Sonar Curriculum

Y5 Crack The Code Learning Sequence

Synopsis: Using a range of geographical clues, children develop their geographical and fieldwork skills, including using compasses, grid references and Ordnance Survey maps. In writing, they develop their understanding of figurative language and cohesion to write a narrative that interweaves character, setting and plot.

In **Science**, children explore life cycles and life processes.
In **Geography**, children develop their geographical and fieldwork skills.
In **Art**, children combine visual and tactile qualities in sculpture.
In **D&T**, children link their computing and D&T skills to create a program/game.
In **Computing**, children use coding to create a game.

Curriculum areas: English, Science, Geography, Art, D&T and Computing
Length of theme: 6 weeks

English

Write a narrative, applying a broad range of figurative language.

English Objectives

Comprehension

- Discuss books, building on others' ideas and begin to challenge others' opinions
- Distinguish between fact and opinion

Grammar & Punctuation

- Use expanded noun phrases for accuracy
- Build cohesion with a paragraph

Language & Vocabulary

- Become familiar with the language of writing eg figurative language, imagery, style and effect
- Select appropriate language and vocabulary to reflect their understanding of audience and purpose
- Develop character setting and atmosphere using language and vocabulary from reading/books

English Learning Sequence

- Share a wordless book with children eg *Flotsam, Tuesday, Journey* and discuss pupils' responses. How does this enhance/affect the narrative?
- Could also watch animation of story, considering plot and how illustrations convey atmosphere (in the absence of words)
- Discuss the chosen book and the children's interpretation of what is happening – do these interpretations differ? Encourage children to develop and challenge what peers have said.
- Share some statements about one of the pictures or a series of pictures - which are fact and which are opinion?
- Using *Tuesday* as a stimulus, consider and retell the story from different viewpoints eg detective, frog, dog. How does this affect language and content?
- Using illustrations from book, children generate effective words and phrases to describe what they see/what is happening

- Use dictionaries (thesauruses) to check meaning of new words/language

Text Structure & Features

- Use a wide range of devices to build cohesion within and across paragraphs

Plan, Draft, Edit & Evaluate

- Use dictionaries to check the spelling and meaning of words
- Identify audience and purpose of writing
- Note and develop initial ideas drawing from reading
- Select appropriate grammar and punctuation and understand how these can change/enhance meaning
- Assess effectiveness of own and others' writing
- Propose changes to grammar, punctuation and vocabulary to enhance meaning/effectiveness

In addition to the above, teachers should apply general spelling rules and guidance, as listed in English Appendix 1 and ensure concepts and skills outlined in English Appendix 2 are also addressed.

- Encourage children to recall and apply previously-taught figurative language skills
- Develop understanding of effective metaphors and personification, exploring real examples and magpieing those which children like best
- Using the sequence of the images from book, children generate ideas for narrative for each one, considering upskilling certain words and applying more effective synonyms using dictionary and thesaurus to support
- Consider cohesion within sentences (using conjunctions) and between ideas and paragraphs (using adverbials – adverbs, adverbial phrases, subordinate clauses)
- Draft, edit and improve narrative to produce final product

English

Write a journalistic piece about detective work.

English Objectives

Comprehension

- Infer characters' feelings, thoughts and motives and justify using evidence
- Distinguish between fact and opinion

Grammar & Punctuation

- Use relative clauses with relative pronouns
- Indicate possibility using adverbs (perhaps, maybe etc.) and modal verbs (might, should, could, must etc.)
- Build cohesion within a paragraph

English Learning Sequence

- Children may choose to use a text such as *Tuesday* as a stimulus, or another text that deals with piecing together clues/detective work
- Children imagine they are the detective who discovers the lily-pads on the ground the following morning, for example. They infer what has happened from the evidence they have in the pictures - can they elaborate on the reasons for their decisions?
- Introduce adverbs and modal verbs for possibility eg *The frogs must have been flying because …They might have gone to …Perhaps, …*

Text Structure & Features

- Use a wide range of devices to build cohesion within and across paragraphs
- Use further organisational and presentational devices to structure text

Plan, Draft, Edit & Evaluate

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- Identify audience and purpose of writing
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- Assess effectiveness of own and others' writing
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- Role-play detective/reporter going door-to-door and interviewing witnesses eg man in the kitchen, old woman in her armchair
- Note down witness statements – encourage children not to use full sentences for notes. What do they know is true and what is the opinion of the witness?
- Consider features of journalistic writing: headline, by-line, introduction paragraph (5 W's), main article, quotes and explore real examples of these
- Relative clauses to add more information about the preceding noun eg *The man, who had been sitting in his kitchen at around 12am, reported seeing small, green objects floating past his window.*
- Plan journalistic writing about the events in the book, including the features above, remembering to use inverted commas for direct quotes
- Ensure children use a wide range of sentence types

Science

Explore life cycles of different animals.

Science Objectives

Scientific Knowledge

- Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
- Describe the life process of reproduction in some plants & animals

Science Learning Sequence

- Share images of different types of animal (mammal, amphibian, insect, bird) at different points in their life cycle. Match the ones that go together and arrange in a circle shape
- Can children describe and explain what is happening at each stage?
- Decide on most appropriate type of scientific enquiry to research life cycles
- Use appropriate scientific enquiry to find out about each type of life cycle, using correct scientific language for each stage
- Compare various life cycles, looking for similarities and differences

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Geography

Develop fieldwork skills including maps, compasses and grid references.

Geography Objectives

- Securely use world maps, atlases and globes and digital mapping to build knowledge of the wider world
- Observe, record and present human/physical features of local area, using maps, sketches, plans, graphs and digital technology
- Use 8-point compass, grid references and Ordnance Survey maps

Geography Learning Sequence

- Share map of own town or city with children and plot a route. What would you see on the way? Recap physical and human features
- Stimulus: detective has a range of clues to solve to locate a criminal and all he has to use are maps, OS maps, grid references and a compass
- Recap symbols on OS map – what do they mean? Create own key using symbols
- Recap 4-point compass directions and develop understanding to include 8-point compass eg north-east, south-west
- Allow children to have hands-on, practical experience of compasses eg perhaps 'hiding' in the school grounds so 'detectives' have to navigate
- Introduce 4-digit grid reference to help locate things on a map. Challenge by introducing 6-digit grid reference
- Use this knowledge of OS map symbols, compass directions and grid references to plot route for the detective to track down criminal

Art

Create a sculpture using visual and tactile qualities.

Art Objectives

- In drawing, use a range of pencils to begin to develop a personal style, drawing on work of other artists for inspiration
- Capture the artistic process in sketchbooks
- In sculpture, combine visual and tactile qualities
- Use a range of artistic vocabulary to communicate ideas, discuss and evaluate work/other art works
- Improve mastery of art and design techniques with a wide range of materials

Art Learning Sequence

- Share the work of Antony Gormley, the British sculptor and creator of the *Angel of the North* in Gateshead. Discuss his work thoughtfully, using artistic vocabulary
- Collate images of his work in sketchbook and emulate them using a range of pencils. What are their titles/names? Why?
- Explain that we are going to create our own sculpture for our local area/school

• Understand how great artists, architects and designers contribute to the culture, creativity and wealth of our nation • Communicate ideas and comment on artworks using artistic language	• Children discuss and decide what would be an appropriate theme for a sculpture, drawing on knowledge of their local area • Select materials they could use, focusing on visual and tactile qualities • Plan and make sculpture, refining and developing techniques throughout

D&T

Link their computing and D&T skills to make game.

D&T Objectives	D&T Learning Sequence
• Communicate, generate, develop and model ideas using a range of strategies • Use research to inform design and generate own design criteria • Communicate, generate and develop ideas drawing on other disciplines • Confidently take calculated risks to become innovative, resourceful and enterprising • Drawing on disciplines and making connections to wider subject areas, apply understanding of computing to program, monitor and control products	• Research digital and electronic games where objects appear to float eg *Pac-man* • Consider the functionality and aesthetics of games and comment on how easy/hard it is to play • Use research to generate own design for a game based on the events in a wordless book eg *Tuesday* • Communicate design in a range of ways, clearly identifying audience and explaining goal of game • Select appropriate hardware and software to create game • Evaluate and adapt game throughout process to ensure optimum outcome/product

Computing

Use coding to create a game that plots a journey.

Computing Objectives	Computing Learning Sequence
• Write and debug programs that accomplish specific goals, including controlling or simulating physical systems • Solve problems by decomposing the into smaller parts • Use sequence, selection and a repetition in programs • Accurately manipulate variables and various forms of input/output • Use logical reasoning to understand how algorithms work and	• Evaluate and correct given code that contains errors • Use *Tuesday* as a stimulus, where frogs float across city on lily-pads • Using *Scratch* (or similar), create a racing track for the frogs to journey along • Set a scoring system to count how many times the frogs/lily-pads hit the side of their lane

detect and correct errors in algorithm and programs	• Evaluate efficiency of game by reviewing the coding, making sure it includes procedures, loops or repeats