



Artificial Intelligence and Robotics

Year 6 | Summer 1

CURRICULUM SPOTLIGHT: COMPUTING | DESIGN AND TECHNOLOGY

ENQUIRY

How do I know you are not a robot?

OUTCOMES

- Lego SPIKE coding project and write up

VOCABULARY

Computing: adaptations, algorithm, application, artificial intelligence, autonomy, command, computational thinking, constraints, critical thinking, data, debugging, efficient, improve, input, loops, machine learning, motor sensor, network, output, process, prototypes, sequences, sequence, solution, variable.

D&T: alternative, amendments, analyse, annotated exploded diagrams, annotated sketch, compare, critically evaluate test, design specification, drawbacks, feedback, frame structure, functional, innovative, investigate, join, permanent, prototypes, purpose, quality, reinforce, research, shape, stability, step by step plan, stiffen, strengthen, substation, temporary, triangulation, user, views.

KEY TEXTS

- How AI Will Completely Change the Way We Live in the Next 20 Years by Kai Fu Lee
- Mortal Engines by Philip Reeve

BACKGROUND KNOWLEDGE

- <https://builtin.com/artificial-intelligence>
- Chivers (2021) The Rationalist's Guide to the Galaxy: Superintelligent AI and the Geeks Who Are Trying to Save Humanity's Future
- Taulli (2019) Artificial Intelligence Basics: A Non-Technical Introduction
- Coded Bias documentary
- <https://www.youtube.com/watch?v=s0dMTAQM4cw>

RESOURCES

Lego SPIKE Coding and Google Teachable Machine

CORE CURRICULUM LEARNING OUTCOMES

English	Mathematics	Physical Education	Design and Technology
<p>Spelling: Revision</p> <ul style="list-style-type: none">Use the perfect form of verbs to mark relationships of time and cause	<ul style="list-style-type: none">Fractions, decimals and percentagesCalculation reviewAlgebra	<p>Health and Fitness</p> <ul style="list-style-type: none">Static balance- stanceCoordination- footworkTennisNetball	<p>Design</p> <ul style="list-style-type: none">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 groupsGenerate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none">Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accuratelySelect from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <p>Evaluate</p> <ul style="list-style-type: none">Investigate and analyse a range of existing productsEvaluate their ideas and products against their own design criteria and consider the views of others to improve their workUnderstand how key events and individuals in design and technology have helped shape the world
PSHCE	Spanish	Computing	
<ul style="list-style-type: none">Managing Safety and RiskPersonal responsibility for safety	<ul style="list-style-type: none">The Planets	<p>Computing/ Coding</p> <ul style="list-style-type: none">Develop coding skills, organizing code into functions/ moving tabs/ labelling.Develop programs to include interactivity using text input.Follow flowcharts to create and debug codeGenerate visual effects and real life simulations.	
PRE	Science		
<ul style="list-style-type: none">Christianity – the Bible (navigating, understanding and evaluating)	<p>Light</p> <p>Recognise that light appears to travel in straight lines.</p> <ul style="list-style-type: none">- Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.- Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.		

