



Key facts to learn:

- **Topic:** Swept Away (Japan)
 - How to make an Electrical systems
 - What a steady hand game is- designing a steady hand game - identifying and naming the components required
 - Drawing a design from three different perspectives
 - Generating ideas through sketching and discussion

Key skills to do:

- Modelling ideas through prototypes
- Making electromagnetic motors and tweaking the motor to improve its function
- Constructing a stable base for an electromagnetic game
- Accurately cutting, folding and assembling a net
- Decorating the base of the game to a high quality finish
- Making and testing a circuit
- Incorporating a circuit into a base
- Testing own and others finished games, identifying what went well and making suggestions for improvement
- Understanding how electromagnetic motors work
- Learning that batteries contain acid, which can be dangerous if they leak
- Learning that when electricity enters a magnetic field it can make a motor

Words to know and spell (Tier 2 Vocabulary)

Game	Sketching	Folding
Systems	Discussion	Improvement
Modelling	Construct	Batteries
Electricity	Cutting	Leak



Bumble bees – DT – Electrical systems

Words to understand and spell (Tier 3 Vocabulary)

Electrical systems	Small industrial unit powered by three phase supply
Steady	Firmly fixed and supported
Motor	A machine powered by electricity
Components	A part of a machine
perspective	Representing 3D objects on a 2D surface to give the right impression of height, width, depth and position
Prototypes	A first version of a device from which other forms develop
Function	Operate in a particular way
Electromagnetic	Relating to the electric currents or magnetic fields
Circuit	Move all the way round
Magnetic field	Moving electrical charge
Acid	Liquid stored inside batteries

Concept check questions. Test yourself:

- What is a prototype?
- How do electromagnetic motors work?
- Can you describe and name what material you would use for a stable base?
- If a circuit did not work, why is this?
- Why is it dangerous if batteries leak?
- What makes a motor?