



Dragon Cars

Design, make and evaluate a dragon car for a dragon race

Working towards ...children working in pairs make a circuit with a motor, they then make wooden frame with wheels to attach circuit to, children then decorate to make a dragon shape

Links to English—Dragons and Dragonology text

Prior Learning (skills and knowledge)

Previously, Chn have ...

- Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials and including wheels and axles and circuits

They have learnt about...

- What structures are and how they can be made stronger, stiffer and more stable.

Links to other curriculum areas

- Topic / English—Dragons and Dragonology
- Maths—Confidently use a range of measures and conversions

Essential skills

This time Chn will ...

- Work in pairs to build circuits with motors
- Investigate motors and how they, and pulleys work, how they transfer movement
- Build wooden structures following exact measurements and templates
- Use saws to cut, lynx joiners to make 90° angles and card triangles to secure corners
- Attach parts using rubber bands, exploring tension and give in a pulley system
- Follow written and pictured steps independently

Key content

- Investigate Circuits—Children are shown examples of circuits and pulleys, class discussion about how these work. Children draw examples of circuits including symbols and make model of a pulley
- Build Circuits—Children work in pairs to make a simple circuit with a motor, children make their own toggle switch.
- Make Wooden Frame—Working in pairs, children follow written instructions and images to make a wooden framework and structure for their vehicles. Children reminded of importance of measuring and marking correctly and then shown how to use tools safely including sawing, using a bench hook and lynx joiner
- Make Pulley—Continuing to work in pairs children make support and parts to make a pulley and wheels for their vehicles. Children shown how to attach axles to pulley and use pegs to hold in place.
- Attach Parts to the Frame—Children attach parts of their vehicles together to make a working vehicle. Children shown how to attach wheels and axles using axle holders and lining up parts to they work properly and provide enough tension in the rubber band to the pulley system. Children also shown how to attach circuit safely and hold switch securely onto framework.
- Decorate Dragon Boat—Children use card strips to decorate and make the body of their dragon vehicle, children also design and make a dragon figurehead and tail end. Children race their dragon vehicles.
- Evaluation—children comment on what they have learned this unit, what skill they were very good at and why and also what they would want to do better. Children also comment on how they feel about their final outcome and discuss their thoughts with others

Key vocabulary to be taught/embedded

Circuit, motor, wire, battery, switch, energy, spin, rotate, pulley, band, transfer, frame structure, jelutong wood, ruler, measure, mark, saw, bench hook, hold, pressure, 90° angle, lynx joiner, PVA glue, card triangle, step, rubber band, attach, axle, wheel, axle holder,

Linked texts

- Dragonology
- Awakening the Dragon: The Dragon Boat Festival