

Topic: Building structures	Year group	Term
Towers	Year 2	Spring 1 6 sessions

Background knowledge

A tower is a tall structure, taller than it is wide, often by a significant factor. Towers are distinguished from masts by their lack of guy-wires and are therefore, along with tall buildings, self-supporting structures. Towers they could explore could include The Blackpool Tower, Eiffel Tower, Burj Khalifa. In year 1 children made junk model houses, exploring materials and tools. This will build on that by working with finer materials and thinking about building strong shapes.

What should I already know?

Materials can be joined using glue or tape and shaped using scissors
We can use a range of materials to make models or structures

National Curriculum Objectives / Key Skills	The Journey
• Design purposeful, functional, appealing products for themselves and other users based on design criteria • Generate, develop, model and communicate their ideas through talking, drawing. • Build structures, exploring how they can be made stronger, stiffer and more stable. • Select from and use a range of tools and equipment to perform practical tasks, • Select from and use a wide range of materials and components • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria • I can use existing products to get ideas for my design, thinking about what it is for. • I can draw a plan for my design • I can think of an idea and plan what to do next • I can build a structure out of card, lollypop sticks paper or plastic • I can make informed choices about tools and materials • I can join materials in different ways (glue, tape) and think about how to finish it in a neat way. • I can explain what went well with my work and how I could make it better.	1. WALT: Investigate existing towers. (Blackpool, Eiffel). Make sketches, Look for common features. 2. WALT: Explore how strong shapes are used in tower building. STEM challenge? Watch video about how strong towers are made on wide base foundations. 3. WALT: Choose materials and tools carefully Set design challenge-to hold a crème egg on the top! Discuss key features their towers will need to have, explore materials they could use. (could be explored as a pairs challenge?) 4. WALT: Design a tower. Explain choices of material and design. 5. WALT: Make my tower 6. WALT: Evaluate my tower. Test towers and suggest improvements for next time.

Outcomes

An overview of what children will know / can do

Working towards: I can build a tower

Expected: I can use my research to design and make a sturdy tower.

Exceeding: I can use my research to make a strong, sturdy tower that meets the design brief.

Key Vocabulary

Purpose- what something is for/meant to do

Strength- the ability of something withstand a lot of pressure/force

Sturdy- holds still and strong, well built

Freestanding- Stands on its own without guy ropes

Foundations- load bearing part of a building or structure. Usually the base level.

Timeline / Diagrams

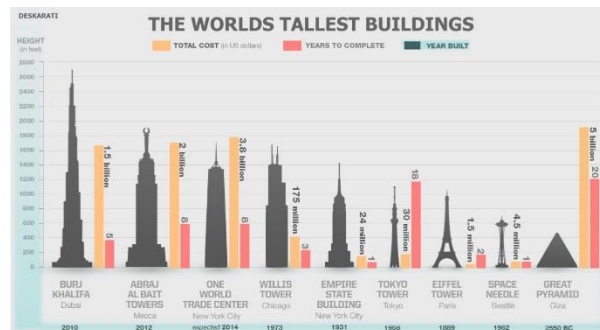
Strong shapes videos

https://www.teachengineering.org/activities/view/cub_intro_lesson01_activity1

<https://www.youtube.com/watch?v=pCI6LMWk2ik>

<https://www.youtube.com/watch?v=AoSOUvVfxRQ>

<https://www.youtube.com/watch?v=iGRLY08Kn2o>



Key people / places

Eiffel Tower
Blackpool Tower
Leaning tower of Pisa

Assessment questions / outcomes

Name some famous towers
Did you spot any common features of strong towers?
Which shapes are the strongest?
Which material will you build your tower out of? Why?
How will your design match the brief?
How will you join your materials together?
Was your design successful? Why/why not?
How would you improve it next time?