Year 4: Spring 1

Rise of the Robots

Topic Overview: SMSC/PSHE/British Values:
In this topic children will explore the value of achievement. Robots are no longer just the stars of fictional movies. From drones to electric cars technology is ever changing. They can manufacture goods and advances in technology are making human –machine collaboration an everyday reality. What will we have to achieve in order to keep up? I…e Robots: Are you ready? Is your mind set fixed liked a robot? Trained to think in just one way? What makes us human? How is our brain wired differently to a robot?
The Iron Man – BBC The Robot and the Bluebird Bibo – the literacy shed Your Fantastic Elastic Brain

Lead subjects: English, Science, Art

English	Science	DT/Computing	Non-lead subjects:
Text drivers: **Iron Man** **The Coming of the Iron Man poem** **Harry Potter** **GOOSEBUMPS** Children to draw from a range of pictures and from the Iron man to write a description. They plan their writing by **discussing and recording ideas.** They should draw upon the language of Ted Hughes, identifying **words and phrases which capture reader's interest** to **build a rich vocabulary. They use frightening texts to discover how writers make stories scary and think about the types of stories their robots will be in. They create story maps and write an effective opening for their story.** **They should read their writing aloud** when proposing a balanced argument. Children should use **paragraphs around a theme – for and against.** Children should use reasons to support their argument by **using conjunctions** (FANBOYS, when, if, because, although) **In non – fiction organisational features are used** to write a play script focusing on a robot experiencing human thoughts. Robot: What it means to be human.	**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.** Children explore a range of devices considering how they are powered. Link this to learning of robots – what is powering them? Investigate a range of electrical sources- batteries, lemons, potatoes. Explain to children that technology ranges in size – iPhone for instance have become smaller – how can we make power using the smallest number of components What would be the best material for making a robot? – Conductors and insulators. If I double the power source – would I double the power of the technology? Can they draw a simple circuit – how does this compare to the circuit of modern day technology.	**Create own robot out of junk modelling.** **Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts** **Use sequence, selection, and repetition in programs; work with variables and various forms of input and output** **Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs**	**Art -** Study the work of illustrator Laura Carlin (The Iron Man). Consider how the use of colours and imagery has created different moods. Children to create their own illustrations based on a text excerpt showing awareness of this **great artist.** **Improve mastery of drawing** making choices in paper and media to draw parts of a robot – cogs, chains etc. Explore relationship between line and tone, pattern and shape, line and texture. Class to create a class collage with each child drawing a 'part' of the robot. **RE-** **Ritual – children understand the ritual and importance of the Paschal candle to Christians.**

Others subjects taught in this unit of study:

MFL/Music/PE