Unit Planner – Design Technology Year: 3 Title: Making a Fairground Ride

Unit Overview	Children will learn that fairground rides are structures that are made of different components that power the rides. The children will make a carousel ride with a motor to make it move.	
Prior Learning/ Links	EY- CP: Cogs Y1– Moving books: levers, wheels, sliders. Y2 – Build a jeep: Axle	
Unit Title:	**Substantive Knowledge**	**Disciplinary Knowledge**
Key Questions: **Which mechanism would you use to make the carousel go round?** **Can you design a carousel that a Lego figure can sit in?**	• Know how different types of fairground rides and how they work. • To talk about the purpose of fairground rides: thrill, fun and speed. • To name famous fairground ride designers • To know that a motor is used to power fairground rides. • That Levers and axles allow some rides to work. • Mechanisms that are vertical or horizontal rotation. • To be able to talk about what to consider when designing a ride: colour/ use/ components such as levers, pulleys. • Children can talk about products using substantive and disciplinary knowledge.	**Critical Evaluation** Investigate current products from primary and secondary sources. Make suggestions for improvement. To relate experiences to products. Who are the inventors of specific products? Comparing products and evaluating what good features are. **Purpose/ Audience or Design** Develop clear plans of designs and use sketches to communicate these Make suggestions of different materials that could be used To present ideas to others using a range of media **Making/ Technological Knowledge** Selecting tools and materials appropriate for tasks. - Explain choices made to construct a product based on characteristics Make product stronger, stiffer and more complex Safety and accuracy
Vocabulary	**Trips/ Visits/Useful Websites/ Resources**	**Key Misconceptions:**
Substantive: Pulley Lever mechanism Axle Motor Control Systems Electric circuit Switch	https://www.bbc.co.uk/bitesize/topics/z72vrj6/articles/zm4cqp3 How Does a fairground ride work https://slideplayer.com/slide/13216874/ Control Systems https://www.tts-group.co.uk/blog/2018/12/07/ks2-merry-go-round.html Make your own Merry go Round	Believing that a switch works by simply flicking the switch. Not aware of the components that are behind the switch.

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Drive belts **Disciplinary:** Newton's Law Gravity Traction Measure Cut Score Assemble components Accuracy Join Plan Design Draw/Sketch Test Prototype Product Effects Evaluate	measure, mark out, cut, score assemble components accuracy, tape, pin, cut join	