

Autumn 1: Rise of the Robots: Could they take over the world?

Children will learn about the evolution of robots, investigate how they are used and design and make their own.

Possible Activities

Children will explore place value using a variety of visual representations. There will be frequent opportunities for counting to develop fluency in number. They will learn mental methods for adding and subtracting as well as formal methods of columnar addition and subtraction. Problem solving and reasoning will underpin all that we do so children have an opportunity to apply their new knowledge in different contexts. Children will also complete regular maths investigations to develop independence and reasoning skills.

Mathematical Development (Place Value; Addition and Subtraction)

Year 3

- Find 10 or 100 more or less than a given number.
- Recognise the place value of each digit in a three-digit number.
- Read, write, compare and order numbers up to 1000.
- Add and subtract numbers mentally and using a formal written method of column addition and subtraction.

Year 4

- Find 1000 more or less than a given number.
- Recognise the place value of each digit in a four-digit number.
- Read, write, compare and order numbers beyond 1000.
- Add and subtract numbers with up to four digits mentally and using a formal written method of column addition and subtraction.
- Read Roman Numerals to 100.
- Round numbers to the nearest 10, 100 or 1000.

Communication, Language and Literacy (Speaking & Listening, reading, writing, MFL)

English

- Listen to and discuss a wide range of fiction, poetry, plays and non-fiction.
- Check the text makes sense to them, discussing their understanding and explaining the meaning of words.
- Discuss ideas and plan writing using the structure, vocabulary and grammar.
- Compose sentences orally, progressively building in a varied and rich vocabulary.
- Propose changes to grammar and vocabulary.

Italian

- Listen attentively to spoken language and show understanding by joining in and responding.
- Engage in conversations; ask and answer questions; express opinions and respond to those of others.

Possible Activities

English

Film literacy - Using the short film 'Origins' as a stimulus, children will write their own story about a robot.
Poetry - The children will read, compare and discuss different poems about robots. They will build vocabulary and rich sentences about a robot they have created and then write their own poem.
Book Study - They will also undertake an in-depth study of The Iron Man by Ted Hughes.

Children will take part in a weekly guided reading session with class teacher where they will read and discuss a variety of different texts. Spellings and handwriting will be taught outside of the English lesson. Grammar objectives will be embedded into the English units.

Italian

Children learn/ recap how to talk and write about themselves.

Possible Activities

ICT

Children explore programming using floor robots and logo turtle software.

Science

Children will investigate forces and magnetism through practical activities and challenges. They will have to put their knowledge to the test by creating a magnetic game for younger children.

History

To provide a context for our learning, children will look at the development of robots over time.

Knowledge and Understanding of the World (Geography, History, Science, ICT)

ICT

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.

Science – Forces and magnetism

- Compare how things move on different surfaces.
- Compare and group everyday materials on the basis of whether they are attracted to a magnet.
- Set up simple practical enquiries and fair tests.

History

- To develop a chronology.
- Note connections, contrasts and trends over time.
- Create and answer questions about change and cause.
- Construct informed responses that involve the selection and organisation of relevant historical information.

Enrichment
RAF STEM Workshop
Music week with Mr Kille
In-school Robot Wars!

I wonder...
Are there some jobs a
robot could never
do?

Physical Development (PE, growth and health)

Swimming - children will work towards:

- To swim competently, confidently and proficiently over a distance of at least 25 metres.
- Use a range of strokes effectively.

Dance

- Perform dances using a range of movement patterns.

Possible Activities

Swimming

Children will start a ten-week programme of weekly swimming lessons at the pool in Monteruscello.

Robotic dance

Children learn robotic dance moves and then move on to creating their own group performances to electronic music.

Creative Development (Art, D&T, Music, Dance, Drama, Role Play)

Art

- To create sketchbooks to record their observations and use them to review and revisit ideas.
- Children are taught about great artists, architects and designers in history.

D&T

- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.
- Select from a wide range of tools and materials to perform practical tasks and construct.
- Understand and use mechanical systems in their products.

Music

- Improvise and compose music for a range of purposes.
- Listen with attention to detail and recall sounds with increasing aural memory.

Possible Activities

Art

Children will study the abstract portraits of Pablo Picasso and create a self portrait with frame. They will also look at the inventions of Leonardo da Vinci, particularly his *mechanical knight*.

D&T

Children will design and make a robot and/or hydraulic arm using pneumatics.

Music

Children explore beat, rhythm and pitch in three compositions entitled *cyborg chase*, *cyborg attack* and *cyborg hide and seek*. Music week with Mr Kille focusing on a particular instrument for a group performance.

Possible Activities

R.E. – Why do people pray?

Children will learn from different religions and spiritual ways of life about prayer: the practise, symbols, words and significance of prayer to enable them to consider their own ideas and viewpoints.

PSHE & Citizenship

Children will explore feelings associated with starting something new. They will take part in creating a new key stage community and feel valued as an individual within it.

Philosophy

Children will question, think deeply and take part in class discussions around emotive issues.

Personal, Social and Emotional Development. (RE, PSHE, Citizenship, SEAL)

RE

- Make connections between what people believe about prayer and what they do when they pray.
- Describe and comment on similarities and differences between how Christians, Muslims and Hindus pray.

PSHE & Citizenship

- I know how it feels to do or start something new, and some ways to cope with these feelings.
- I understand my rights and responsibilities in the school.

Philosophy for Children

- To discuss what they are learning to develop their wider skills in spoken language in different situations.