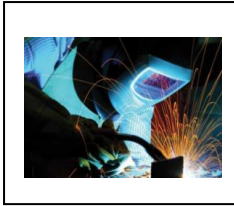


## Mighty Metals



### What Key Facts Will You Be Learning?

#### Forces

A force is a push or a pull and cannot be seen although it is possible to see what a force does.

When a force is applied to an object it can change the object's speed, direction of movement or shape. Some forces are contact forces where objects must be touching each other to apply a force. Some forces are non-contact forces such as gravity and magnetism.

#### Materials

Material describes the matter that a thing is made of. A table can be made of wood or metal. Wood is the matter that the table is made of. Metal is a solid material that is found in rocks. Metals have different properties but many are strong, tough and hard. Metals can be heated up and shaped, they can conduct heat and electricity. Some metals, such as iron and nickel, are magnetic. Metals can be mixed to make new materials. These are called alloys.

### DT

#### Learning Goal: To be able to design an appealing product for yourself and others

Research robots and materials creating a mood board showing which robot products and materials you like. Design and draw your own robot made from recycled materials annotating to show how materials are attached. Build your robot using a variety of materials. Can you add a magnet? Can you add a light? Evaluate your product. Did it turn out the way you hoped?

### Spelling

#### Learning Goal: to Use suffixes correctly.

To use the suffix, -ment, -ly, -ness, -ful, -less.

### Science

#### Learning Goal: to be able to set up simple practical enquiries

**Exploring materials.** What is a solid material? What are the properties of materials? What different materials are used for different jobs? Which materials can you bend, twist, squash or stretch?

**Exploring forces.** Can you name and demonstrate different forces? How do forces and friction affect moving objects? What is a contact and non-contact force? What is magnetism?

Get your goggles and lab coats ready! We are going to be planning and conducting investigations to find out about materials and forces.

Some of our investigations include:  
What happens when you apply a force to an object (like your homemade goo)?  
What material is best to build a candy house?  
How can we move a lion?  
How can we slow the slime?

## First Use of Metals timeline

**9000BC** Copper is found and used in western Asia.

**6500BC** Lead is used to make objects in Turkey.

**4500BC** People in Western Asia discover how to extract copper from rocks.

**4000BC** Silver is used to make jewellery and early forms of money in Greece and Turkey.

**3500BC** Mining of tin begins in Turkey.

**3000BC** Gold is used as jewellery, statues and death masks in Egypt.

**1200BC** Iron is first used in western Asia to make weapons.

**600BC** High quality steel is made by metal workers in India.

**500BC** The Chinese discover how to make hard cast iron in a blast furnace.

**1825** Aluminium is extracted from rock for the first time

## Vocabulary

**Attract** – to pull or draw things together.

**Friction** – a force that is created when two surfaces rub against each other. It makes things slow down.

**Gravity** – a force that pulls everything down to the ground on Earth.

**Mass** – a measure of how much matter, or substance, is contained in an object.

**Mineral** – a useful chemical that is formed naturally in the ground.

**Parachute** – a piece of equipment made from fabric that a person attaches to themselves to slow their fall from an aircraft.

**Pivot** – a fixed point on which something turns or balances.

**Pull** – a force that moves something towards an animal, person or object.

**Push** – a force that moves something away from an animal, person or object.

## Mr Hubalot explanation text

### Learning Goal: To be able to write a clear explanation

Watch the video Mr Hubalot. Draw a picture of the robot dog labelling all the parts clearly. What title will you give your explanation text?

**Action 1 - How does your robot dog move?** Collect technical vocabulary that describes engines and machines. Tell me how to get my robot dog to sit, walk and run. Use technical vocabulary to excite the reader.

#### Action 2 - What should I feed my robot dog?

Use onomatopoeia to describe the food going in the bowl. How do I know if he is full? What happens when he needs the toilet?

#### Action 3 - What can I do to play with my dog?

How will I know my robot dog is happy? What fun things can it do? How can I teach it tricks?

## Maths

**Learning Goal: To be able to investigate and explore fractions, geometry and measures. To be able to recall our times tables. To be able to use this learning to solve problems.**