



Marine Reader Series

All Kinds of Boats



Bob Winters
Captain Jørgen Berg

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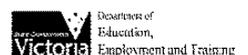
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Floating

Boats float on water, even boats made of heavy steel.

They float because they are hollow and hold air. If a boat gets a hole in it, the air escapes and water comes in. The boat sinks as it fills with water. Ships are large boats.

This huge ship is a tanker that carries liquid natural gas. It transports natural gas from Australia to Japan.

A ship this size has about 24 crew who live on the ship.



*This ship is 272 metres long and 47.2 metres wide.
Would this ship fit into your school ground?*



Tankers and bulk carriers

Oil tankers and bulk carriers are the largest transport ships in the world. They visit ports to load up cargoes such as oil, wheat, woodchips, mineral ore or other materials. They carry large amounts of products across the oceans.

This boat is a bulk carrier. It carries wheat. On the deck you can see hatches and hatch covers. The hollow inside of the ship is called the hold.

Oil tankers don't have holds, they have tanks. There is a photo of an oil tanker on the title page.

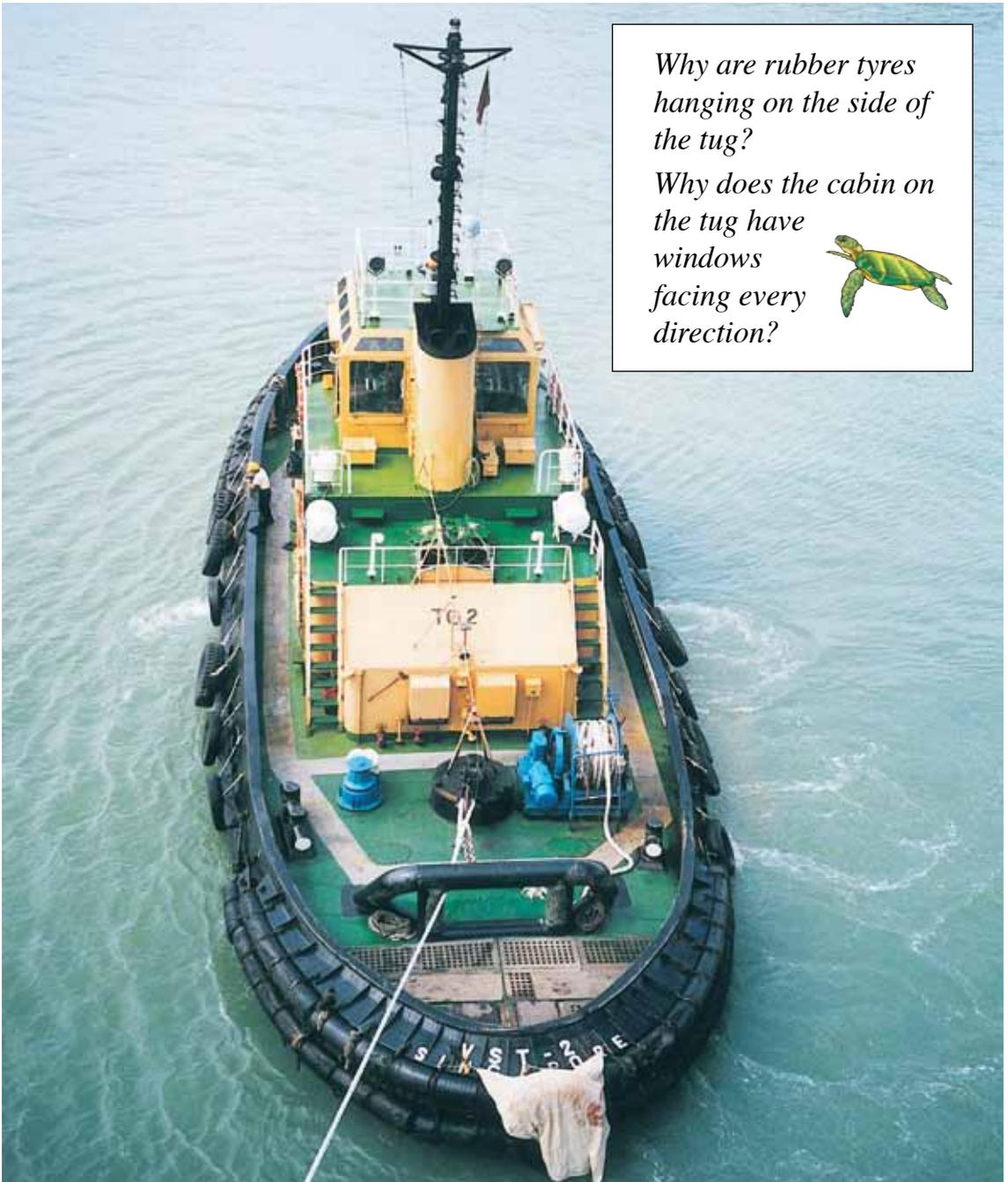


This ship is 313 metres long and 44.2 metres wide.

How can you tell the ship is empty?



This is a bulk carrier.



Why are rubber tyres hanging on the side of the tug?

Why does the cabin on the tug have windows facing every direction?



Tugs

Tugs are small ships with big motors.

Large ships can't move in small spaces, and find docking at some ports difficult. Tugs can safely pull and push large ships into small spaces.

Tugs carry a crew of six or seven sailors.

On this tug, you can see a towing line which is hooked up to a large ship.



Yachts

Modern yachts carry large sails on tall masts to catch the wind. They can sail very fast in a strong wind. Ropes pull the sails up and down. This is a large yacht with two sails. The sailors turn a large wheel to move the rudder at the rear of the boat. The rudder steers the yacht in the water.

Cables keep the mast straight and give it strength. At the bottom of this fibreglas boat is a heavy keel. This stops the boat from falling over.

Sailors need training to sail yachts. They need to learn which ropes to pull, and how to use the wind and the rudder to change direction.



Which direction is the wind blowing from in this photograph?

Sailing ships

Very old ships needed the wind to move and sailed slowly using large sails. They didn't have motors. Special tree trunks were chosen to build tall, straight masts. Most sailing ships were made from wood. The masts were held up using many ropes. Ropes were also used to make ladders to climb up the masts and to hoist the sails. This sailing ship needs at least 30 crew.

Try to count the number of sails that could be hoisted on this sailing ship. Would you be brave enough to climb up a rope ladder onto the mast?



Powerboats

People use powerboats for fishing in the sea and lakes, or just for fun to explore.

People often spend the whole day on the water in their powerboat.

This boat has a large engine which pushes the boat very fast and uses a lot of petrol.

Powerboats spray up a lot of water and make large bow waves.

When a powerboat goes fast, the front of the boat lifts up.

The boat can be driven from inside the cabin or from the deck above the cabin.



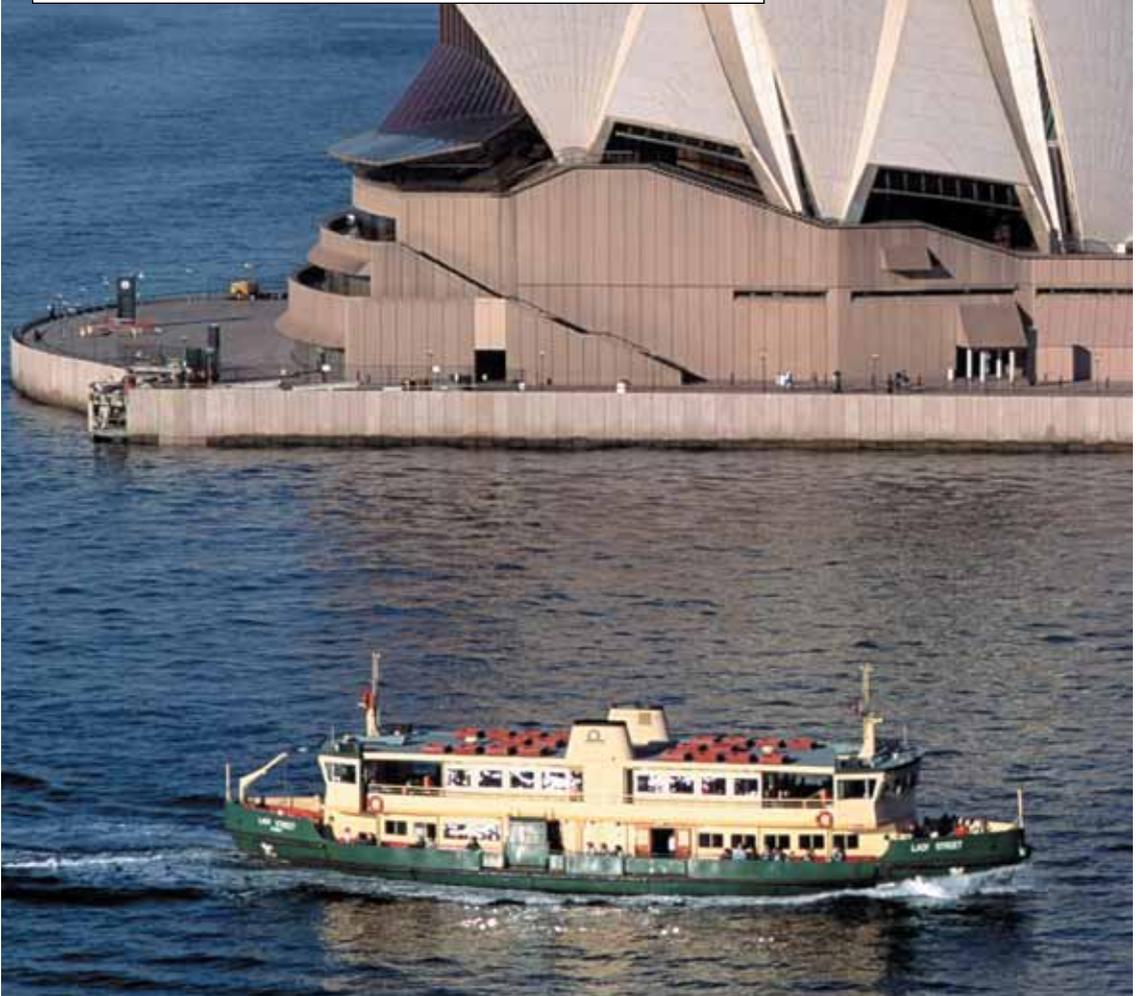
How can you tell if this boat is going fast?





Why do some ferries need to move in either direction?

What city would you find this ferry



Ferries

Ferries carry people across rivers, lakes and the sea. People can buy tickets to ride on ferries like they do to use trains and buses. Some ferries can also carry cars.

This ferry can move in either direction because it has a cabin for the captain, a large diesel engine, a propeller and a rudder at each end. The captain only has to change cabins to move in the opposite direction. The hull of this harbour ferry is made from steel.

Cruise ships

A cruise ship is like a floating resort. Tourists go for holidays on cruise ships. The ship has everything tourists want, like restaurants, shops and even theatres.

They can swim in swimming pools on the decks and sleep in cabins with their own bathrooms. Cruise ships might stop at ports where the passengers get off the ship to see the sights.

These ships cruise around tropical islands or visit glaciers around Alaska.

The two ships in the photographs belong to two different companies or shipping lines. How can you tell?



Where would you like to travel on a cruise ship?

Why do cruise ships have lifeboats?





Rowing boats

Rowing boats are small and made from wood, aluminium or fibreglass. The rower must pull the oars to make the boat move. The oars hang over the side of the boat.

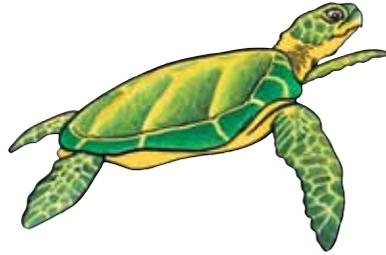
This boat has no rudder, so you must pull one of the oars harder than the other to change direction. Rowing boats can be used for fishing, but they are not safe far from land.

Rescue boats

This rescue boat has two very powerful engines. It is powerful and fast enough to crash through large waves. The twin hulls on this boat make it more stable and allow it to move in shallow water.

The coast guards use these boats to rescue people from the water and often save lives.

Why would this boat need large aerials and radar?



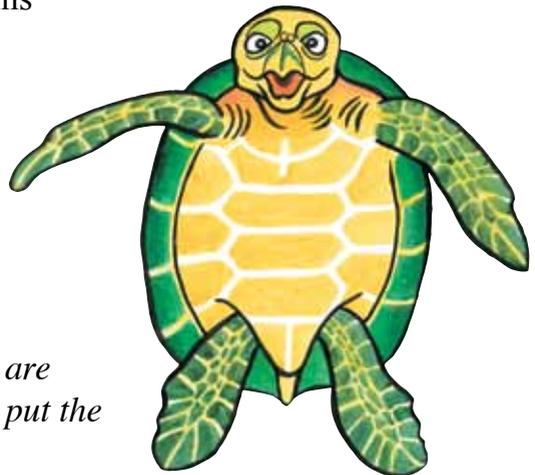


Fishing boats

All over the world, fishing boats are used to catch fish for people to eat. The crew on this fishing boat uses nets or fishing lines with hooks to catch fish. Modern fishing boats use radar to monitor the weather and echo sounders to find schools of fish in the sea. The engine is slow, like a tractor engine. It spins a propeller that makes the boat move forwards.

People who are not used to fishing boats often become seasick because these boats roll in the waves and smell very fish.

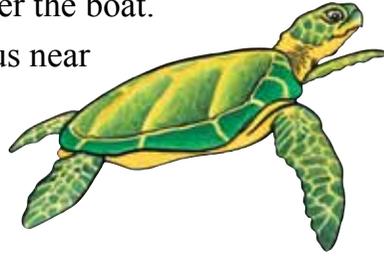
Can you see where the fish are stored? Where do the crew put the fish to keep them fresh?



Personal water craft

Personal water craft are ridden for fun because they can go very fast across the water. They can turn very quickly and make large waves. This jet ski is large enough to carry two people. The body of a personal water craft is made from fibreglass. The engine sucks water from under the boat and squirts it out the back through a nozzle. The handle bars turn the nozzle to steer the boat.

Personal water craft are dangerous near swimmers and sea creatures. This personal water craft is very noisy.



How does this boat move forward?





We must stop the plastic tide from boats and land pollution

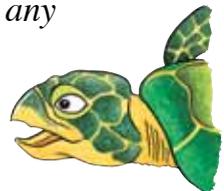
Sea pollution

We must protect the sea from pollution and rubbish. Pollution kills many plants and animals in the sea. Oil pollution can cover or poison birds, seals, corals and mangroves. Plastic rubbish can get tangled around the necks of seals and turtles and kill them. All ships and boats that use oil as a fuel could cause an oil spill.

We can all help the sea. When we go to the beach, we can take our rubbish home. When we go on a boat, we can keep our rubbish out of the sea. Most pollution comes from the land by being washed through drains into rivers and so into the sea.

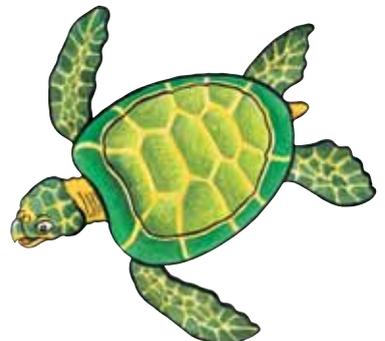


Should we put rubbish or any chemicals into a drain? Why not?



Glossary

| | |
|---------------|--|
| bow wave | the wave at the front of a boat where it pushes through the water |
| cargo | the goods or material carried by a ship from port to port |
| crew | the people that work together to do a job |
| deck | the floor of a ship |
| docking | a ship parking at a wharf |
| echo sounders | equipment that uses sound to locate things under water |
| fibreglass | a combination of chemicals to make a strong light plastic material |
| hatch | a large opening on the deck of a ship |
| harbour | a safe place for boats to rest |
| hold | a large space inside a ship that holds cargo |
| hull | the bottom surface of a boat or ship |
| keel | a deep vertical plate at the bottom of the hull that helps the boat move in a straight line and on some boats stops them tipping over. |
| mast | a tall pole on a ship that holds up the sail |
| natural gas | gas extracted from the ground or from under the sea |
| oar | a pole with a flat end used to move a row boat |
| oil | a liquid that burns |
| pollution | things that poison the air, water or soil |
| port | a harbour where goods are loaded and unloaded from ships |
| rudder | flat surface underwater at the back of a boat used to steer the boat |
| sailor | person who works on a boat as part of the crew |
| shipping line | company that owns and runs ships |



A National Marine Education Program



Level 1

- Book 1 : Everyone Likes the Sea
- Book 2 : Sea Creatures
- Book 3 : At the Beach

Level 2

- Book 4 : Fun by the Sea
- Book 5 : Working at Sea
- Book 6 : Be Safe at the Beach

Level 3

- Book 7 : Tourists and the Sea
- Book 8 : All Kinds of Boats
- Book 9 : Rock Pool Life
- Book 10 : Creatures of the Deep
- Book 11 : Shipwrecks
- Book 12 : Our Day on a Research Boat

Level 4

- Book 13 : Let's Go Sailing
- Book 14 : Food from the Sea
- Book 15 : Classification and Survival
- Book 16 : Sea Creatures at Risk
- Book 17 : Better Boating Behaviour
- Book 18 : Don't Mess with the Sea



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