Construction Materials

Fairground Rides

Previous Knowledge

- Designing a product for a specific purpose
- Understanding that electric circuits can be incorporated into a design.
- Reflecting on the effectiveness of a design by evaluating it.

Learning point 1: Design research

I can identify the design features of a fairground ride.

- Look at the purpose of the project: To create a moving fairground ride inspired by St Giles fair.
- Discuss how some rides work – drawing on scientific knowledge of rotation, forces, etc.
- Discuss the designs on rides -what tempts people to ride them?
- Complete a class survey on what they find appealing.
- Add three design sentences to respond to the brief:

Make a miniature moving fairground ride, inspired by St Giles Fair in Oxford.

Learning point 2: Rotation with a motor

I can explain how to create a circuit which includes a motor and switch.

- Show a variety of electrical circuits and discuss what their function would be. Identify key features including a motor and a switch.
- Identify fairground rides which use a rotation motion, including Ferris wheels, carousels, waltzers and chairoplanes. Share: https://www.youtube.com/watch?v=AbaICeIxkOA
- Design at least 2 rides which include this motion.

Sketch at least 2 designs for an Oxford inspired fairground ride.

Learning point 3: Final design

I can refine an idea based on research.

- Children produce a final design with a rotation motion and incorporate the visual elements form the research in the first learning point.
- Discuss how a simple design can be embellished to look more attractive, sharing examples of modified carousels and big wheels.
- Share the video clip again and discuss how the design could be improved. Chn can consider adding lights to their design and circuits.

Create a final design which is labelled and includes a list of materials required.

Learning point 4: Circuit components

I can create an electrical circuit for my design.

- Refer to learning point 2 and create a simple circuit which includes a motor, battery, and switch.
- Discuss what happens when more components are added – power is reduced. Children can add lights to their circuits.
- Start constructing the final designs, referring to the sketch from learning point 3.

Build a circuit and start constructing the final design around it.

Final Piece: A moving fairground ride.

I can create a moving miniature fairground ride.

- Complete the construction of the fairground rides, ensuring that it uses a motor to include a rotation motion.
- The design should include a decorative element which is informed from the research.
- Evaluate the design and make adjustments to it. Write a written evaluation to reflect your choices.

Critique your work. Does your design meet the brief? What do you like about it? What would you change? How?

Vocabulary

Components: a part of a larger whole.
Rotation: spinning movement.
Research: find something out thoroughly.
Embellish: make something attractive by decorating it.
Evaluate: assess or sum up a project based on its successes and improvements.