



**astronomers**

## Routine for Lesson Vocabulary

**Introduce** Astronomers study the sky with telescopes. Astronomers are experts in astronomy, the science that deals with the sun, moon, planets, stars, and so on. Let's say the word together: *astronomers*.

**Demonstrate** Several astronomers work at the planetarium. Early astronomers made maps of stars. The studies of astronomers have taught us much about the universe.

**Apply** Why did astronomers gain much more knowledge of their subject after the telescope was invented?

**Display** Now I will write the word on the board. Let's read the word together: *astronomers*.

## Team Talk

- With your partner, make a list of activities astronomers do. For example, what observations and discoveries might they make? What might they write about?
- Look at the photograph on the front of this card. Then take turns telling about what it shows. Use the word *astronomers* in your explanations.
- Take turns completing this sentence frame:  
Astronomers prefer to work at night because \_\_\_\_\_.





**collapse**

## Routine for Lesson Vocabulary

**Introduce** This old house is starting to collapse. *Collapse* means “fall down, cave in” or “fold or push together.” Let’s say the word together: *collapse*.

**Demonstrate** Black holes are formed when stars collapse. Some chairs collapse so they can be stored when they are being used. This umbrella will collapse at the touch of a button.

**Apply** What is one situation in which you might want a table that can collapse?

**Display** Now I will write the word on the board. Let’s read the word together: *collapse*.

### Action!

- Imagine you have a card table in front of you. Show how you would collapse the legs and store the table.
- Stand three pencils on their erasers and lean the points together to make a tripod. Show how removing a pencil makes the tripod collapse.
- Imagine you are an astronomer with a collapsing telescope in your pocket. Remove the telescope and lengthen it. Show how you use the telescope. Now show how you collapse it and put it back in your pocket.





**collide**

## Routine for Lesson Vocabulary

**Introduce** When cars collide, damage occurs. *Collide* means “hit or strike violently together, crash.” Let’s say the word together: *collide*.

**Demonstrate** Bumper cars were meant to collide. When water boils, its molecules gain energy and collide. When cars collide, the drivers call the police to make an accident report.

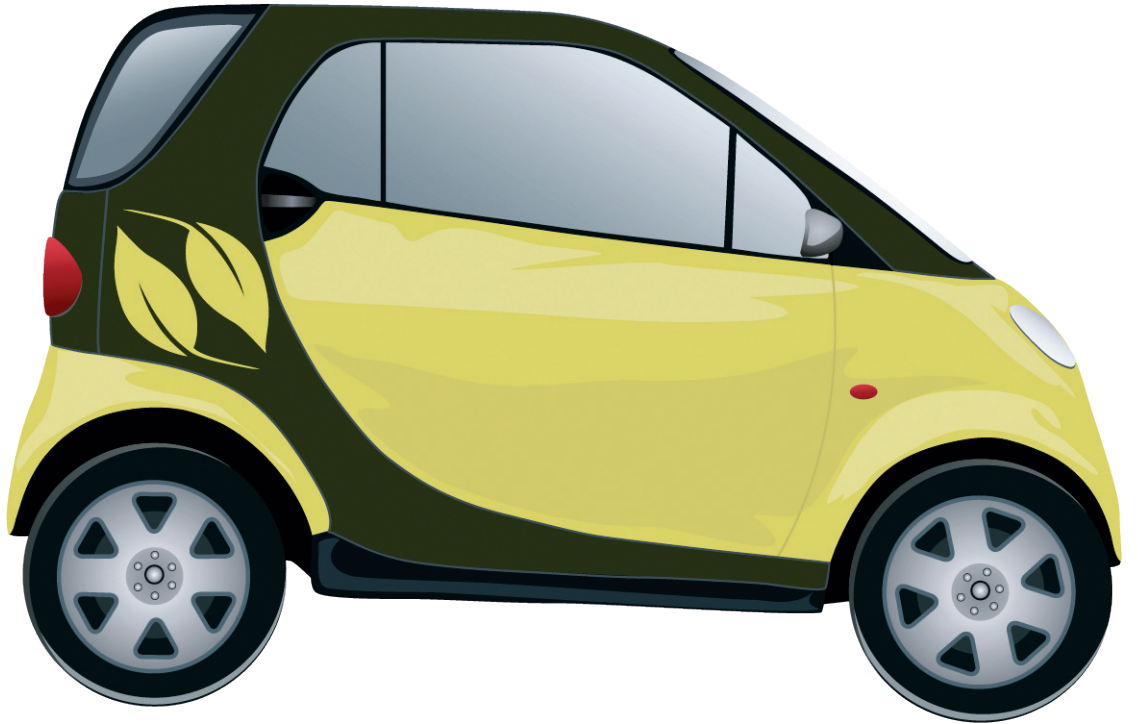
**Apply** If your bike should collide with a brick wall, what would happen?

**Display** Now I will write the word on the board. Let’s read the word together: *collide*.

## Team Talk

- Tell your partner about a time when you saw moving vehicles collide in a movie or on television. Talk about what happened to the vehicles because of the impact. Use the word *collide* in your explanation.
- Hold your hands out in front of you with the palms facing together but not touching. Taking turns with your partner, illustrate how your palms come together for each of the following descriptions:
  - Palms bump lightly.
  - Palms barely touch.
  - Palms collide.





**compact**

## Routine for Lesson Vocabulary

**Introduce** A compact car has compact parts. *Compact* means “having the parts tightly arranged within a small space” or “firmly packed together.” Let’s say the word together: *compact*.

**Demonstrate** I made a compact stack of folders in my locker. The sunflower has a large, compact seed head. Sue folded the laundry into compact piles and stored them in the closet.

**Apply** Why do you fold your clothing into compact piles to put them into a suitcase?

**Display** Now I will write the word on the board. Let’s read the word together: *compact*.

## All Together

- I’m going to describe some objects. If they are firmly packed together, say “Compact.” If not, say “Not compact.”  
eggs in a plastic foam carton  
bubbles floating through the air  
sardines in a can
- I’m going to tell you a sentence. *The sparrows had woven pieces of straw and plastic into a compact nest.* What does *compact* mean? Let’s say the meaning together.







**galaxy**

## Routine for Lesson Vocabulary

**Introduce** A galaxy contains billions of stars. *Galaxy* names a group of billions of stars forming one system, or specifically, the Milky Way. Let's say the word together: *galaxy*.

**Demonstrate** Our galaxy is made up of stars, gas, and dust. Our sun is only one star among billions in our galaxy. It is hard to imagine the vast size of a galaxy, but the universe may contain many.

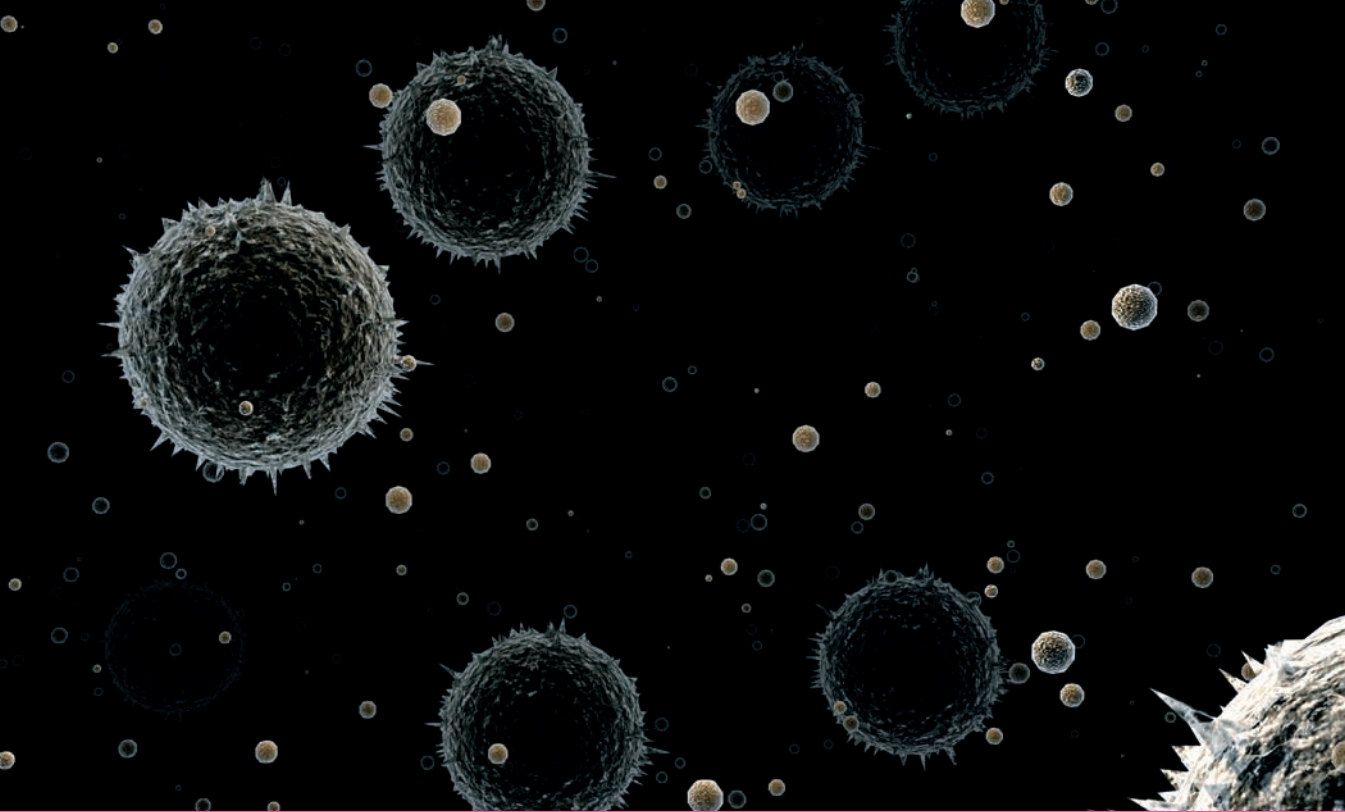
**Apply** Is our solar system a big part or a tiny part of the Milky Way galaxy?

**Display** Now I will write the word on the board. Let's read the word together: *galaxy*.

## Pencil Talk

- Write a sentence using the word *galaxy* in context. Provide clues to the meaning of the word *galaxy*.
- Look at the photograph on the front of this card. Write a description of the galaxy it shows. Use the word *galaxy* in your writing.
- The word *galaxy* can be used figuratively. If a teacher says, "There is a galaxy of talent in my classroom," what does the teacher mean?
- Complete this sentence frame:  
In science fiction stories, spaceships travel by \_\_\_\_\_ to the far reaches of the galaxy.





**particles**

## Routine for Lesson Vocabulary

**Introduce** These magnified dust particles make some people sneeze. Particles are very little bits. Let's say the word together: *particles*.

**Demonstrate** Particles of mud spattered on Deanna's goggles. Dust particles in space may be leftovers from exploding stars. The microscope allows us to see tiny particles well.

**Apply** Which particles are smaller—grass seeds or skin cells?

**Display** Now I will write the word on the board. Let's read the word together: *particles*.

## Pencil Talk

- Draw a picture of a bracelet made of beads. Then draw a close-up picture of some of the particles from which the bracelet is made. Write a description of the bracelet. Use the word *particles* in your description.
- Complete these sentence frames:  
Particles of eggshell were scattered on the counter after \_\_\_\_\_.  
Sweep up the particles of glass on the floor so you won't \_\_\_\_\_.

