



FIT CURRICULUM LINKS

Creative Workout— To design a freestanding structure—lighthouse.

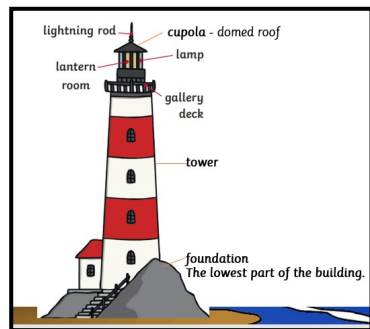
World Workout— To develop an understanding of lighthouses and their design.



Expert Vocabulary

lighthouse

A tall building with a light on the top. Its light shines out to sea and protects ships from crashing into shore.



structure

Something that is built or constructed.



freestanding structure

A structure that stands on its own foundation or base without attachment to anything.



stronger

Able to withstand force or pressure.

stable

An object that does not fall over.

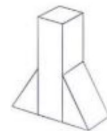
stiffer

Stronger and not easily bent.



buttress

A structure added to a wall or tower to make it more stable.



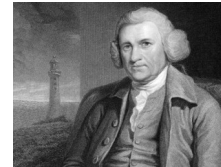
V.I.P

John Smeaton

Born: 1724

Died: 1794

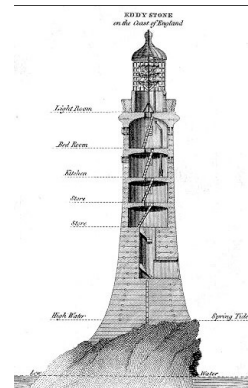
British Civil Engineer



- He designed and built bridges, canals, lighthouses and mills.
- Famous for designing the 3rd Eddystone Lighthouse which stood for 120 years.
- He was inspired by tall oak trees, which withstood gales, and decided to design his lighthouse tower like the rings of tree.
- He used granite bricks and invented a quick drying cement to help construct the lighthouse.
- His ideas were then used to build all other lighthouses.



oak tree



Eddystone Lighthouse

Key Information

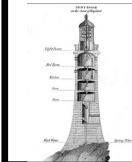


The first lighthouse was built in Egypt and was called Pharos of Alexandria.



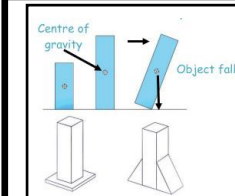
The first lighthouses were built from wood and had a fire as their light.

This one was an octagonal wooden lighthouse.



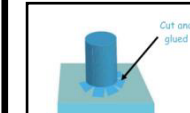
John Smeaton was the first person to design and build a lighthouse from stone.

Technical Knowledge



A tall **freestanding structure** can easily fall over.

You can make your structure stable by making the base heavier or by adding a **buttress**.



Cylinders are strong 3D shapes.

This is how a cylinder can be attached to a base.