



IMAGE: iStock/ Marcus Mills

When was the Iron Pot Lighthouse at South Arm first constructed?

How many steps does it take to reach the top of Cape Wickham Lighthouse?

What is unusual about the 'day mark' stripes on the Mersey Bluff Lighthouse?

Perhaps you might like to build your own model lighthouse, from scrap items you have at home. Think about how lighthouse towers are constructed to make them stronger. Don't forget to paint on some 'day mark' stripes. For another challenge, research and make a list of the lighthouses in Tasmania. Several are mentioned in this edition, but there are many others. Children's University Tasmania members can earn hours in their passports for either of these challenges, at the discretion of their school coordinators.

LIGHT SAVER

DO lighthouses fascinate you? It might be because they are unusual buildings, or because they are often found in really interesting and sometimes remote and rugged places. Perhaps it is because of the important role they have in protecting ships from potential disaster by warning of danger or showing the way to safety. Even during storms and rough seas. Whatever it is, they fascinate us at *The Wonder Weekly*, so much so that we have devoted this week's entire edition to lighthouses. Tasmania has 25 major lighthouses, or thereabouts. They are all pretty awesome in terms of how they look, and where they are located. Many of Tasmania's lighthouses are found on its surrounding islands. Have you ever visited a Tasmanian



STORMY SEAS: Ahtopol Lighthouse in Bulgaria. Picture: iStock/ Nadya85

lighthouse and perhaps climbed its stairs? Tasmania's lighthouses include Australia's second oldest, the Iron Pot Lighthouse at South Arm, at the mouth of the River Derwent. Like many lighthouses, it was

constructed following shipwrecks. The colonial trading ship *Hope* was wrecked on the beach which now bears its name in 1827, and stories of lost treasure were told for years after. Tasmania also boasts the tallest lighthouse in the Southern Hemisphere - Cape Wickham Lighthouse, on King Island. It is 48-metres tall, and has 11 flights of stairs, each with 20 steps, to reach the top. The last lighthouse in Australia to have a permanent lighthouse keeper was Maatsuyker Island Lighthouse, which is also Australia's most southerly lighthouse. It was so windy on Maatsuyker Island, that the lighthouse keeper in the early 1900s could not record the highest wind speeds because his equipment was destroyed by the storms. Tasman Island Lighthouse was one of

the most isolated in Tasmania. A flying fox, and a horse-drawn tramway were used to transfer people and supplies when this lighthouse had a keeper. There are of course amazing lighthouses all around the world, many with fascinating histories. It is not clear who invented lighthouses or when, but they possibly date back to the 5th century BC, or even earlier. The earliest lighthouses were probably bonfires built on hilltops, or platforms. The first lighthouse in recorded history, and one of the Seven Wonders of the Ancient World, was the Pharos of Alexandria in Egypt. Built around 280BC, it is estimated to have been 100-metres high with a huge open fire at its summit. It was abandoned after being damaged

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Lighthouse spotting



How well do you know your Tasmanian lighthouses? Number the boxes to match the images with the locations below.

1. Mersey Bluff Lighthouse, Devonport.
2. Cape Bruny Lighthouse, South Bruny Island.
3. Entrance Island Lighthouse, Hell's Gates, Macquarie Harbour.
4. Eddystone Point Lighthouse, Bay of Fires.
5. Low Head Lighthouse.
6. Rocky Cape Lighthouse.



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Shining a light on history and awesome science

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by a series of earthquakes, but archaeologists have discovered remains of the lighthouse in Alexandria's Eastern Harbour.

The Farum Brigantium, now known as the Tower of Hercules, at A Coruna in Spain, is the oldest surviving lighthouse.

It was built by the Romans in the 1st Century and renovated in 1791.

While ruins of a Roman lighthouse in Dover, England, also date back to the 1st Century.

Lighthouse construction boomed in the 18th century.



Advances in engineering allowed for the construction of lighthouses exposed to the seas and built on dangerous rocks, such as the Eddystone Rocks Lighthouse in the English

Channel and the Bell Rock Lighthouse, off the coast of Scotland.

Scottish engineer Robert Stevenson designed the Bell Rock Lighthouse.

He also came up with many innovative designs for lighting, such as rotating and flashing systems and the use of Fresnel lenses.

Fresnel lenses, invented by French physicist Augustin-Jean Fresnel, are made up of many prisms mounted on a steel frame to create a series of rings.

The lens arrangement concentrates the light rays from

the lamp into one strong beam. Car headlights also use Fresnel lenses moulded from plastic.

Lighthouses uses xenon lamps, that are hundreds of thousands of times brighter than the lights in your house.

The rings in a Fresnel lens are like steps, and each one bends the light slightly more than the one below, so the light shines in a perfect, parallel beam that can be seen up to 30 kilometres away.

Fresnel lenses work the opposite way to a telescope, which bend light rays from distant objects so they seem to be much nearer.