

Year 2 Ferris Wheels

Key Skills

1. Research– various wheeled items and examine how their mechanisms work.
2. Sketch– a diagram of the parts of a wheel and how it works/moves.
3. Explore-various styles of ferris wheels and explain/justify preferences.
4. Design– a ferris wheel and labels features and components
5. Selecting– appropriate materials.
6. Categorise– materials for ferris wheels.
7. Test– the ferris wheel and make needed adaptations.
8. Evaluate– the structure and the process.

Key Knowledge

- ♦ Different materials have different properties, it's important to consider this when selecting materials.
- ♦ Bricks are made of clay, they are stiff and strong.
- ♦ Wood comes from trees, it is strong and flexible.
- ♦ Metal comes from ore that is mined underground. It is strong and hard.
- ♦ 'Tabs' are a good way of connecting card or wood.



Respect, Believe, Achieve

What I will know/be able to do by the end

- I can explain how a wheel mechanism works and moves.
- I can explain and justify my preferences in ferris wheel designs.
- I can talk about the different properties that various materials have and make my selections based on this.
- I can identify and discuss the properties of 2D shapes and use this knowledge in my material selection.
- I can categorise materials based on features such as stiffness, strongness, flexibility, etc.
- I can consider the criteria for each element of the ferris wheel and select materials based on this. E.g. the pods need to be comfortable and waterproof.
- I can recall which shapes are the strongest and provide the most stability. I can apply this knowledge to my selection of materials.
- I can build a stable structure.
- I can build a wheel that moves.
- I can test my structure and make any needed adaptations needed.
- I can attach wood or card by using 'tabs'.

Previous Learning

- ♦ Designing bridges (year R)
- ♦ Designing a Hi-Vis vest (Year R)
- ♦ Windmills (Year 1)
- ♦ Wheels and Axles (Year 1)

Vocab/Key Words

- Axle– a long straight piece of material which
- Decorate– to add details to a design in order to improve its appearance.
- Evaluate– to consider the good and bad points of something and thinking about details that can be improved.
- Ferris Wheel– a ride at a fairground that people ride for entertainment. It goes around in a circle.
- Ferris wheel pod– the compartment in which passengers ride on a ferris wheel.
- Mechanism-the parts of an object that move
- Stable-not wobbly.
- Test-to find out if something is as it should be.
- Waterproof– water does not permeate through this material.
- Weak-not strong.
- Websites/Signposting/Connection to a famous person
- http://umich.edu/~eng217/student_projects/Chicago%20Inventions/ferriswheel.html