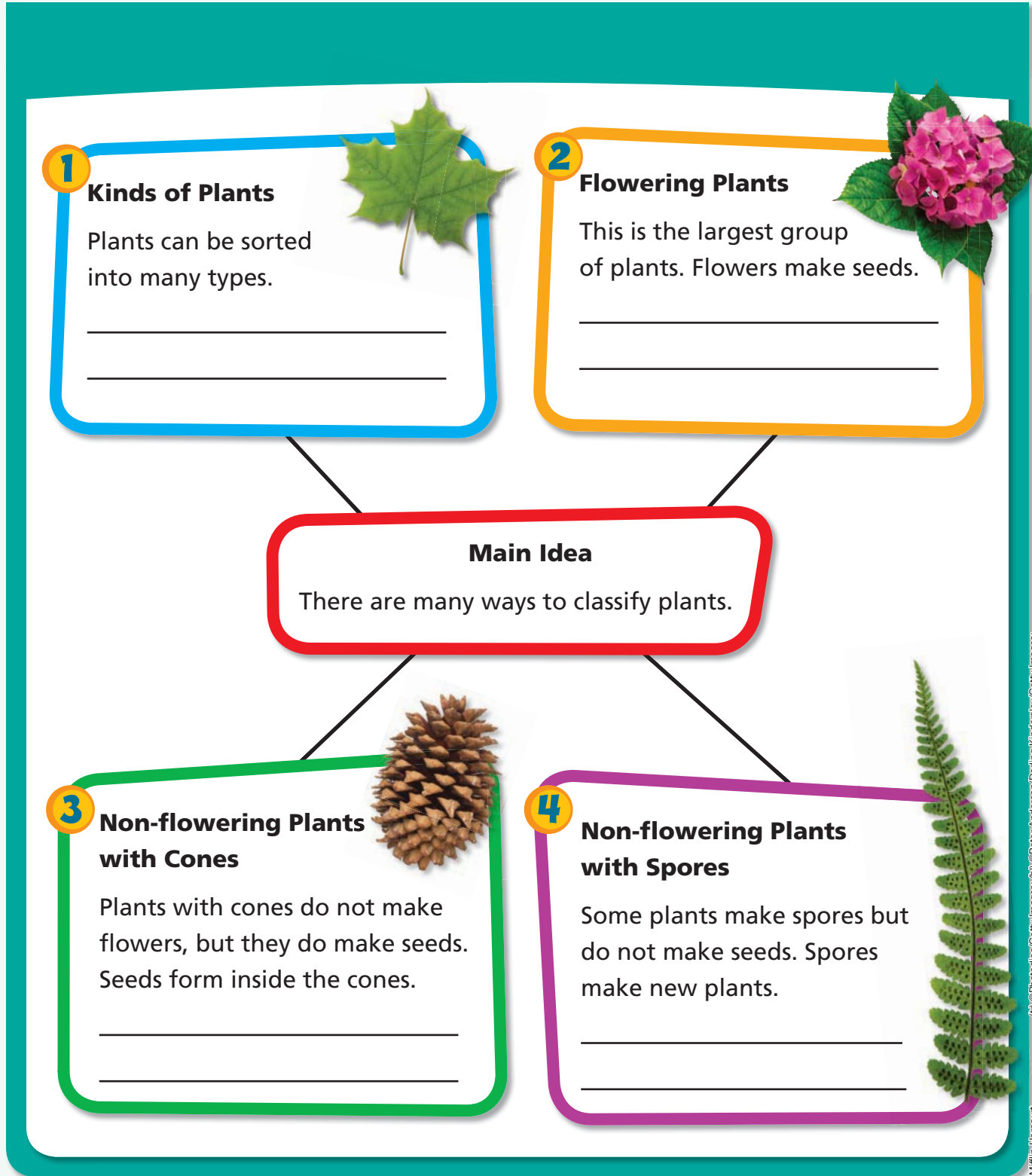


► Read each statement. Circle T if the statement is true and F if it is false.

- | | | |
|--------------------------------|---|---|
| 1. Spores are seeds. | T | F |
| 2. Spores are found in cones. | T | F |
| 3. Mosses do not make flowers. | T | F |
| 4. Ferns make flowers. | T | F |
| 5. Mosses do not make seeds. | T | F |

Sum It Up »

The idea web below summarizes the lesson. Give two examples of each type of plant described below.





Name _____

Vocabulary Review

1 Read the clues. Unscramble the letters to complete the clue.

1. When you group something, you _____ it.

y s l i c f s a

2. Some plants make tiny _____ instead of seeds.

p r o s s e

3. _____ grow on some non-flowering plants and hold new seeds inside them.

c s e o n

4. Plants with _____, such as roses and daisies, are the largest group of plants.

r o w e l f s

5. _____ plants are small non-flowering plants that grow from spores.

s m o s

6. _____ have special leaves called fronds.

f r e s n



Apply Concepts

2

Write the letter of the correct description under each picture.

- a. I grow seeds and make flowers. Who am I?
- b. I grow seeds, but they form in cones. Who am I?
- c. I don't grow flowers or seeds. Who am I?



3

Suppose scientists find a new kind of plant in a rain forest. What are three questions they might ask to help them classify the plant?

Take It Home!

See *ScienceSaurus*® for more information about plants.