St. Benedict's Primary School
SCIENCE
KNOWLEDGE AND SKILLS BUILDER

Science element from the National Curriculum – **Forces and Magnets**

Phase	Context for learning	Knowledge and Skills for FORCES AND MAGNETS
LOWER KEY STAGE 2	**YEAR 3** **ILP Mighty Metals** **Big Question** How do different forces effect metals? **Context:** Magnetic object hunt/Step 10 **Programme of Study** Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.	**Skills** Compare and group materials based on their magnetic properties. **Knowledge** Some materials have magnetic properties. Magnetic materials are attracted to magnets. All magnetic materials are metals but not all metals are magnetic. Iron is a magnetic metal.
	Context: Slip and Slide Compare how things move on different surfaces.	**Skills** Compare how objects move over surfaces made from different materials. **Knowledge** Friction is a force between two surfaces as they move over each other. Friction slows down a moving object. Smooth surfaces usually generate less friction than rough surfaces.
	Context: Playground visit/Sorting and Classifying Notice that some forces need contact between two objects, but magnetic forces can act at a distance.	**Skills** Explain that an object will not move unless a push or pull force is applied, describing forces in action and whether the force requires direct contact or whether the force can act at a distance (magnetic force). **Knowledge** An object will not move unless a pushing or pulling force is applied. Some forces require direct contact, whereas other forces can act at a distance, such as magnetic force.
	Context: Magnetic object hunt/Step 10 Observe how magnets attract or repel each other and attract some materials and not others.	**Skills** Compare and group materials based on their magnetic properties. **Knowledge** Some materials have magnetic properties. Magnetic materials are attracted to magnets. All magnetic materials are metals but not all metals are magnetic. Iron is a magnetic metal.

	Context: North or South/Attract or Repel? Describe magnets as having two poles.	**Skills** Investigate and compare a range of magnets (bar, horseshoe and floating) and explain that magnets have two poles (north and south) and that opposite poles attract each other, while like poles repel each other. **Knowledge** Magnets have two poles (north and south). Opposite poles (north and south) attract each other, while like poles (north and north, or south and south) repel each other.
	Context: North or South/Attract or Repel? Predict whether two magnets will attract or repel each other, depending on which poles are facing.	**Skills** Investigate and compare a range of magnets (bar, horseshoe and floating) and explain that magnets have two poles (north and south) and that opposite poles attract each other, while like poles repel each other. **Knowledge** Magnets have two poles (north and south). Opposite poles (north and south) attract each other, while like poles (north and north, or south and south) repel each other.