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Learning About Words

Have you ridden a bike? Have you been a passenger in a boat, car, train, or airplane? If so, you've used transportation. The word *transportation* has three parts that can help you define it: *trans-*, *port*, and *-tion*. *Transmeans* "across" and *port* means "to carry." The suffix *-tion* makes *transport* a noun. So when you're using *transportation*, you're being "carried across" a distance. You're going from one place to another.

Before modern transportation was invented, people traveled by walking or by riding a horse. Trips that take a few hours today took days or even weeks. Roads were just dirt paths, and there were no bridges over rivers.

Crossing an ocean was even harder. It took months to sail from England to the United States, and the trip was very dangerous. Ships were wrecked in storms, and it was hard to carry enough food for the journey. With modern boats and planes, though, ocean travel became more common. People could travel great distances quickly, easily, and safely.



Just like in other areas, new words were invented to describe new methods of transportation. Existing words, also, were given new meanings. One of these is the word *engine*.

To English speakers today, *engine* means "a machine that uses energy to make something run or move." For example, an engine on a boat allows people to move quickly over water.

However, when the word *engine* was first invented, it meant "to have intelligence or skill." It also meant "to be tricky, or sly." Over time, *engine* came to refer to things that were made by someone who had intelligence or skill. It lost the meaning of "to be tricky, or sly." In this way, words can both gain new meanings and lose old ones.





CROSSING THE WAVES

If you were going to invent a boat, what materials would you use? You probably wouldn't think first of using a tree trunk, but that's what early people did. They cut down trees, split them, then hollowed them out. In fact, the word *boat* comes from an old word that means "to split." It could also refer to the way boats "split the water" by traveling through it.





People around the world had to travel across bodies of water, so there are many words for different kinds of boats. In addition to the word *boat*, the word *vessel* is used to describe different kinds of water transportation. *Vessel* first meant "vase" or "container." Both ships and boats are types of vessels.

The word *ship* has the same meaning as *boat*, but the words *boat* and *ship* are often used to describe different kinds of water transportation. Today, *ship* refers to a large boat that can travel on the ocean. In contrast, *boat* refers to vessels that are more often used on lakes, rivers, and calm coastal waters.

Small Boats

The simplest type of boat is a wooden raft, which is a flat boat with no sides. The word *raft* came from a word that meant "roof" or "ceiling." At one time, roofs were made by tying logs together, which is how rafts are made. Rafts



might have a sail, but many rafts are moved by a person pushing a long pole against the river bottom. Rafts don't have engines.

Today, rafts can also be made of rubber tubes filled with air. These rafts may or may not have sides. Many people use them to travel down fast-moving rivers.

On one of Christopher Columbus's voyages to the Americas, he saw people rowing narrow wooden boats. They were native people who lived in the islands near Haiti. In their language, the boats were called canaoua. Columbus named the boats canoa, which became our word *canoe*.



The kayak was also new to European settlers of North America. Near the Arctic Circle, settlers met native people who used small boats for traveling through narrow waterways. One of these groups, the Inuits, called these boats qajaq. In the Inuit language, *qajaq* means "a small boat of skins."

Like canoes, kayaks are narrow boats that are rowed. The difference is that canoes were originally made of wood, while kayaks were made of whale bones and animal skins, such as seal pelts. There aren't any trees near the Arctic Circle, so the native people used materials they could find easily.





Boats with Special Jobs

Boats are used for fun, but they're also used for work. Their name often tells you which task each boat does. Tankers are large ships that are built to move fluids over the ocean. Oil tankers are especially large. They can be as long as three football fields, and they can carry two million barrels of oil. This is enough to fill the gas tanks of five million cars. Not surprisingly, *tank* is a word from India that means "pond" or "lake."

Aircraft carriers are military ships that carry aircraft. You can probably see two words in aircraft: air and craft. Air, of course, refers to the gases around the earth. At first, craft meant "a small boat," but it later came to



refer to airplanes, too. So, aircraft are machines that move through the air.

The surface of an aircraft carrier is long and flat, and

it can be used as a runway for planes. The longest aircraft carrier can carry up to 90 planes!

Ferries are small ships that can carry people, cars, or cargo from one port to another. They can be used like buses on the



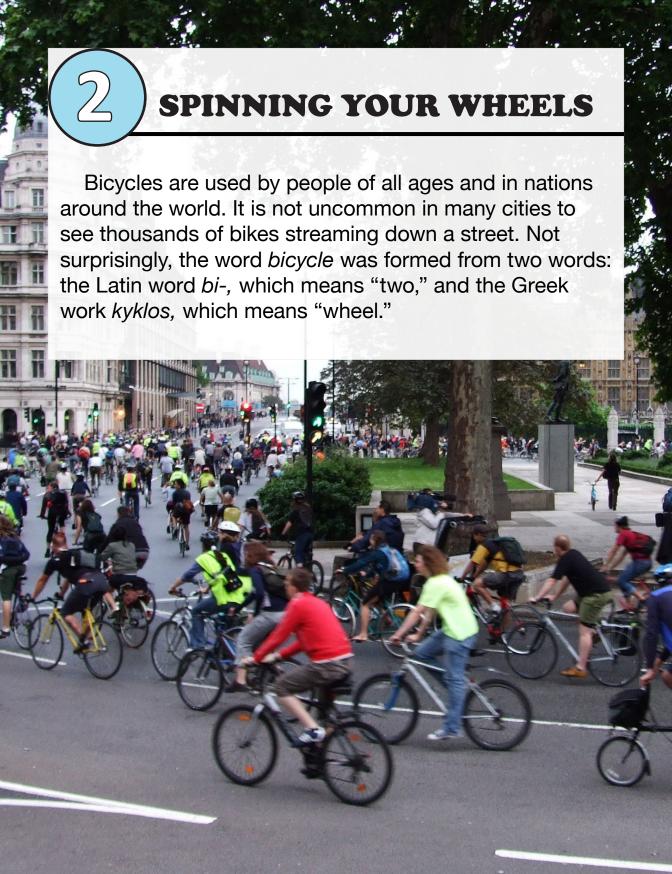
water. The word *ferry* comes from the Old English word *ferian*, which means "to carry or transport over the water."

Lifeboats are an essential part of all ships. As their name suggests, lifeboats save people's lives by giving them a safe way to leave a ship. Have you ever seen a big ship being towed by several little boats? The little boats are called tugboats. The *tug* in word *tugboat* means "to pull," which is what tugboats do. They pull large ships to the place they need to go.

This service is helpful in harbors and rivers, which are hard for large ships to navigate. This is where tugboats are most useful. They are powerful, and they can move in any direction.

Tugboats are also used as fireboats. They can pull water from a river or harbor and shoot it in a strong stream that puts out fires on boats or on the shore.





At first, only men rode bicycles. It was thought that only men could run machines, and that women wouldn't be able to control bikes. In the 1890s, though, with women's growing independence, bicycles offered women a way to travel by themselves. Today, of course, men, women, and children ride bicycles.

Bicycles are also used in several different types of racing. Motocross, or BMX, is a sport in which people race specialized bicycles on dirt tracks that have large obstacles. Also, in a race called the Tour de France, people race bicycles for three weeks and 2,200 miles around the roads of France and neighboring countries.





have three wheels. The third wheel makes the bike more stable and easier to balance. These bikes are called tricycles. As you've seen, the *bi-* in *bicycle* means "two." The *tri-* in *tricycle* means "three."

Bikes with three wheels aren't just for young children. Adults also ride tricycles because bikes with three wheels can help move people or things. The most common kind of adult tricycle is the rickshaw. The word *rickshaw* is a combination of Japanese words that mean "a carriage with man-power." Rickshaws are used as bike taxis in many parts of the world.

Some bikes also have only one wheel and no handlebars. These bikes are called unicycles. The first part of the word, *uni-*, means "one." Riding a bike with only one wheel is a balancing act—that's why unicycles are used in the circus.

In addition to bikes with one, two, or three wheels, there are also bikes with four or more wheels. Bikes with four wheels are called quadracycles. Again, the first part of the word refers to the number of wheels. In this case, quadra- means "four."

Here are some examples of words that use the word part *cycle*.

Bicycle

Unicycle

Prefix	Meaning	Prefix + Cycle	Meaning
uni-	one	unicycle	one wheel
bi-	two	bicycle	two wheel
tri-	three	tricycle	three wheel
quadra-	four	quadracycle	four wheel





Different Bikes for Different Functions

Riding a bike is a good way to exercise. But if you can't ride outdoors, you can ride a stationary bike. *Stationary* means "something that stays in one place." You usually see stationary bikes in a gym.



What kind of bikes can go as fast as cars? Motorcycles! In the United States, people most often ride the kind of a motorcycle that makes a loud Vrrrrrooommm as it passes by. But there are other kinds of motorcycles, too.



One is a moped. The word *moped* is from a Swedish word that is a combination of two words: *motor* and *pedal*. *Pedal* is part of the word because the first mopeds

looked like bicycles with small motors. Cyclists would pedal the bike, then turn on the motor when they were tired. As the engines got more powerful, the pedals were removed.





RIDING THE RAILS

People can walk at a rate of about three miles per hour. Horses can travel at about eight miles per hour. The first trains could travel at a startling rate of 20-30 miles per hour. Suddenly, people could go fast!

As you've read, new inventions sometimes



give words new meanings. At first, railroad companies called their new invention the "Iron Horse." That name made people think trains were safe and fun.

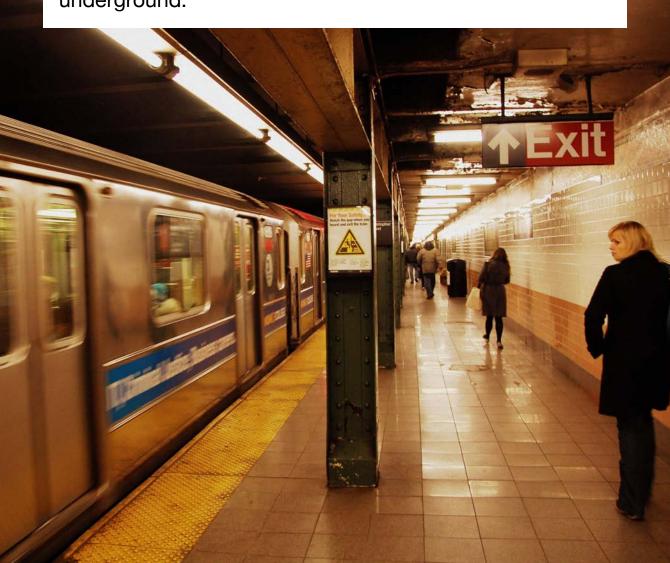
The word *train* was a familiar word, too. It originally referred to the back part of a women's skirt, which trailed behind her as she walked. Later, *train* also referred to a procession, or people or objects moving in a line. *Train* was then applied to train cars, which follow one another in line.

The word *railroad*, too, uses familiar words. A rail is a straight stick that connects two posts. It makes sense, then, that a railroad is a road that was built with straight sticks that form a path. Trains are usually pulled by an engine, which is sometimes called a locomotive. *Locomotive* means "moving from a place."

Underground and Above the Ground

Today, there are many different kinds of trains. Some are only for passengers. (*Passenger* means "traveler.") Others only carry freight. (*Freight* means "to load a ship with goods for shipment.")

Subways are one kind of passenger train. The word subway contains two word parts: sub-, which means "under," and way, which means "road, or path." So, a subway is a train that goes "under the road" or underground.



Trollies are passenger trains, too. They seem more like buses, though, because they make lots of stops. The word *trolley* means "a cart." Trollies can also be called cable cars because some move with underground cables, or ropes, that pull them along the street.



A conductor is someone who makes sure people riding the train are safe. Conductors sometimes take tickets, guide riders to their seats, and make sure people get on and off trains safely. The word *conductor* comes from the word *conduct*, which means "to guide or to show the way."



Soon, people wanted to travel even faster and farther, so high-speed trains were invented. These trains can run at speeds of 200 miles per hour or more. One kind of fast train is called the bullet train because of its shape and speed.

Another is called the maglev train. Maglev is a new word, and it is short for "magnetic levitation." *Levitation* means "to rise or float in the air." Maglev trains are fast because they use magnets to lift trains above the tracks. Traveling in this way is faster because the wheels don't drag on the tracks and slow the train down.





HITTING THE OPEN ROAD

Trains helped people go fast, but cars helped people both go fast and go directly to a destination. *Destination* comes from a Latin word that means "purpose, or design," so a destination is a place where a person wants to go.

For several hundred years, people had tried to invent vehicles that could move without horses. They used the word *automobile* to describe these inventions. This word has two parts: *auto-*, which means "self," and *mobile*, which means "propelled," so an automobile is a vehicle that can move itself. The word *vehicle* is interesting, too. It means "a way to carry something."





One of our words for the automobile is *car. Car* came from a Latin word for an ancient war chariot, which had two wheels and was pulled by a horse. In addition to being used in war, two-wheeled wagons were used to move anything from vegetables to animals to people.

When trains were invented, the word *car* was used to describe the part of the train that carried people or things. Finally, *car* was used to describe automobiles. Originally, these were called motor cars, but then the phrase was shortened to *car*. As you can see, the word *car* has been used to describe many different vehicles.



Many words that are used to describe cars were originally used to describe vehicles drawn by horses. Here are some of them:

Word	Meaning Relating to Horses	Meaning Relating to Cars
horsepower	a horse's strength	compares the power of a car's motor to the power of a horse
station wagon	a horse-drawn carriage that took people to and from a train station	a car that has extra room to carry people or things
caravan	a group of people traveling long distances; later, a group of covered wagons	shortened to van
driver	a person who controls a team of horses	a person who controls a car
stock car	a wagon or a part of a train that carried farm animals	a car that came from the factory without changes; later, a type of car that was built specifically for racing

Cars With Special Jobs

You've probably seen a jeep. This vehicle was originally designed by the military to move soldiers from place to place. It was dark green or brown, and it sometimes didn't have doors, a roof, or windows.

You may think that the word *jeep* was invented as a brand name, but, in fact, it was invented by cartoonist E.D. Segar. He drew the comic strip *Popeye*, and he created a character named Eugene the Jeep, an animal that could do magical things. *Jeep* also may have been made by combining the first letters of the words *general purpose*. A general purpose vehicle is one that can do many different jobs. If you pronounced the letters *g* and *p* together, it sounds like the word *jeep*.



In 1997, a new kind of car was sold in Japan. It ran on both gas and electric power, and it was called a hybrid. People drive hybrids who want to avoid adding to global warming by using a lot of gas and oil.

The word *hybrid* refers to something that is created by combining two different things. At first, it described an animal whose parents are of different species or varieties. For example, mules have a mother that is a horse and a father that is a donkey. Now, though, it refers to any two different things or species that are combined to make something new.





SOARING THROUGH THE CLOUDS

Early people lived, worked, and visited friends within a very small area because travel was difficult and dangerous. Once boats, bicycles, trains, and cars were invented, though, their worlds expanded. Then planes were invented, and suddenly, people could easily travel around the world.

For example if someone in South America wanted to drive to Canada, the trip would take about two weeks. Airplanes shortened that journey to as little as 15 hours.

At first, only a small group of people could fly planes. They were called aviators. This word was chosen because *aviators* comes from the Latin word *avis*, which means "bird."



As you can see, airplane has two words inside it: air and plane. Air you know, but plane originally meant "a flat surface." Later, it came to mean "to soar or glide" because it's easy to



glide with a flat surface. Airplane was then shortened to "plane."

Airplanes are controlled by a pilot. Because many words related to boats were also used for planes, *pilot* originally meant "one who steers a ship."



Going Places

Being able to travel quickly allowed people to cover much more ground. This required another set of words. People who take time off work are said to be on vacation. *Vacation* means "free from duty" or "at leisure," which is how people feel when they take a vacation.

Many people like to travel when they are on vacation. If they visit new areas, they are sometimes called tourists. The word *tourist* comes from a word that means "to turn." The idea is that a tourist goes in a circle: from home to different locations, then home again.



With the ability to go to another country, people needed ways to identify themselves. It is believed that the first passports were issued by kings to allow their citizens safe passage into and out of other countries. It's not clear if the *port* in *passport* actually refers to a port that people would sail into. It might also refer to a city's gate, which was also called a port.

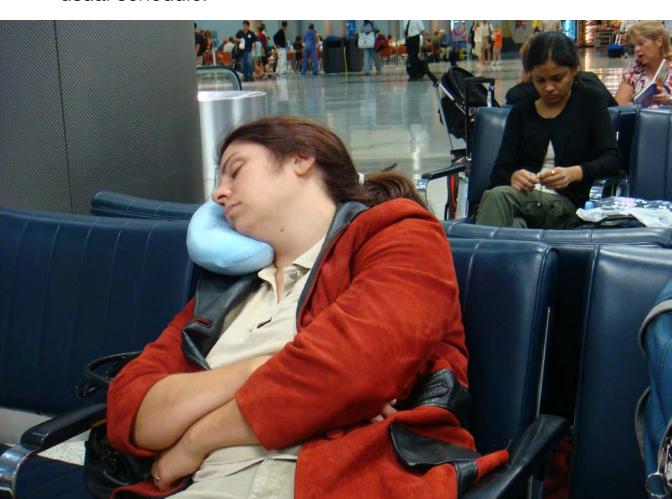
While travel by train was much faster than travel by horses, the journey could still take more than one day to complete. Sometimes, a train would stop at a city for the

night. That stop was called a layover, or layover. At first, layover referred to a cloth laid on top of a tablecloth, but in the late 1800s, it came to mean "an overnight stop."



Even though air travel is faster than train travel, there may be stops at different airports on the way to a person's destination. In air travel, then, a layover came to simply mean "a stop during a person's air travel."

Air travel can also lead people who travel great distances to be unsure when to sleep and when to be awake. For example, someone flying from New York to San Francisco may feel like going to bed at 8:00 PM, instead of his usual bedtime of 11:00 PM. This tired feeling is called jet lag. A jet, of course, is a type of engine that is used in planes. *To lag* means "to fall behind," so people who have jet lag feel like they have fallen behind their usual schedule.



Our Changing Language

As you've seen in this book, many words have taken on new meanings as new forms of transportation were invented.

One of the words used most often in transportation is *car*. It was first used in Old Latin as the word *carrus*. At that time, the word meant "a wagon, cart, or wheeled vehicle that was used to transport things."

Over the years, carrus been used to describe many different vehicles that carry people, animals, and things from one place to another. These vehicles are as different as chariots, farm carts, streetcars, subway cars, railroad cars, carriages, and today's motor car. Even elevators and hot-air balloons carry people and things in cars.



Another word that has been used in different forms of transportation is wheel. It makes sense that this word was reused many times because wheels play such a big part in helping machines move. You can see the word wheel in wheelchair, Ferris wheel, water wheel, pinwheel, wheelbarrow, and cartwheel.

Wheels are used in all of the forms of transportation you read about in this book. Bicycles, trains, cars, and planes use wheels to move along the ground. Boats don't roll on roads or rails, but they do use wheels in the form of the steering wheels that are used to direct them to a port or dock.









Words are often given new meanings when inventions are created. Sometimes it helps to use familiar words to describe these new things. It makes the new things seem less strange and scary. And it can help people feel comfortable as they try new things—especially things that can make them go very fast!

Glossary

conductor someone who guides train passengers and makes sure they stay safe

cycle from the Greek word for wheel, a cycle is something that goes around and repeats itself



destination the place someone wants to goengine a machine that uses energy to make something run or move

hybrid something that is created by combining two different things

journey a trip taken from one place to anotherpassenger someone who rides in a vehicle, such as a boat, train, or car

tourist a person who travels to see new places
 transport (verb) to carry people or things from one place to another; (noun) a vehicle that carries people or things from one place to another

transportation a way to carry people or things from one place to another

vacation time that is free of work and school responsibilities
vehicle something that is used to carry people or things
vessel a large boat that can be used on the ocean or other large body of water

Think About It

- Think of a fun trip you took. Where did you go? What did you do? Which form of transportation did you use? Use at least three new words from this book to describe your trip.
- You've learned that *uni* means "one," *bi* means "two, and *tri* means "three." Work with a friend to find three words in a dictionary that use those prefixes. Share your list with the class.
- Work with a friend to invent a new form of transportation. Draw a picture of your invention and describe how it would work. What new words might be needed to talk about it?



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