

## The Hook:

Science Museum – trip

\*Activity – True/False activity using various statements

\*Chn can be given the opportunity to generate any questions they want answering over the course of the topic

## Literacy: (Iron Man)

\*Robots in Stories.

Look at a variety of stories where Robots feature. The first robot appeared on screen in 1926

\*Instructional Writing

How to build a robot.

### Attainment Targets (English)

- Listen to and discuss a wide range of fiction.
- Increase their familiarity with a wide range of books.
- Discuss writing similar to that which they are planning to write in order to understand and learn from its structure.
- Draft and write by creating settings, characters and plots.

## History:

\*Timeline – chn to create a timeline of the way toys/robots have progressed through time. Study of one in particular?

### Attainment Targets (History) (ICT):

- Chn will be taught about an aspect/theme in British History.
- Changes in Britain - Movement of Iron Age to Information Age.
- Achievements from the earliest civilisations.
- Understand how key events and individuals in design and technology have helped shape the world.
- use search technologies effectively

## Science:

Circuit Training - Imagining that they are working in a robotic factory children start by checking and testing circuit diagrams before re-sorting faulty circuits.

\*Investigate switches in more detail before going back to the lab to create simple switches of their own. Children then present their ideas to the class.

\*Children investigate how robots use sensors and also how sensors are very much part of everyday life. Children create simple circuits with a sensor and think about practical everyday uses for their invention.

\*Children take their robot developed in D&T and plan how to make its eyes light up. Children plan their circuit and switch before installing it and evaluating the finished product.

### Insulators and Conductors

\*re-sorting insulators and conductors dropped by a clumsy teacher!

### Metals and Magnetic Materials

\*Iron Man's scrap metal yard - A metallic dinner will be served! Children investigate the properties of metals before thinking about the Iron Man's Scrap Yard heaven. But what's on the menu for him today? Well just take a look in the children's menus!

\*Magnets - children get a hands on experience with magnets, investigating the forces at work and test to see which materials are magnetic.

\* Which magnet will be the strongest? Children plan and carry out a fair test, before recording the results and drawing conclusions. Only the strongest magnet will be strong enough for the Iron Man's Scrap Yard!

\*Magnetic Robot arms - So lazy has the Iron Man become that he now needs the food from the menus created in the first session not delivered by hand but by a robotic arm! Children get to work to design and build an arm using the strongest magnet found from the previous session.

### Attainment Targets:

- Asking relevant questions and using different types of scientific enquiries to answer them.
  - Identify common appliances that run on electricity.
- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
- Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
- Recognise some common conductors and insulators, and associate metals with being good conductors.

# Robots

Design and Technology: \*Chn will develop a further understanding of Robots through investigation - Robots are a collection of parts all working together so that the robot can do the job it was designed for. Children take a closer look inside before creating a components catalogue page for their Robot.

\*Design – chn will consider what they have learned about Robots and design their own Robot for a particular use. Asimo – chn will look at the Robot 'Asimo' video clips etc. and decide how he might look in the future. They will design their own proto-type for a future 'Asimo'

\*Make – Chn will decide/evaluate a range of materials that are best suited to building their robot and refer back to what they have learned in Science i.e. circuits, magnetic materials, insulators and conductors etc.

\*Evaluate – chn will evaluate their robot by creating an advertisement. They must highlight the uses/pros and cons to their future 'Asmio'

### Attainment Targets:

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]

## Art:

\*Sketching – chn will create a sketch book as they develop their robot in D&T.

\*Painting – Chn will create a painting of their finished product.

### Attainment Targets:

- to create sketch books
- to improve their mastery of art techniques, including drawing and painting with a range of materials [for example, pencil, charcoal, paint]

## **Music:**

\*Heavy Metal – chn could listen to some heavy metal music, picking out instruments and thinking about whether the Iron Man would like it.

\*Creating – chn create a piece of music using metal objects/other instruments for the film 'The Iron Man' or for a TV advert for their Robot creation.

\*Performing – chn perform their finished pieces to class/parents?

### **Attainment Targets:**

- Listen with attention to detail and recall sounds and instruments with increasing aural memory.
- Improvise and compose music for a range of purposes.
- Play and perform in solo and ensemble contexts.

## **Physical Education:**

\*Dance – In a dance focused session, Chn could perform/develop a dance to the music created in Music.

They could then evaluate and compare other performances and suggest ways for improving them.

\*Chn could create movements for their created Robot.

### **Attainment Targets:**

- Perform dances using a range of movement patterns
- Compare their performances with previous ones and demonstrate improvement to achieve their personal best.

## **Geography: ???**

\*Have Robots taken over the world? - Chn create a large world map, before using books and the internet to find out more about robots from around the globe. Children create small labels of information and images to place on the map.

### **Attainment Targets:**

- describe and understand key aspects of human geography including the distribution of trade links and resources
  - locate the world's countries using maps