TERRIFIC TOWERS

Key Stage 1 – Self led visit

CURRICULUM LINKS

ENGLISH – Learn how to use different forms: statement, questions, exclamation, command.

MATHS – Choose and use appropriate standard units to estimate and measure length/height (m/cm).

LEARNING OBJECTIVES

Children should measure themselves compared against the height of Spinnaker Tower.

BEFORE YOU VISIT

Print the downloadable worksheet and bring it with you. There is a subsection of the glass floor available to borrow at reception to assist with your learning.

DISCUSSION OUTLINE FOR THE TEACHERS DURING VISIT

- Ask the children to listen out in the lift for some of the Tower facts that are missing from their worksheet.
- Ask the children to look out of the window and comment on what they can see. Take feedback and encourage the awe and wonder in the children from being so high up.
- Ask the children to name other ways that they could see the world from a high point (aeroplanes, up a mountain, tower blocks, church steeples).
- Explain to the children that they are going to be thinking about the height of Spinnaker Tower. Ask the children to look out of the window and point to other tall buildings that they can see.
- Point out the buildings that they can see: (pictures are shown on the worksheet)

No 1 Gunwharf Quays East Window from Spinnaker Tower = Height 98 metres

These are residential flats, people live here. This building is known locally as the Lipstick Building (why?). The building was designed to be the shape of a ship's funnel and Spinnaker Tower is the shape of a sail. In 2012 the penthouse was on sale for £2.5m!

Harbour and Seaward Residential Flats at the edge of Gosport = Height 46 metres

Built in the 1960s, the flats have big mosaic panels on the front.

Anglican Cathedral Bell Tower = Height 37 metres

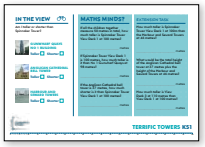
The Anglican Cathedral is one of two within the city. Its formal name is Cathedral Church of St. Thomas of Canterbury.

- Ask the children if they think Spinnaker Tower is shorter or taller than the other buildings in Portsmouth.
- Ask children how they know that Spinnaker Tower is taller than the other buildings in Portsmouth.
  Take answers – because everything is below them; because things look smaller from up in the Tower, etc.
- Ask the children to make a line with their teachers, with the smallest people at the front and the tallest at the back. If they stood on each other's shoulders, can they guess how tall they would all be together? Take answers.
- Suggest that they would probably be about 50 metres tall all together (using the average height of a 7-year-old as approximately 1.20 metres + 6 teachers). (36 people)
- Do the children know how tall the Tower is? (If the children look carefully they will be able to find the answers on their worksheet.)

The Tower is 170 metres,
View Deck 1 is 100 metres (Glass Floor)
View Deck 2 is 105 metres,
View Deck 3 is 110 metres.

Spinnaker Tower was built as a viewing tower to welcome tourists to the city, as part of a regeneration programme for the area.

Ask the children to switch on their maths brains and do a few calculations. A worksheet is available to download to use. (All of the questions are based on the height of View Deck 1)



- If all the children together measure 50 metres in total, how much taller is Spinnaker Tower View Deck 1 at 100 metres? **= 50 metres**
- If Spinnaker Tower View Deck 1 is 100 metres, how much taller is it than No 1 Gunwharf Quays at 98 metres? **= 2 metres**
- If the Anglican Cathedral bell tower is 37 metres, how much shorter is it than Spinnaker Tower View Deck 1 at 100 metres? **= 63 metres**

EXTENSION TASK

- How much taller is Spinnaker Tower View Deck 1 at 100m than the Harbour and Seward Towers at 46 metres? **= 54 metres**
- What would be the total height of the Anglican Cathedral bell tower at 37 metres plus the height of the Harbour and Seward Towers at 46 metres? **= 83 metres**
- How much taller is View Deck 3 at 110 metres than View Deck 1 at 100 metres? **= 10 metres**

- Now tell the children the following fun facts about the Tower:

The Tower is founded on 84 piles, the longest of which runs 50m into the ground – the equivalent of Nelson's Column, (it is possible to see these at low tide – see picture attached).

The total weight of the Tower exceeds 30,000 tonnes.

The concrete used to build the Tower would fill five-and-a-half Olympic-sized swimming pools.

The 27 metre spire weighs 14 tonnes and was carefully lifted into place by crane – see picture attached.

In high winds, the Tower can flex approximately 150mm.

1,200 tonnes of structural steel was used to form the Tower's distinctive bows. This is the equivalent weight of 12 blue whales.

- Explain to the children that they can walk on the glass floor. Look down! There would have to be approximately 72 children standing on each other's shoulders to reach the height of the glass floor from the ground.
- Tell them that the floor is quite safe! In fact, it could hold the weight of two rhinoceroses!

EXTENDED TASK – DARE YOU WALK ACROSS THE GLASS FLOOR?

You will need the glass floor subsection for this – ask a member of the Team.

If time allows ask the children to complete the glass floor questions.

- What shape is the glass floor? **= Rectangle**
- Look around and see if you can see any other shapes within the Tower or view i.e Round Tower, Portholes in the door, Square Tower.
- How many pieces of glass make up the thickness of the glass floor? (A subsection of the glass floor is available from reception.) **= 3**
- Ask the children to think of different ways they could measure the glass floor – they can use their hands, feet, their whole bodies, belts etc.
- Get them to measure it and record their answers.

EXTENSION TASK

- Can the children draw in the number of panels on their glass floor diagram? **= 4**

SPINNAKER TOWER

Founded on 84 piles in the sea bed

Image credit: Edward Grimley

SPINNAKER TOWER

27 metre spire weighs 14 tonnes