MTP's Year 5 Autumn Term

DT – Mechanical/Electrical systems

Children will:
Design and create a Roman weapon using a pulley system
(Cross-curricular topic with science/history – forces)

Design Process Skills:

- Research and evaluate existing products and consider the user purpose
- List tools, plan ideas, create annotated drawing/diagrams (including cross-section diagrams)
- Combine modelling and drawing to refine ideas.
- Devise step by step plans which can be read / followed by someone else.
- Sketch and adapt ideas, deciding on one to develop further
- Select and use from a range of tools and materials
- Develop an idea further through prototypes
- Refine their product – review and rework/improve
- Consider and explain how the finished product could be improved related to design criteria using key vocabulary.
- Discuss how well the finished product meets the design criteria of the user. Test the product.

Mechanical Skills:

- Develop technical language appropriate to the project
- Use mechanical systems such as cams, pulleys and gears
- Use electrical systems such as motors

Vocabulary: cams, levers, pulleys, gears, motors, prototypes

PSHE - Relationships

- Families and friendships- Managing friendships and peer influence.

Vocabulary- Families, friendships, managing, peers, influences, healthy friendships, included, strategies, help, behaviour, impact, approval, online, manage, assertive, communication, influence, challenges, benefits, friendships, unsafe, worried, uncomfortable, support.

- Safe Relationships Physical contact and feeling safe.

Vocabulary- Safe, relationships, physical, contact, feelings, safety, safe, touch, acceptable, unacceptable, wanted, unwanted, situations, permission, uncomfortable, fault, respond, secrets, persuade, concerned.

- Respecting ourselves and others. Responding respectfully to a wide range of people; recognising prejudice and discrimination.

Vocabulary- Respect, yourself, others, recognise, treatment, equal, equally, traditions, beliefs, discrimination, racism, sexism, homophobia, bullying, online, trolling, harassment, impact, society, groups, individuals, challenge, safety, report

Science

Properties of materials
Children will:

- Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets. Eg observe that some conductors produce a brighter bulb in a circuit than others and some materials feel hotter than others when a heat source is placed against them
- Give reasons, based on fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Relate to most appropriate materials that could be used for a Roman soldier's uniform

Skills/working scientifically:

- Carry out fair tests to answer questions such as which material would be best for a Roman shield, for wrapping ice cream to stop it melting.
- Compare materials in order to make a switch in a circuit

Vocabulary: hardness, transparency, conductivity (electrical, thermal), solubility, solution dissolve, filter, evaporate, sieve, reversible, irreversible

Forces
Children will:

- Explain that unsupported objects fall towards the Earth because of gravity
- Identify the effects of air resistance, water resistance and friction, that act between moving surfaces
- Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect
- Find out how the scientists Galileo Galilei and Isaac Newton helped to develop the theory of gravitation

Skills/working scientifically:

- Explore falling sycamore seeds or paper cones
- Explore a variety of parachutes and carry out fair tests to determine which designs are the most effective
- Explore resistance in water by making and testing boats of different shapes
- Design and make artefacts that use simple levers, pulleys, gears and/or springs and explore their effects

Vocabulary: air resistance, water resistance, friction, gravity, lever, gear, pulley, Newtons
Scientist Study - Marie Curie – Physicist/Chemist

Art - Digital/Print

Children will:
Design and create mosaic style art using digital and print techniques
Design and create a roman shield using print/collage techniques

Drawing skills:

- Explore the role and purpose of Roman craftsman and the techniques/skills in order to create a mosaic
- To record observational drawings of both Roman mosaic art and modern mosaic art in sketch pads use view finders to develop close observations
- To record observational drawings of roman shields using a range of media
- Annotate and make thoughtful observations about their work.

Digital/print Skills:

- Use digital media to create mosaic style patterns and symmetrical patterns
- Use a graphics package to create and manipulate patterns/images.
- Produce intricate patterns using mosaic techniques
- Use both dry and wet media to experiment mark-making effects on different scales
- To experiment with print-making affects to achieve a required outcome e.g. printing blocks, relief or impressed method and overlays.
- Work into prints with a range of media in order to create shield design.
- Add collage to a painted, printed or drawn background.
- Use collage as a means of extending work from initial ideas.
- Compare ideas of their own and others' work and state how they feel about it. Adapt work according to views and describe how they might develop it further.

Vocabulary: observational, lines, marks, form, shape, tone, texture, colour, media, scale, print technique names, digital media, collage
Linked Artists: Antoni Gaudi, Sonia King

Computing

Children will follow the Purple Mash scheme of work coding and spreadsheet topics.

Skills:

- To design and write programs that simulates a physical system and one to inform others.
- To use spreadsheet software to accomplish given goals, including completing calculations
- To use text variables to perform calculations

Online Safety – Self-Image and Identity, Online Relationships (Educated for a Connected World – see progression within document) column 6

MFL

Children will:

- Listen attentively to spoken language and show understanding by joining in and responding
- Explore the patterns and sounds of language through songs and rhymes and link the spelling, sound and meaning of words
- Engage in conversations; ask and answer questions; express opinions and respond to those of others; seek clarification and help
- Speak in sentences, using familiar vocabulary, phrases and basic language structures
- Develop accurate pronunciation and intonation so that others understand when they are reading aloud or using familiar words and phrases
- Present ideas and information orally to a range of audiences
- Read carefully and show understanding of words, phrases and simple writing
- Appreciate stories, songs, poems and rhymes in the language
- Broaden their vocabulary and develop their ability to understand new words that are introduced into familiar written material, including through using a dictionary
- Write phrases from memory and adapt these to create new sentences, to express ideas clearly
- Describe people, places, things and actions orally and in writing

More able:

- Understand basic grammar appropriate to the language being studied, including (where relevant): feminine, masculine and neuter forms and the conjugation of high-frequency verbs; key features and patterns of the language; how to apply these, for instance, to build sentences; and how these differ from or are similar to English

Phonetics lesson 3(C) & Do you have a pet? (i)
What is the date? (i)
Phonetics 1 to 3 (C) Selection of core vocabulary lessons
Vegetables (E)

Geography

Children will:

- To locate the region Campania in Italy and understand that this is a region of Italy – compare to other regions studied earlier in KS2
- Look at the types of settlement in the region and the land use. Look at the economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water
- To recognise that Naples is a major city in Campania
- To locate and understand the historical events that took place in Pompeii
- To plot Italian locations using 4 figure grid references
- Describe and understand key aspects of physical geography – volcanoes and earthquakes
- Use appropriate search facilities when locating places

Vocabulary
Campania, Naples, Pompeii, 4 figure grid reference, volcano, crust, magma, lava, eruption, extinct, dormant, active, earthquake, tectonic plate, plate boundary, fault line, epicentre, hypocentre, earth's crust, Richter Scale, seismograph, magnitude, port, natural resources, tourism

Skills:

Mapping

- Choose the most appropriate map/globe for a specific purpose
- Use 4 figure grid references
- Use a wide range of maps, atlases, globes and digital maps to locate countries and features studied

Fieldwork

- Observe, measure and record human and physical features using a range of methods including sketch maps, cameras and other digital technologies to record (eg weather) at different times and in different places

Enquiry and Investigation

- Ask and answer questions that are more causal eg Why is that happening in that place? Could it happen here? What happened in the past to cause that? How is it likely to change in the future?

Use of ICT/technology

- Use and interpret live data eg location and timing of earthquakes or volcanoes
- Communicate geographical information electronically eg blog, poster or app

History

Children will learn:

- Pre-teach vocabulary
- Be able to place the Roman period on a chronological framework and make connections to the history previously studied

Use an artefact led enquiry to

- know the reasons for invasion and settlement
- know why the Romans invaded Britain
- understand the main events in Boudicca's revolt and its consequences
- appreciate that there are different interpretations of the revolt
- examine archaeological evidence that tells us about life in Roman Britain
- understand the life of a Roman soldier.
- make comparisons between lifestyles past and present
- ask and answer questions about what survived from the Roman settlement of Britain
- To recognise the Roman Empire, Where did they invade?
- identify Roman buildings and architecture
- recognise a Roman town in more depth referring to a grid system and town plan.
- understand that Roman's created roads and to recognise how they were made

Vocabulary
Invasion, settlement, revolt, interpretation, Roman, Celt, empire, emperor, legacy, beliefs, hypothesise, hypothesis, investigation, artefact, hoard

Black History focus – Julia Tertia (The Ivory Bangle Lady)
Skills:
Chronology
Sequence events and periods using appropriate terms e.g. chronology, legacy, continuity, change, trends
Identify where people, places and periods fit into a chronological framework by analysing connections, changes, trends and contrasts over time
Communication
Discuss how Britain has influenced and been influenced by the wider world
Describe aspects of cultural, economic, military, political, religious and social history
Enquiry
Regularly address and sometimes devise historically accurate questions.
Events, People and Change
The Roman Empire and its impact on Britain

Music

Children will:

- Explain the evolution of musical instruments from the beginning of time
- Explain how we still use similar methods of design today as did the Ancient Greeks and Ancient Egyptians
- Understand some of the key elements of music: pulse, beat, rhythm, tempo, dynamics, texture and timbre
- Sing a variety of songs and play the ukulele musically with increasing confidence and control
- Play and perform songs with the ukulele in an ensemble with increasing accuracy, fluency, control and expression
- Analyse music – In the hall of the mountain king

Skills

- Manipulation
- Composition
- Design
- Creativity
- Musical analysis
- Performance
- Inner pulse
- Confidence
- Being open to a variety of genres

Vocabulary
Performance, concert, stage, audience, analysis, Chopin, Haydn, Musical Timeline, Ancient Greeks, Lyre, Egyptians
Volume – Largo, allegro, andate
Pulse – bars, phrases
Tempo – Grave, largo, andante, allegro, presto, prestissimo, rallentando, accelerando
Dynamics – fortissimp, forte, mezzo forte, mezzo paino, piano, pianissimo, crescendo, diminuendo

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