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Your Recycled House

By ReadWorks

Imagine you are building a new house, but you are not using any new material. A house like this would use construction material like wood and metal from other places. By using old material, you are reusing and recycling material that already exists. If you build your house like this, you are building a house in a way that is friendly to the environment, or eco-friendly.

To reuse material is to use it again; to recycle material is to reuse it, or to find a new use for it. You could get materials to reuse or recycle from old houses being torn down, construction sites, recycling centers, junkyards, and scrap yards. Reusing and recycling can be as simple as buying a used bathtub and putting it in the new house. Or it can be more complicated, like using the metal from old umbrellas to make lighting fixtures. By using your imagination, you can recycle a lot of different things for different uses.

Find a house before it's torn down and get whatever wood you can for the frame of your new house. You could reuse doors and floors from this old house.

If you live near a beach, you can find driftwood and use it for decoration or the railing of your porch. If you live near farms, you can reuse an old grain silo. A tall grain silo gives you a second floor! If you live near a shipping port, you may find old shipping containers that can make a great existing structure. You can use the bare sides and top as walls and a ceiling. You can then find wooden

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shipping crates to lay a new floor inside your shipping container.

You can stack old tires from a junkyard to make a wall. Another wall could be made out of scrap metal found in scrap yards. The scrap-metal wall would be shiny and look very different from your tire wall.

Can you imagine your eco-friendly house yet? Make sure you think about what kind of house you want and plan it well. Find the right type and amount of construction material. Also, make sure your construction material is clean and safe for reuse. If you don't plan your eco-friendly house well, you may feel like your house looks more like trash!

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Damaged Bridge to Be Repaired

By ReadWorks

Lover's Leap Bridge

In September of 2013, vandals removed one of the plates that made up the deck of Lover's Leap Bridge in New Milford, Connecticut. The bridge, which crosses the Housatonic River, was built in 1895 and is listed in the National Register of Historic Places. A popular tourist attraction since it was renovated in 2006, it was closed down when the vandalism left a gaping hole four feet long and ten feet wide.

According to State Department of Energy and Environmental Protection spokesman Dwayne Gardner, the plate had little value. "It's not worth much as scrap metal, and it's not like there's another use for it," he said. "The thing is, though, that plate was bolted on and probably weighed three hundred pounds. To remove it would have taken three, four, maybe five people with specialized equipment and a truck to load it into. My guess is it was a prank, just for the laughs. But that's quite a bit of work for a prank."

Cars have not been allowed on Lover's Leap Bridge since 1977, when a newer crossing was built just to the north. While no longer used for transportation, the bridge is popular in New Milford as a scenic retreat. And though the damage was relatively minor, many in town quickly became aware of the events. The crime's unusual nature encouraged speculation among local residents.

"Probably some kids from Brookfield, New Fairfield, something like that," said Marianne Faure,

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referencing neighboring towns. "You know, sometimes young people want to play a prank on a rival school. Seems like a strange way to go about it, though."

"Oh, yeah, it was kids for sure. Who else has the energy to haul that big piece of metal? Sneaking up at night, carrying all those tools, dragging the big thing back, ducking every time a car passes by—no one over the age of twenty-one would ever think that's a worthwhile way to spend your time," added Mitch Coleman.

Others, like Randy Zulack, think the theft was more serious. "I bet it's someone who's got it out for the town, someone who's got a grudge against the town planners or the town council. I've known people to do just that. They get denied a building permit, or maybe someone slaps a fine on them, and they're mad about it for years. It builds up. They have to do something. They're so mad."

Some residents even drew connections to other recent acts of vandalism in New Milford, a town not known for mischief. Danielle Smullyan recalled the damage done to the WWII-era tank at the head of the town's green. "I know it was just eggs and toilet paper, but it wasn't like it was Halloween—this was in January! It seemed so angry, and that's why the two seem similar to me. Maybe it wasn't the same person, but both acts were done in the same angry spirit."

In any case, Mohawk Northeast was contracted to complete the repairs. It was the company in charge of the major 2006 renovations to Lover's Leap State Park, which included much work on the bridge.

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How a Cargo Ship Works

By ReadWorks

It's 4:55 on a sunny afternoon 62 miles off the coast of Los Angeles, and the cargo ship *Mahimahi* is sailing southwest on its regular trip to Honolulu. The *Mahimahi* is big. It's 860 feet long, and right now it's carrying more than 30,000 tons, which is close to the maximum it can carry. Fully loaded, its hull is filled with shipping containers that rise 45 feet above the main deck.

When a ship this large is traveling like this, cruising at 18 knots an hour in a calm and pleasant sea (that's about 20 miles an hour), it looks as though nothing could stop it. But actually, powerful forces are at work, trying to blow the *Mahimahi* off course.

To understand how, first you need to know a few things about ships. When the captain stands at the wheel and looks to the front of the ship, the starboard is to his right. The port side is to his left. (Here's an easy trick to remember this: both "port" and "left" have four letters.) The front of the ship is called the bow, and the back is called the stern.

So right now the waves are sweeping in from the north, which means they are hitting the *Mahimahi* on the starboard side. The waves are medium sized, just under ten feet. Meanwhile the wind comes from the west at ten knots, hitting the ship's starboard bow.

Since the *Mahimahi* is so big, you might think such weak current and wind make no difference. Actually, they can change everything. How they do it involves the ship's pivot point. Let's say that you accidentally trip your friend as he's walking down the sidewalk. If you bump into his chest, that would just shove him sideways. Instead, your friend trips over your foot.

Why does your friend trip? Because when your friend is walking forward he carries most of his mass in his chest and his belly, so bumping into him there doesn't do much. But his feet don't weigh very

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much and they're the farthest thing away from his chest, so tripping him may lead to a big fall.

Well right now, the wind and current are trying their best to trip the *Mahimahi* by its ankle. As the ship moves forward, the center of its mass moves toward the bow. This is called its pivot point, because the whole ship wants to spin—or pivot—around it. The wind and waves hit this spot, and if they're strong enough they might succeed in shoving the ship sideways. But they're not going to catch the *Mahimahi* off guard and spin it around.

Where the ship feels the most pressure is at its stern. The very back of the ship is like its feet—the farthest spot away from its center of mass. As the *Mahimahi* sails southwest, therefore, the current is trying to grab its tail and spin it. If the current wins, the *Mahimahi* will spin out of control.

Meanwhile, the wind is trying to help the current spin the ship. The wind has little effect up front on the pivot point, but it's also blowing hard on the starboard stern. If the *Mahimahi* lost power, the wind pushing on the stern would start the ship in a clockwise spin. And then the current would pile on and continue the spin until the whole ship is pointing north. Even now, when the *Mahimahi* has full power, the wind sweeping against the bow is slowing the ship down.

All of this presents a problem, especially for Matson, the shipping company that owns the *Mahimahi*. Today is Saturday. Matson has promised its customers the *Mahimahi* will arrive in Honolulu next Wednesday, at midnight. To make a trip of 2,560 miles in four and a half days, the *Mahimahi* must keep its nose on course and its speed steady.

How is the ship's captain keeping a straight course? By using his controls to fight the elements. To keep the ship going straight, he keeps the rudder turned a little to starboard, pushing the bow slightly into the wind. To maintain a speed of 18 knots, he pushes the engine a little harder, maybe to 18-and-a-half knots.

At 6:50 pm, 75 miles into its trip, the *Mahimahi* passes the rocky southern tip of San Nicolas Island. An ocean observation station on the island shows currents swirling clockwise, right into the ship's bow. As the *Mahimahi* hits the oncoming current, it slows to 17.7 knots. A few minutes later the ship sails forward into calmer water, and it returns to its original speed. A person standing on the island's shore would never notice the difference.

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Native American Homes

By ReadWorks

Before Columbus!

Before the arrival of European explorers and settlers, there were already incredibly diverse groups of Native Americans all across North America. This period in Native American life and culture is called the pre-Columbian era.

It is important to remember that Native Americans had established customs, beliefs, traditions, and general ways of living well before European influences began to spread across the continent.

It's a Bridge! A Land Bridge!

Most anthropologists who study pre-Columbian cultures believe that the ancestors of modern Native American peoples migrated from Asia, across the Bering Strait, and south through what is present day Alaska, Yukon, and British Columbia. This was possible because sea levels had dropped around 300 feet during the Ice Age, between 12,000 and 60,000 years ago.

Anthropologists call the prehistoric land bridge Beringia. They believe it was open at several points: 50,000 to 60,000 years ago, 40,000 to 45,000 years ago, 28,000 to 33,000 years ago, and

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13,000 to 23,000 years ago.

How Did Native Americans Live?

Anthropologists are careful to consider the different cultural reasons why Native Americans built different styles of housing, as well as reasons having to do with available resources, climate, and the landscape.

All in the Family

The Iroquois living along the St. Lawrence River in the Northeast woodlands built longhouses hundreds of feet long so that all members of the same clan could live together. Clans were organized *matrilineally*, which means that when an Iroquois man and woman married, the new husband would join his wife's household. This is the opposite of most European societies, in which new wives would join their husbands' families. When a new Iroquois husband joined his wife's family, the clan simply made the longhouse longer by adding more bent saplings to the frame and elm bark slabs to the roof. A clan's family totem would be displayed on the doorway.

A House by the Sea

In the Pacific Northwest, Native American commitment to building with wood was much more extensive. Using different stone, bone, and shell tools, native peoples would cut, carve, and smooth red-cedar boards to be attached to heavy post and beam frames. Builders would include one or more rectangular levels as support for sleeping booths. The Haida people of the Pacific Northwest would stand totem poles in front of their houses as a way of displaying family histories and myths.

Move On Out!

The nomadic lifestyle of Native Americans on the Great Plains known as the Lakota people encouraged the use of shelters that could be put up and taken down very quickly. Animal hides stretched over tent poles arranged in a cone, known today as a *tipi* (meaning "to dwell" in the Lakota language), was the shelter of choice for hunting societies that required a greater range of

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mobility.

A Difference in Neighbors

The American Southwest is a difficult environment to survive in, let alone live. The Pueblo Indians and the ancestors of present day Navajos endured the harsh landscape in two very different ways.

The Pueblo peoples of what are now New Mexico and Arizona built brick and stone structures, three-to-five stories tall, clustered around plazas. The units could be circular or rectangular. Circular structures were generally free-standing, while rectangular structures were attached on different sides. Pueblo homes further to the east were built using mostly adobe clay; water was drawn from the Rio Grande, and bricks were dried in the sun. Homes further to the west were built using sandstone available in the drier climate.

By comparison, the ancestors of today's Navajo people were semi-nomadic and built family homesteads spread out across the Painted Desert of the American Southwest. At the center of these ranches was the hogan, an east-facing structure historically built with whatever materials were available, a tradition of adaptation continued well into the present day. It is easy to imagine that these Navajo homesteads might have inspired white settlers to build ranches of their own on the western frontier.

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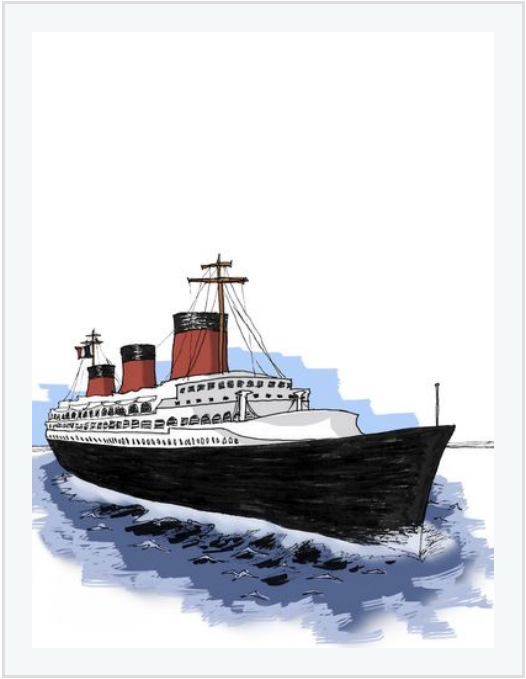
The SS Normandie

By W.M. Akers

Illustrations by Nishan Patel



If your family wanted to travel from America to Europe, you might go to the airport and get on a plane. But generations ago, airplanes were less common, and there was only one way to cross the Atlantic Ocean: on the sea.

You've probably heard of the RMS *Titanic*, which claimed the lives of more than 1,500 people when it

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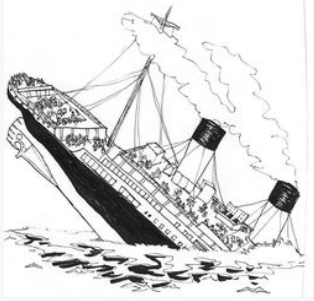
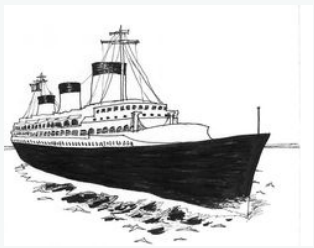
sank in April 1912. But the age of the ocean liners did not end with the *Titanic*. In fact, the great ships only got bigger and faster.



When the SS *Normandie,* a French ocean liner, pulled into New York Harbor on June 3, 1935, she was the largest ship ever built.



More than twice the size of the *Titanic*, she could accommodate more than 1,500 passengers and 1,300 crew members. She was also the fastest ship in the world. On her maiden voyage, she crossed the Atlantic in just over four days—an incredible speed in a day when air travel was not yet widespread.

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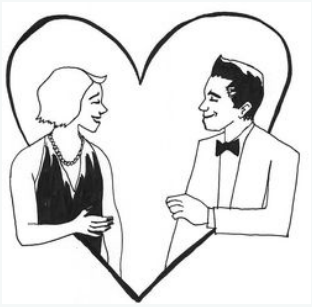
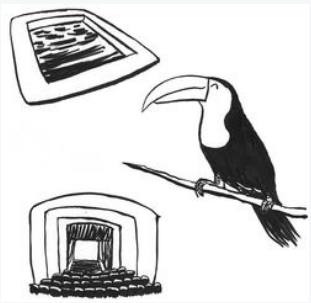
But the *Normandie* was most famous for the luxury of her accommodations. Passengers could swim in the ship's massive swimming pool, admire the exotic birds in the winter garden, and watch plays and movies in the ship's theater. Three-quarters of the ship were dedicated to first-class passengers, who were some of the wealthiest people in the world. At night, they put on formalwear and ate in the 305-foot-long dining room. Each night was a luxurious party.





World War II started in 1939, and France was soon conquered by Germany. The *Normandie* was in port in the United States when this happened, and the American government took control of the ship. They did not want such a fast vessel to fall into German hands. They planned to convert the *Normandie* into a troop transport to carry American soldiers overseas, but on February 9, 1942, disaster struck.

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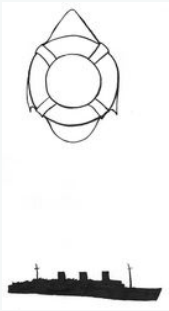
Sparks created by one of the workmen landed on a pile of life preservers, which caught fire. The ship's sprinkler system had been turned off, and the fire quickly spread through the ship. Firemen from all over New York came to Pier 88 to try to save the great liner.



For hours they fought the flames, pouring thousands of gallons of water onto the boat, but the fire could not be stopped. The water caused the ship to tilt, and finally it fell over completely. For months the ship lay on its side, frozen in icy mud. Finally the Navy had to tear it apart, piece by piece. Fewer than 10 years after first sailing into New York, the great liner was no more.

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The World's First Modern Shopping Mall

By Daniel Scheffler

The country in the world with perhaps the most malls, and also some of the biggest malls, is America. Edina, Minnesota, is the site of the first modern mall. It's still standing, and it's called Southdale Center. This was the first mall to offer a completely enclosed retail shopping experience.

Malls up to that point in time were modeled after the traditional European arcade. An arcade is a semi-covered walkway with shops on both sides. Examples of these arcades can be found today in Italy and Germany.

Southdale Center was actually going to be a new version of the traditional European arcade, surrounded by apartments, schools, and facilities that provide medical and emergency services. But then the plans changed completely. The developer of the shopping center, Dayton Company, and its designer and architect, Victor Gruen, saw a much bigger opportunity. They ultimately decided that Southdale Center was going to be different; it was going to be inside a big building. It was going to be on more than one level and have a town square in the middle under a skylight.

The mall opened in 1956, and it was the first fully enclosed climate-controlled retail space with multiple shops. Although the building was enclosed, there was some daylight coming through glass panels that were built into the roof. On top of that, there was electric lighting fitted throughout the mall. This was so the day would feel much longer for people in the mall. This was

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supposed to encourage these shoppers to stay longer and buy more things.

The developing team also wanted to create a place with all the services people could possibly need all in one place. From grocery stores, to a postal office, to various department stores—they were all put under one roof. It even ended up including fishponds, trees, a cage with birds, balconies with hanging plants, and a small zoo!

Southdale Center was received with a lot of excitement by the American public. On opening day of the mall, 40,000 people came to see it and shop. People came from cities close by, but also from far away, to visit a shopping mall they had never experienced before.

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