

# The Core Knowledge Sequence UK

## English Language and Literature: Year 2

### I. LISTENING AND SPEAKING

**Teachers:** Traditional English language instruction has typically accorded little, if any, attention to the ongoing development of children's listening and speaking abilities. However, it is important to focus on children's development of oral language because literacy, the ability to read and write written language, is highly correlated with pupils' oral language proficiency. The ability to understand a text read aloud is a prerequisite for making sense of the same text in printed form. Therefore, it is essential that children build listening and speaking competency while also developing reading and writing skills.

#### A. CLASSROOM DISCUSSION

- Participate in age-appropriate activities for Year 2 involving listening and speaking.
- Speak clearly with volume appropriate to the setting.
- Use agreed-upon rules for group discussions. For example: look at and listen to the speaker, raise hand to speak, take turns, say 'excuse me' or 'please,' etc.
- Ask closed and open questions to clarify conversations, directions, exercises and/or classroom routines.
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner's comments, with either an adult or another Year 2 child.
- Identify and express physical sensations, mental states and emotions of self and others.
- Understand and use language to express spatial and temporal relationships. For example: up, down, first, last, before, after, etc.
- Understand and use narrative language to describe people, places, things, locations, events and actions.
- Understand and use common sayings and phrases. For example: 'Hit the nail on the head' and 'Many hands make light work'. (Also see section VII. Sayings and Phrases.)
- Recognise and discuss body language; 'read the signs'.

#### B. PRESENTATION OF IDEAS AND INFORMATION

- Follow multi-step, oral directions.
- Give simple directions.
- Provide simple explanations.
- Recite a nursery rhyme, poem or song independently, using appropriate eye contact, volume and clear enunciation.
- Give oral presentations about personal experiences, topics of interest and/or stories, using appropriate eye contact, volume and clear enunciation.

#### C. COMPREHENSION AND DISCUSSION OF READ-ALOUDS—ALL TEXTS

**Teachers:** In Year 2, a child's ability to understand what s/he hears continues to outpace her or his ability to read independently and understand written text. By listening to stories or non-fiction selections read aloud, children can experience the complexities of written language without expending cognitive energy on decoding; they can likewise access deeper and more complex content knowledge than they are presently able to read independently.

Careful consideration has been given to the poetry, fiction and nonfiction selections below to ensure that the vocabulary and syntax presented is rich and complex. Levelled texts (texts for beginner readers) will not provide the rich language experience that is desired during read-alouds and should only be used here as a starting point for reading aloud with pupils for whom English is a second language. Non-fiction read-alouds have been selected on the basis of the history, science, music and visual arts topics identified in the *Sequence UK*, with emphasis on history and science read-alouds. It is strongly recommended that daily read-alouds focus on a single topic over a sustained period of time—about two weeks—rather than

intermingling read-alouds on a variety of subjects. Careful consideration should be given to the order in which non-fiction read-alouds are presented to ensure that knowledge about a topic builds in a progressive and coherent way.

Prior to a read-aloud, teachers should identify what pupils know and have learned that may be related to the specific story or topic to be read aloud. Use pictures accompanying the read-aloud to check and support children's understanding of the read-aloud.

Following any read-aloud, children should participate in rich, structured conversations with an adult in response to the written text that has been read aloud. In this way, they can begin to practise orally comparing, analysing, and forming ideas in written text in much the same way as they will be expected to do as independent readers in the later years.

- Listen to and understand a variety of texts read aloud, including fictional stories, fairy tales, fables, historical narratives, drama, informational text and poems.
- Distinguish the following genres of literature: fiction, non-fiction and drama.
- Grasp specific details and key ideas.
  - Describe illustrations.
  - Sequence four to six pictures illustrating events in a read-aloud.
  - Answer questions requiring literal recall and understanding the details and/or facts of a read-aloud, i.e. who, what, when, where, why.
  - Retell key details.
  - Ask questions to clarify information in a read-aloud.
  - Use narrative language to describe people, places, things, locations, events, actions, a scene or facts in a read-aloud.
- Observe craft and structure.
  - Understand and use words and phrases heard in read-alouds.
  - Compare and contrast similarities and differences within a single read-aloud or between two or more read-alouds.
  - Make personal connections to events or experiences in a read-aloud and/or make connections among several read-alouds.
- Integrate information and evaluate evidence.
  - Make predictions prior to and during a read-aloud, based on the title, pictures and/or text heard thus far and then compare the actual outcomes to predictions.
  - Answer questions that require making interpretations, forming judgements or giving opinions about what is heard in a read-aloud, including answering 'why' questions that require recognising cause/effect relationships.
  - Interpret information that is presented orally and then ask additional questions to clarify information or the topic in the read-aloud.
  - Identify who is telling a story or providing information in a text.

#### **D. COMPREHENSION AND DISCUSSION OF READ-ALOUDS—FICTION, DRAMA AND POETRY**

- Retell or dramatise a story, using narrative language to describe characters; setting(s); and a beginning, a middle and an end to events of the story in proper sequence.
- Compare and contrast characters from different stories.
- Change some story events and provide a different ending to the story.
- Create and tell an original story, using narrative language to describe characters; setting(s); and a beginning, a middle and an end to events of the story in proper sequence.
- Distinguish fantasy from realistic text in a story.
- Identify the moral or lesson of a fable, folktale or myth.
- Demonstrate understanding of literary language and use some of these terms in retelling stories or creating own stories, including: author, illustrator, characters, setting, plot, dialogue, personification, simile and metaphor.
- Identify sensory language and how it is used to describe people, objects, places and events.

**E. COMPREHENSION AND DISCUSSION OF READ-ALOUDS—NON-FICTION / INFORMATIONAL TEXT**

**Teachers:** Select non-fiction topics to read aloud from the Year 2 history, science, music and visual arts subjects in the *Sequence UK*, with an emphasis on history and science.

- Generate questions and seek information from multiple sources to answer questions.
- Answer questions about the details of a non-fiction text, indicating which part of the text provides the information needed to answer specific questions.
- With assistance, categorise and organise facts and information within a given topic.
- With assistance, create and interpret timelines and lifelines in relation to read-alouds.
- Distinguish read-alouds that describe events that happened long ago from those that describe contemporary or current events.

**II. READING****A. PRINT AWARENESS**

- Understand that reading consists of a specific sense of directionality: reading left to right, return sweep after finishing a line, reading top to bottom, reading a book from front to back.
- Identify the parts of a book and the function of each part: front cover, back cover, title page, table of contents and index.
- Demonstrate correct book orientation by holding a book correctly and turning pages.
- Recognise that sentences in print are made up of separate words.
- Understand that words are separated by spaces.
- Distinguish between letters, words, sentences and stories.
- Demonstrate an understanding of basic print conventions by tracking and following print word for word when listening to text read aloud.
- Demonstrate an understanding that the sequence of letters in a written word represents the sequence of sounds in the spoken word.
- Recognise and name the 26 letters of the alphabet in both their upper-case and lower-case forms.
- Say the letters of the alphabet in order, either in song or recitation.

**B. ORAL READING AND FLUENCY**

- Read aloud, alone or with a partner at least 15 minutes each day.
- Read decodable stories (levelled beginner readers) that incorporate the specific code knowledge that has been taught.
- Demonstrate increased accuracy, fluency and expression on successive reading of a decodable text.
- Use phonics skills in conjunction with context to confirm or self-correct word recognition and understanding, rereading as necessary.
- Demonstrate understanding of and use commas and end punctuation while reading orally.
- Recognise apostrophes and speech marks.

**C. READING COMPREHENSION—ALL TEXTS**

**Teachers:** During the beginning of Year 2, most pupils will still need to devote considerable energy when reading to decipher the written text. Over the course of this year, they will learn even more elements of the code, meaning that the decodable text that they can read independently will increasingly resemble 'real stories' and reading books. With practice and repeated readings of the same text, pupils will develop increasing automaticity, allowing them to focus more intently on the meaning of what they are reading. Both the pupil's increasing fluency and the use of more authentic text—which is now decodable because of the child's increasing code knowledge—mean that attention to reading comprehension can move to a higher level than just the rudimentary understanding of text that was expected at the Year 1 level. This expectation is reflected in the increased number of objectives below that have been added to the Year 2 objectives. However, it is important to remember that children's listening comprehension still far exceeds their reading comprehension, and that their ability to talk about what they have heard and/or read will exceed their ability to demonstrate that understanding in writing.

- Demonstrate an understanding of completely decodable text after reading independently.

- Grasp specific details and key ideas.
  - Sequence four to six pictures illustrating events from a text that has been read independently.
  - Answer questions requiring literal recall and an understanding of the details and/or facts (i.e. who, what, where, when) about a text that has been read independently.
  - Retell key details from a text that has been read independently.
  - Ask questions to clarify information about a text that has been read independently.
  - Use narrative language to describe people, places, things, locations, events, actions, a scene or facts from a text that has been read independently.
- Observe craft and structure.
  - Identify basic text features and what they mean, including the title, author, table of contents and chapters.
  - Understand and use words and phrases from a text that has been read independently.
  - Compare and contrast similarities and differences within a single text or between multiple texts read independently.
  - Make personal connections to events or experiences in a text that has been read independently and/or make connections among several texts that have been read independently.
- Integrate information and evaluate evidence. (Note: prior to reading, teachers should identify what pupils know and have learned that may be related to the specific story or topic to be read. Use pictures accompanying the written text to check and support understanding.)
  - Make predictions prior to and while reading, based on the title, pictures and/or text read thus far and then compare the actual outcomes to predictions.
  - Answer questions that require making interpretations, judgements or giving opinions about what is read independently, including answering 'why' questions that require recognising cause/effect relationships.
  - Identify who is telling a story or providing information in a text.
  - Identify temporal words that link and sequence events, i.e., first, next then, etc.
  - Identify words that link ideas, i.e., for example, also, in addition.

#### **D. READING COMPREHENSION—FICTION, DRAMA AND POETRY**

- Retell or dramatise a story, using narrative language to describe characters; setting(s); and a beginning, a middle and an end to events of the story in proper sequence.
- Compare and contrast characters from different stories.
- Change some story events and provide a different story ending.
- Distinguish fantasy from realistic text in a story.
- Identify the moral or lesson of a fable, folktale, or myth.
- Demonstrate understanding of literary language and use some of these terms in retelling stories or creating own stories: author, illustrator, characters, setting, plot, dialogue, personification, simile and metaphor.
- Identify sensory language and how it is used to describe people, objects, places and events.

#### **E. READING COMPREHENSION—NON-FICTION AND INFORMATIONAL TEXTS**

**Teachers:** Select non-fiction topics from the Year 2 history, science, music and visual arts topics listed, with an emphasis on history and science.

- With assistance, create and interpret timelines and lifelines related to text read independently.
- Distinguish text that describes events that happened long ago from text that describes contemporary or current events.

### **III. WRITING**

**Teachers:** It is important to recognise that of all communication skills—listening, speaking, reading and writing—writing is the most demanding and challenging. During the beginning of Year 2, children still need to devote much of their focus and cognitive energy to the code itself, as well as the fine motor act of writing.

During this period, teachers should continue to support written expression through shared writing experiences that are modelled by an adult and that increase in difficulty over time.

At some point during Year 2, however, most children will feel comfortable enough with their basic skills to begin making a transition to writing more independently. Children's desire to express themselves in writing should be heartily encouraged. To this end, it is important that teachers have age-appropriate expectations about what Year 2 pupils' writing should resemble. Pupils have not been taught all of the spellings they will need to achieve dictionary-correct spelling. It is therefore premature to expect that words in their independent writing will be spelled correctly. It is reasonable to expect pupils to use the letter-sound correspondences they have learned to set down plausible spellings for the sounds in the word. For example, a pupil who writes *bote* for *boat*, *dun* for *done*, or *hed* for *head* has set down a plausible spelling for each sound in the word. Dictionary-correct spelling will be a realistic goal when pupils have learned more spellings and learned how to use a dictionary to check spelling.

Furthermore, while teachers can begin to model the use of a writing process, such as 'Plan-Draft-Edit,' it is equally important not to dampen a pupil's enthusiasm by rigidly insisting that *all* of a pupil's writing be edited over and over again to bring the text to the 'publication' stage. In Year 2, teachers should achieve a sensible balance that encourages children to use their current skill knowledge when writing, without stifling creative expression.

#### **A. WRITING TO REFLECT AUDIENCE, PURPOSE AND TASK**

- Add details to writing.
- Begin to use tools, including technology, to plan, draft and edit writing.

#### **B. CONDUCTING RESEARCH**

- Gather information from experiences or provided text sources.

#### **C. NARRATIVE WRITING**

- Write or retell a story that includes characters; setting(s); and a beginning, a middle and an appropriate end to events of the story in proper sequence.
- Write a descriptive paragraph using sensory language.
- Create a title that is relevant to the narrative.

#### **D. INFORMATIVE/EXPLANATORY WRITING**

- Write about a topic, including beginning and ending sentences, facts and examples relevant to the topics and specific steps (if writing explanatory text).

#### **E. PERSUASIVE WRITING (OPINION)**

- Express an opinion or point of view in writing, providing reasons and supporting details for preference or opinion using the linking word *because*.
- Create a title that is relevant to the topic or subject of the text.
- If writing about a specific book or read-aloud, refer to the content of the text.

### **IV. LANGUAGE CONVENTIONS**

#### **A. HANDWRITING AND SPELLING**

- Print from memory the 26 letters of the alphabet accurately in both their upper-case and lower-case forms.
- Form words, phrases and sentences to communicate thoughts and ideas.
- Apply basic spelling conventions.
- Use basic capitalisation and punctuation in sentences to convey meaning.
- Write on primary lined paper from left to right, staying within the lines and leaving spaces between words, and write from top to bottom, using a return sweep.

- Write phonemically plausible spellings for words that cannot be spelled correctly with current code knowledge, e.g., write *ate* for *eight*, *boi* for *boy*, and *fone* for *phone*.
- Write words, phrases and sentences from dictation, applying phonics knowledge.
- Identify and use synonyms and antonyms.

## B. PARTS OF SPEECH AND SENTENCE STRUCTURE

- Recognise, identify and use subject, object and possessive pronouns, orally, in written text and in own writing. For example: I, me, mine, you, yours, they, them.
- Recognise, identify and use possessive pronouns that function as adjectives, orally, in written text and in own writing. For example: my, your, her, his.
- Recognise, identify and use common and proper nouns, orally, in written text and in own writing.
- Recognise, identify and use regular verbs to convey a sense of past, present and future tense, orally, in written text and in own writing.
- Recognise, identify and use subjects and predicates, orally, in written text and in own writing.
  - Every complete sentence consists of two parts: the subject and the predicate.
  - Subject: what/whom the sentence is about, in bold in the example: **Anna** scored a goal.
  - Predicate: explains something about the subject, in bold in the example: Anna **scored a goal**.
- Produce and expand complete sentences orally and in shared writing exercises.

## C. CAPITALISATION AND PUNCTUATION

- Capitalise the first word in a sentence, the pronoun 'I', proper nouns (e.g. names and places), months and days of the week.
- Identify and use end punctuation, including full stops, question marks and exclamation marks.
- Use commas appropriately in greetings and closings of letters, dates and items in a series.
- Write a simple, friendly letter.
- Use apostrophes to create contractions and indicate possession, i.e., dog's paw.
- Use speech marks appropriately to designate direct speech.

## V. POETRY

**Teachers:** The poems listed here constitute a selected core of poetry for this year group. You are encouraged to expose children to more poetry, old and new, and to have children write their own poems. To bring children into the spirit of poetry, read it aloud and encourage them to speak it aloud so they can experience the music in the words. Although children are not expected to memorise the following rhymes, they will delight in knowing their favourites by heart, and will experience a sense of achievement and satisfaction in being able to recite some of the rhymes.

- Become familiar with the following works:
  - Cats Sleep Anywhere (Eleanor Farjeon)
  - The Frog (Hilaire Belloc)
  - A Good Play (Robert Louis Stevenson)
  - Hope (Langston Hughes)
  - If Wishes Were Horses (traditional)
  - I Know All the Sounds the Animals Make (Jack Prelutsky)
  - Jumbo Jet (Spike Milligan)
  - My Shadow (Robert Louis Stevenson)
  - The Owl and the Pussycat (Edward Lear)
  - The Pasture (Robert Frost)
  - The Purple Cow (Gelett Burgess)
  - Pussycat, Pussycat (traditional)
  - The Queen of Hearts (traditional)
  - Ring a Ring of Roses (traditional)
  - Rope Rhyme (Eloise Greenfield)
  - Scissors (Allan Ahlberg)
  - Solomon Grundy (traditional)

- The Swing (Robert Louis Stevenson)
- Table Manners [also known as ‘The Goops’] (Gelett Burgess)
- Thirty Days Hath September (traditional)
- Three Wise Men of Gotham (traditional)
- Become familiar with riddle rhymes.
- Become familiar with tongue twisters.

## VI. FICTION

**Teachers:** While the following works make up a strong core of literature, the ‘content’ of language arts includes not only stories, fables and poems, but also knowledge of how written symbols represent sounds and how those sounds and symbols convey meaning. Thus, the stories specified below are meant to complement, not to replace, materials designed to help children practise decoding and encoding skills (see above, section II. Reading and section III. Writing).

The titles here constitute a core of stories for this year group. They are available in a variety of editions, some designed for novice readers, and others best for reading aloud to children. In Year 2, most of the following titles should be read to the children. It is recommended that you provide a mixture of texts, including some beginning readers, with their necessarily limited vocabulary and syntax, for these can give children the important sense of accomplishment that comes from being able to ‘read it all by myself’.

Expose children to many more stories, including classic picture books and books best read aloud. (In schools, teachers across year groups should communicate their choices in order to avoid undue repetition.) Children should also be exposed to non-fiction prose—biographies, books on science and history, books on art and music—and they should be given opportunities to tell and write their own stories.

### A. STORIES

- All Stories Are Anansi’s (folktale from West Africa)
- The Boy at the Dike (folktale from Holland)
- Brer Rabbit and the Tar Baby (traditional)
- The Frog Prince (Brothers Grimm)
- Hansel and Gretel (traditional)
- Selections from *The House at Pooh Corner* (A. A. Milne)
- It Could Always Be Worse (Yiddish folktale)
- Jack and the Beanstalk (traditional)
- ‘King of the Nogs’ from *The Sagas of Noggin the Nog* (Smallfilms)
- Medio Pollito (Hispanic Folktale)
- The Pied Piper of Hamelin (traditional)
- Pinocchio (traditional)
- The Princess and the Pea (traditional)
- Puss-in-Boots (traditional)
- Rapunzel (traditional)
- Rumpelstiltskin (traditional)
- Sleeping Beauty (traditional)
- *The Tale of Peter Rabbit* (Beatrix Potter)

### B. AESOP’S FABLES

- The Boy Who Cried Wolf
- The Dog in the Manger
- The Fox and the Grapes
- The Goose that Laid the Golden Eggs
- The Maid and the Milk Pail
- The Wolf in Sheep’s Clothing

### C. DIFFERENT LANDS, SIMILAR STORIES

**Teachers:** To give pupils a sense that people all around the world tell certain stories that, while they differ in details, have much in common, introduce pupils to similar folktales from different lands, such as the following:

- Issun Boshi / One-Inch Boy (Japan); The Knee-High Man (African-American folktale)
- You may also want to read other variations of these stories including; Tom Thumb (England); Thumbelina by Hans Christian Andersen (Denmark); Little Finger of the Watermelon Patch (Vietnam)
- You may also want to read one of the many variations on the Cinderella story (from Europe, Africa, China, Vietnam, Egypt, Korea, etc.)

### D. LITERARY TERMS

- Understand the names for characters, including heroines and heroes.
- Recognise terms in drama, including actor, actress, script, costume, scenery, props, theatre, stage, audience and applause.

## VII. SAYINGS AND PHRASES

**Teachers:** Every culture has phrases and proverbs that make no sense when carried over literally into another culture. For many children, this section may not be needed since they will have picked up these sayings by hearing them at home and amongst friends. However, this section has been one of the categories most appreciated by teachers who work with children from home cultures that differ from British culture. All children should become familiar with the sayings and phrases below.

- An apple a day keeps the doctor away. [Connection to Year 2 Science]
- Don't count your chickens before they hatch. [Connection to Aesop's fables]
- Don't judge a book by its cover. [Connection to 'The Frog Prince']
- Hit the nail on the head.
- If at first you don't succeed, try, try again.
- Land of Nod
- Let the cat out of the bag.
- Many hands make light work. [Connection to 'The Boy at the Dike']
- The more the merrier.
- Never leave until tomorrow what you can do today.
- Sour grapes [Connection to Aesop's fables]
- There's no place like home.
- Wolf in sheep's clothing [Connection to Aesop's fables]





## History and Geography: Year 2

### WORLD GEOGRAPHY

**Teachers:** In Year 2, children continue their study of the world around them and then broaden and complement that focus. The goal of studying selected topics in World History in Year 2 is to foster children's curiosity and the beginnings of their understanding about the larger world outside their locality, and about varied civilisations and ways of life. This can be done through a variety of means: story, drama, art, music, discussion, and more.

In Year 2, the study of geography expands on the concepts of spatial sense, maps of the school setting, and the globe. Pupils also learn about Northern Europe, including Scandinavia. The geography of the British Isles expands on the regional differences between England, Scotland, Wales and Northern Ireland.

### I. SPATIAL SENSE

**Teachers:** Foster children's geographical awareness through regular work with maps and globes and other geographical tools.

- Locate yourself on maps and globes in relation to the different places you are studying.

### II. THE SCHOOL SETTING

**Teachers:** Pupils should learn about the spatial layout of the school in greater detail: its site (what is there) and situation (what surrounds the school).

- Identify buildings, playgrounds, fields, entrances, boundaries, vegetation and neighbouring land use.
- Examine aerial photographs of the school grounds and surrounding area. Use these photos to:
  - Identify buildings and points of interest.
  - Discuss how to navigate around the school grounds, what buildings and land are near the school, what route pupils take to get to school and what they pass along the way.
  - Use the compass points: north, south, east and west.
- Develop spatial awareness by drawing basic maps of confined areas, for example a classroom, the playground, their bedroom, etc. Use symbols, a key to represent objects on the map and a colour-code for different areas.

### III. GLOBE/WORLD MAP

**Terms:** Peninsula, boundary, equator, hemisphere, climate.

- Identify the major oceans and the seven continents.
- Find the equator, the northern hemisphere, the southern hemisphere and the North/South Poles on a globe.
- Identify the UK as one of many countries in Europe, with neighbours such as France, Spain, Germany, Italy, Norway, the Netherlands, Belgium, Norway, Sweden, Finland, Denmark, Iceland and Ireland.
- Identify the spatial distribution of the Roman Empire (Cross-curricular connection with Roman History).

### IV. NORTHERN EUROPE

**Teachers:** Introduce pupils to a part of Europe that is different from the UK and illustrate the ways in which Northern Europe is similar and different from the UK. The geography of Northern Europe should be taught alongside the history of the Vikings.

- Climate (average weather conditions over an extended period of time)

- Climate of Northern Europe: mild in the south; cold and snowy further north. Northern Europe is covered in snow and ice for much of the winter.
- Vegetation: coniferous forest adapts to the cold and snowy climate.
- Landscape: mixture of lowlands, mountains and lakes.
- Countries: Norway, Sweden, Denmark, Finland and Iceland.
- Languages spoken: Norwegian, Swedish, Danish, Finnish, and Icelandic.
- Settlement: the capital cities are Oslo, Stockholm, Copenhagen, Helsinki and Reykjavik.
  - Discuss what it is like to live in a cold and snowy climate. How do people keep warm? How do they travel around? How do they clear snow?

## GEOGRAPHY OF THE BRITISH ISLES

### I. REGIONS OF THE UK

- Name the continent, country and county in which you live.
- Identify regional differences between England, Scotland, Wales and Northern Ireland. For example: identify the flags, major mountain ranges, major rivers, lakes, capital cities and other distinguishing characteristics.
- England: identify cultural symbols, famous people and cultural differences. For example: St. George's Day, the Tower of London, Windsor Castle, Anglo-Saxons, football, Stratford-upon-Avon, Shakespeare, Chaucer
- Scotland: identify cultural symbols, famous people and cultural differences. For example: Loch Ness, Ben Nevis, Scottish Gaelic, tartan, kilts, haggis, highland games, Robert Burns, Scottish dancing [cross-curricular connection with Music Year 2]
- Wales: identify cultural symbols, famous people and cultural differences. For example: Welsh language, rugby, Dylan Thomas, St. David's Day, Eisteddfod festival of literature and music, Welsh folk songs
- Ireland: identify cultural symbols, famous people and cultural differences. For example: Irish Gaelic, St. Patrick's Day, shamrock, leprechaun, James Joyce, Gaelic football

### II. CLIMATES

- Understand the difference between weather and climate
  - Weather is day to day atmospheric conditions
  - Climate is the average weather conditions measured over years
- How does the weather vary from day to day and why?
  - Keep a daily record of temperature, wind direction, wind speed and precipitation
  - Discuss how the weather changes and why, for example with wind direction
- Show how the climate varies across the UK
  - Changes in temperature, precipitation, wind, seasons
  - Discuss latitude as a reason for this variation

## WORLD HISTORY

**Teachers:** Encourage children to examine the nature of a 'civilisation', what defines a settled culture as opposed to a nomadic lifestyle. Settlements, agriculture, laws and customs and communications all form important parts of civilisation, and children should see what modern culture and society owes to these ancient civilisations.

### I. ANCIENT EGYPT

**Terms:** archaeology, archaeologist, fertile

**A. GEOGRAPHY**

- Identify the African continent on a map or globe.
- Understand the climate in Africa and its influence on vegetation, particularly in the Sahara Desert [Cross-curricular connection with Science Year 2]
- Understand the importance of the Nile River, floods and farming
- Identify key pharaohs
  - Rameses II
  - Tutankhamun [Cross-curricular connection with Visual Arts Year 2]
  - Hatshepsut, woman pharaoh
  - Akhenaten and Queen Nefertiti [Cross-curricular connection with Visual Arts Year 2]
- Identify key features in the Ancient Egyptian culture and religion
  - Pyramids
  - Mummies
  - Great Sphinx
  - Animal gods
  - Hieroglyphic writing

**II. MESOPOTAMIA: THE 'CRADLE OF CIVILISATION'**

- Understand the importance of the Tigris and Euphrates Rivers in Mesopotamia
- Identify key features in the Ancient Mesopotamian culture and religion
  - Cuneiform writing: understand why writing is important to the development of civilization
  - Ziggurat temples
  - Babylon city
  - The Gate of Ishtar
- Become familiar with the Code of Hammurabi (early code of laws)
  - Understand why rules and laws are important to the development of civilisation

**HISTORY OF WORLD RELIGIONS**

**Teachers:** Since religion is a shaping force in the story of civilisation, the *Core Knowledge Sequence UK* introduces children in the early years to major world religions, beginning with a focus on geography and major symbols and figures. The purpose is not to explore matters of theology but to provide a basic vocabulary for understanding many events and ideas in history. The goal is to familiarise, not proselytise; to be descriptive, not prescriptive. The tone should be one of respect and balance: no religion should be disparaged by implying that it is a thing of the past. To the question, 'Which one is true?' an appropriate response is: 'People of different faiths believe different things to be true. The best people to guide you on this right now are your parents or carers.'

**I. JUDAISM**

- Belief in one God
- Followers are called the Jewish people or Jews
- Become familiar with the Story of the Exodus
  - Moses leads the Hebrews out of Egypt
- Understand important places, holidays, symbols and features:
  - Israel, Hanukkah (sometimes spelled Chanukah), Torah, synagogue, symbol of the Star of David

**II. CHRISTIANITY**

- Belief in one God
- Followers are called Christians
- Christianity grew out of Judaism
- Understand important places, holidays, symbols and features:

- Jesus, meaning of 'messiah', Christmas, Easter, symbol of the cross

### III. ISLAM

- Belief in one God
- Followers are called Muslims
- Originated in Arabia, spread worldwide
- Understand important places, holidays, symbols and features:
  - Allah, Muhammad, Makkah, Qur'an, mosque, symbol of the crescent and star (found on the flags of many mainly Islamic nations)

## BRITISH HISTORY

### I. ROMANS IN BRITAIN

**Teachers:** Emphasise the vast extent of Roman influence from the Middle East and North Africa to Northern Europe. It is important that pupils understand how the Romans exported ideas, innovations and language all over Europe, and led to the development of the idea of Christendom. In Britain, the Romans brought literacy and extended trade and contact with continental Europe, as well as vast technological developments.

#### A. THE ROMANS INVADE 43AD

- Invasion under Emperor Claudius
  - Boudicca, Rebellion of the Iceni, in 60AD.
  - Destroyed Roman settlements at Colchester, London and St Albans; Romans considered leaving.
- Romans fail to conquer Scotland (Caledonia)
  - Hadrian's Wall
  - Ireland (Hibernia) not invaded
- Large Roman Settlements
  - Londinium
  - Eboracum
- Technological advances
  - Road networks
  - Sewage and water supply systems
  - Literacy and written records
- Roman archaeology
  - Roman villa at Fishbourne near Chichester
  - Roman baths at Bath

#### B. ROMANS LEAVE, 410

- Economic decline
  - Roman integration and intermarriage; Romans left cultural influence
  - Romano-British culture; Romanisation of the language, e.g. centenary, mega, video

### II. POST-ROMAN BRITAIN

**Teachers:** After the departure of the Romans, the British Isles were subject to successive waves of invasions from Northern Europe and Scandinavia. The Anglo-Saxon immigrations and invasions mixed with the Romano-British to modify native culture. Encourage children to think about the significance of waves of immigrations in forming cultures in the British Isles. Use maps to ensure children can understand where early Kingdoms existed in Britain.

#### A. ANGLES AND THE SAXONS, INVASIONS FROM 490

- Native Anglo-Saxon culture
  - Legend of King Arthur

## B. MULTIPLE KINGDOMS ACROSS BRITAIN

- England and Wales included:
  - Northumbria, Mercia, Wessex, Kent, East Anglia, Sussex, Essex
- Scotland included:
  - Pictland and Dál Riata
- Struggles for power
  - The rise of Wessex, Alfred the Great

## III. CHRISTIANITY IN BRITAIN

**Teachers:** Ensure the historical, rather than theological, importance of Christianity in Britain is emphasised. Early Christianity helped form identity and social organisation. Pupils should be introduced to the idea that Christian institutions and beliefs were of great importance to people's lives and shaped their world.

### A. CHRISTIANITY

- Christianity was the official religion of the Roman Empire before the Romans left Britain
- Roman Emperor Constantine and his conversion to Christianity in 312

### B. SPREAD OF CHRISTIANITY

- Missionaries travelled throughout the Roman Empire to convert Anglo-Saxon pagans to Christianity
  - St Augustine (of Canterbury), first Archbishop of Canterbury; King Aethelbert of Kent
  - St. Patrick, Christian missionary to Ireland; Ireland's patron saint
  - St. Columba, Celtic Christianity to Scotland; monastery of Iona
  - St. Aidan, Christianity in Northumbria; monastery at Lindisfarne

### C. MONASTICISM IN MEDIEVAL EUROPE

- Monasticism was the centre of cultural and scholastic life
  - Monks studied grammar, logic, mathematics, canon law and medicine; some monasteries become universities.
  - The Venerable Bede wrote a historical account of England *The Ecclesiastical History of the English People*
- Illuminated manuscripts
  - The Book of Kells and the Lindisfarne Gospels [Cross-curricular link with Visual Arts Year 2]

## IV. THE VIKINGS

**Teachers:** Encourage pupils to compare the arrival of the Anglo-Saxons with the influence of the Vikings. Children should understand the different ways in which Viking attack, invasion, settlement and interaction influenced Britain, as well as the extent of Viking exploration and its importance in Viking culture.

### A. THE VIKINGS, SCANDINAVIAN EXPLORERS AND INVADERS

- Viking culture, known for invasion and violence
  - Culture of exploration and seafaring; extensive trading routes; migration and settlement
  - Danegeld payments to the Vikings to convince them not to attack
- Viking invasions of Britain
  - Viking settlements of Jorvik (York) and Dublinia (Dublin)
- The Danelaw: dominated Northumbria, East Anglia and parts of Mercia
  - Kingdom of Wessex under Alfred the Great was the only native English Kingdom
  - Alfred victorious over the Vikings

## V. NORMAN BRITAIN

**Teachers:** The Norman Conquest marks the final successful hostile invasion of Britain. Explain how it ensured the continued existence of the fragile and newly unified England by the enforcement of a strong and informed system of government and taxation.

### A. NORMAN INVASION, 1066

- Succession dispute, Harold Godwinson (Earl of Wessex), Harald III of Norway and William of Normandy
  - Battle of Stamford Bridge
- Battle of Hastings, October 1066
  - William of Normandy defeats Harold Godwinson
  - Submission of the Anglo-Saxon ruling elites; crowned King of England
  - The Bayeux Tapestry

### B. DOMESDAY BOOK, 1086

- Lists all settlements and lands in England and Wales
- Important for governance and taxation

## FEATURED GREAT EXPLORER

### A. ROALD AMUNDSEN [builds on Year 2 History and Geography: Northern Europe]



## Visual Arts: Year 2

**Teachers:** In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasise important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. While the following guidelines specify a variety of artworks in different media and from various cultures, they are not intended to be comprehensive. Teachers are encouraged to build upon the core content and expose children to a wide range of art and artists, particularly incorporating those that either you or the children's carers can take them to see.

### I. ART OF ANCIENT EGYPT

[Some of these pieces can be found with World History: Ancient Egypt]

- Look at and discuss:
  - The Great Sphinx (Giza, outside Cairo)
  - A bust of Queen Nefertiti (head and shoulder portrait sculpture): examples in New York (Metropolitan Museum) and London (British Museum)
  - Mummy cases: Sarcophagus of King Tutankhamun, circa 1323 BC (National Museum of Egyptian Antiquities, Cairo) or Nesperennub's (British Museum, London)
  - Animal gods in Egyptian art: such as Bronze statuette of a cat (Pitt Rivers Museum, Oxford)
- Find out about:
  - The Rosetta Stone, Ptolemaic Period, 196 BC (Essential for the deciphering of hieroglyphics, British Museum, London)

### II. EARLY CHRISTIAN AND MEDIEVAL ART IN ENGLAND AND NORTHERN EUROPE

[Cross curricular links with Year 2 British History and with Language and Literature: Aesop's Fables. These fables are illustrated in the borders of the Bayeux Tapestry, probably to reveal character traits of those depicted in the main panels above them.]

- Observe and describe the Celtic (also called Insular) style of illumination (manuscript decoration) as seen in:
  - The Lindisfarne Gospels, c. 715 (British Library, London)
  - The Book of Kells c. 800 (Trinity College Library, Dublin)
- Discover the variety of art treasures of England's early medieval rulers (range of materials, foreign influences, styles etc.) by observing:
  - Sutton Hoo Ship Burial (burial treasure of an Anglo-Saxon King, 7th century, Sutton Hoo, Suffolk). An example of an item to study is the Shoulder Clasp (British Museum, London)
  - Bayeux Tapestry (embroidery showing events leading up to the Norman Conquest, probably commissioned by Odo, Earl of Kent, for William the Conqueror, after 1067 or after, Musée de la Tapisserie de Bayeux, Bayeux). [Located in History and Geography]

### III. ELEMENTS OF ART: COLOUR, SHAPE AND TEXTURE

**Teachers:** The generally recognised elements of art include line, shape, form, space, light, texture, and colour. In Year 1 the children should have studied Colour and Line. In Year 2 build on these by examining the following:

#### A. COLOUR

**Teachers:** Review, if necessary, 'warm' and 'cool' colours from Year 1.

- Primary colours:
  - Know that red, yellow and blue are commonly referred to as the primary colours, meaning they are colours that cannot be made from mixing other colours together
- Mixing primary colours—know that:
  - Blue + yellow = green

- Blue + red = purple
- Red + yellow = orange
- Secondary colours:
  - Know that green, purple and orange (colours made from mixing primary colours) are commonly referred to as the secondary colours
- Observe and discuss the use of colour in:
  - Claude Monet, *The Beach at Trouville*, 1870 (The National Gallery, London)
  - James A. McNeill Whistler, *Arrangement in Grey and Black No. 1* (also called 'Portrait of the Artist's Mother'), 1871 (Musée d'Orsay, Paris)

## B. SHAPE

- Recognise basic geometric shapes—square, rectangle, triangle, circle, oval—in nature, man-made objects, and artworks including:
  - in the work of Pablo Picasso, such as his images of Sylvette David from 1954 (various) and additionally:
    - old masters such as Leonardo da Vinci's *Vitruvian Man* of 1492 (Gallerie dell'Accademia, Venice)
    - in the work of Alexander Calder, such as *Standing Mobile* of 1937 (Tate Modern, London)
- Look at and discuss the use of shape in:
  - David Hockney, *The Road to York Through Sledmere*, 1997 (artist's collection, on view Royal Academy of Arts, London, 2012)

## C. TEXTURE

**Teachers:** Provide opportunities for children to experience both 'tactile' and 'visual' texture by having them describe qualities of texture in extant or real objects, which they can actually touch (tactile texture), and as depicted or suggested in works of art (visual texture). You may find it helpful to introduce this by reviewing art works from Year 1 with obvious textural differences, such as Degas' *Little Dancer*.

- Describe qualities of texture (as, for example, rough, smooth, ridged, etc.) in:
  - The King's Gold Belt Buckle (early 7th century from Sutton Hoo burial, now British Museum, London)
  - Albrecht Dürer, *Young Hare*, 1502 (Albertina, Vienna)
  - Johannes Vermeer, *The Music Lesson*, 1662-65 (The Royal Collection, London)

## IV. KINDS OF PICTURES: PORTRAITS AND SELF-PORTRAITS

**Teachers:** Help the children become familiar with the terms we use to describe different kinds of paintings by focusing on portraits and self-portraits (in Year 1 children looked at narrative paintings, and in Year 3 children will look at still lives and landscapes). Discuss examples, provide opportunities for children to create their own works in the different 'genres'. When you look at the specified works, ask the children about their impressions—what they notice first, who they think the pictures are of and how old the subject is, what those painted are doing, wearing, feeling, and so on. Encourage the children to practice using the language they have already learned about (line, shape, colour, texture, detail/s) to help them express what they can see and share their ideas on why the artist chose to depict things in a certain way.

### A. RECOGNISE AS A PORTRAIT (an artwork depicting a real person):

- Leonardo da Vinci, *Mona Lisa (Portrait of Lisa Gherardini)*, 1503-06 (Louvre, Paris)
- Hans Holbein the Younger, *Edward VI as a Child*, 1538 (National Gallery of Art, Washington DC)

Additional works:

- Sir Anthony van Dyck, *Equestrian Portrait of Charles I*, 1637-38 (National Gallery, London)

### B. RECOGNISE AS A SELF-PORTRAIT (an artwork made by an artist of him/herself):

- Rembrandt van Rijn, *Self-portrait in a Flat Cap*, 1642 (Royal Collection, London)
- William Hogarth, *Self-Portrait at an Easel*, 1757 (National Portrait Gallery, London)



- Vincent van Gogh, *Self-portrait*, 1889 (Musée d'Orsay, Paris)

## V. TYPES OF ART: MURAL

**Teachers:** Remind the children of the cave painting studied in Year 1, helping them to understand that cave painting is a form of mural.

### A. RECOGNISE AS A MURAL (a painting on a wall):

- Leonardo da Vinci, *The Last Supper*, 1495-98 (Refectory, Santa Maria delle Grazie, Milan)
- Paula Rego, *Crivelli's Garden*, 1990 (Sainsbury wing restaurant, National Gallery, London)

Additionally:

- William Hogarth, *The Pool of Bethesda* (1736) and *The Good Samaritan* (1737), Staircase hallway, St Bartholomew's Hospital, London



## Music: Year 2

**Teachers:** In schools, lessons on music should feature activities and works that illustrate important musical concepts and terms, and should introduce important composers and works. When appropriate, topics in music may be linked to topics in other disciplines.




The following guidelines focus on content, not performance skills, though many concepts are best learned through active practice (singing, clapping rhythms, playing instruments, etc.).

### I. ELEMENTS OF MUSIC

#### A. ELEMENTS

- Through participation become familiar with basic elements of music (rhythm, melody, harmony, form, timbre, etc.).
  - Recognise a steady beat, move to a beat, play a steady beat, recognise accents.
  - Move responsively to music (marching, walking, hopping, swaying, etc.).
  - Recognise short and long sounds.
  - Discriminate between fast and slow.
  - Discriminate between obvious differences in pitch: high and low.
  - Discriminate between loud and soft.
  - Understand that melody can move up and down.
  - Hum the melody while listening to music.
  - Echo short rhythms and melodic patterns.
  - Play simple rhythms and melodies.
  - Recognise like and unlike phrases.
  - Recognise that music has timbre or tone colour.
  - Sing unaccompanied, accompanied and in unison.

#### A. NOTATION

- Understand that music is written down in a special way and become familiar with the following notation:
  - Crotchet: one single beat 
  - Minim: the length of two crotchet beats 
  - Semi-breve: a long note, as long as four crotchet beats or two minims 

### II. LISTENING AND UNDERSTANDING

**Teachers:** Expose children to a wide range of music, including children's music, popular instrumental music, and music from various cultures.

#### A. MUSICAL TERMS AND CONCEPTS

- Composers
  - Know that a composer is someone who writes music.
  - Become familiar with Wolfgang Amadeus Mozart as a composer who wrote what is known as classical music, and listen to the Allegro (first movement) from *A Little Night Music (Eine kleine Nachtmusik)*.

- Orchestra
  - Become familiar with the families of instruments in the orchestra: strings, brass, woodwinds, percussion [Children will review families of instruments and specific instruments in later years].
  - Know that the leader of the orchestra is called the conductor.
  - Listen to Sergei Prokofiev, *Peter and the Wolf*.

## B. MUSIC CAN TELL A STORY

- Opera
  - Understand that opera combines music, singing and acting.
  - Listening to selections from Humperdinck's *Hansel and Gretel*: 'Brother, Come Dance with Me', 'I am the Little Sandman' and 'Children's Prayer'.
- Instrumental Music
  - Listen to Paul Dukas, *The Sorcerer's Apprentice*.
- Ballet
  - Understand that ballet combines music and movement, often to tell a story.
  - Listen to Tchaikovsky's *Nutcracker Suite*.

[If resources are available, read aloud to students the story behind Tchaikovsky's *Nutcracker*, and either attend a performance or show scenes from the ballet, which is available on DVD. You may also wish to introduce children to the Suite from Tchaikovsky's *Sleeping Beauty*, in relation to the story in English Language and Literature, *Sleeping Beauty*.]

## C. MUSICAL TRADITIONS

- Jazz
  - Understand that jazz is a kind of music that developed in America, with African and African American roots, and that jazz musicians improvise.
  - Recognise Louis Armstrong as a great early jazz musician.

## III. SONGS

**Teachers:** You may also wish to teach children the song 'Brother, Come Dance with me' in connection with their introduction to the opera *Hansel and Gretel*:

- Billy Boy
- La Cucaracha
- Drunken Sailor (Sea Shanty, also known as 'What Should We Do with A Drunken Sailor?')
- Dry Bones
- For He's a Jolly Good Fellow
- Frère Jacques/Brother John
- I had a little Nut Tree
- The Grand Old Duke of York
- Lavenders Blue
- Michael Finnigan
- Michael, Row the Boat Ashore
- Oh, John the Rabbit
- On Top of Old Smoky
- Polly put the Kettle on
- Run Rabbit Run
- She'll Be Comin' Round the Mountain
- Skip to My Lou
- Ten Green Bottles
- There's a Hole in My Bucket
- When the Saints Go Marching In
- Yankee Doodle



## Mathematics: Year 2

### I. NUMBERS AND THE NUMBER SYSTEM

#### A. WHOLE NUMBERS

- Read and write numbers to at least 100 in figures and words.
- Count reliably at least 100 objects by grouping them, e.g. in tens, fives or twos.
- Count on or back in ones, twos, fives or tens from any given number.
- Recognise odd and even numbers to at least 100.
- Recognise the place value of each digit in any two-digit number, and partition two-digit numbers into multiples of 10 and 1.
- Compare numbers to at least 100 using the  $<$ ,  $>$ , and  $=$  signs.
- Order a set of numbers to at least 100 and position numbers on a number line or grid.
- Identify ordinal numbers, first (1st) to hundredth (100th).
- Within the range 0 – 100, identify the number that is 1 or 10 more or less than a given number.
- Estimate a number of objects, e.g. up to about 100 objects.
- Round two-digit numbers to the nearest 10.

#### B. FRACTIONS

- Find  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{3}{4}$  of shapes and sets of objects.

### II. NUMBER OPERATIONS AND CALCULATIONS

#### A. ADDITION AND SUBTRACTION

- Recognise that addition can be done in any order.
- Understand and use the inverse relationship between addition and subtraction.
- Understand that more than two numbers can be added.
- Recall pairs of numbers that total 20.
- Recall all addition and subtraction facts for each number to at least 10.
- Begin to recall all addition and subtraction facts for each number to 20.
- Know addition and subtraction 'fact families' to 10, e.g.  $2 + 3 = 5$ ,  $3 + 2 = 5$ ,  $5 - 3 = 2$ ,  $5 - 2 = 3$ .
- Use known number facts and place value to mentally:
  - add or subtract a one-digit number to or from a two-digit number, e.g.  $14 + 7$ ,  $18 - 6$ ;
  - add a multiple of 10 to a one-digit or two-digit number, e.g.  $60 + 4$ ,  $60 + 24$ ;
  - subtract a multiple of 10 from a two-digit number, e.g.  $58 - 30$ .
- Use informal written methods to add or subtract pairs of two-digit numbers, e.g.  $35 + 68$ ,  $74 - 46$ .

#### B. MULTIPLICATION AND DIVISION

- Understand multiplication as repeated addition and arrays, using appropriate vocabulary.
- Understand division as sharing and grouping (repeated subtraction), using appropriate vocabulary.
- Recall multiplication facts for the 2, 5 and 10 times-tables, and the corresponding division facts.
- Recognise multiples of 2, 5 and 10.
- Understand and use the inverse relationship between doubling and halving, and multiplication and division.

#### C. MIXED OPERATIONS

- Use the  $+$ ,  $-$ ,  $\times$ ,  $\div$  and  $=$  signs to record calculations, including symbols such as  $\square$ ,  $\circ$  or  $\triangle$  to stand for an unknown number, e.g.  $5 + \circ = 7$ ,  $\square \times 2 = 12$ .

- Use knowledge of number facts, operations and inverse relationships to estimate and check calculations.

### III. MEASUREMENT

#### A. LENGTH, MASS, CAPACITY AND TEMPERATURE

- Choose and use appropriate instruments to measure lengths, masses, capacities and temperatures.
- Estimate, compare and measure lengths, masses, capacities and temperatures using standard units (metre, centimetre, kilogram, litre, degrees Celsius).
- Read relevant scales to the nearest numbered division and interpret the divisions between them.
- Use a ruler to measure and draw lengths to the nearest centimetre.

#### B. TIME

- Use units of time and know the relationship between them, e.g. second, minute, hour, day, week, month, year.
- Compare duration of events, including those that cross the hour.
- Read the time to the quarter hour on an analogue clock and 12-hour digital clock and understand the notation 5:45.

#### C. MONEY

- Identify all coins and notes and begin to use £.p notation.
- Find totals, give change and work out which coins to use.
- Combine coins and notes to make a given value and show different combinations of coins and notes that equal the same value.

### IV. GEOMETRY

#### A. 2-D AND 3-D SHAPES

- Visualise and name common 2-D shapes, including circle, triangle, square, rectangle, pentagon, hexagon and octagon.
- Visualise and name common 3-D solids, including cube, cuboid, sphere, cylinder, cone, square-based pyramid and tetrahedron.
- Use everyday language to describe features of common 2-D shapes, including the number of sides, number of right angles and symmetry.
- Use everyday language to describe features of common 3-D solids, including the shapes of faces, number of faces, edges and vertices.
- Compare and sort common shapes and solids, including those in different orientations and in the environment.
- Use shapes and solids to make patterns, pictures and models, including congruent shapes and designs.

#### B. POSITION, DIRECTION AND MOVEMENT

- Use appropriate mathematical language to describe position, direction and movement.
- Recognise and make whole, half and quarter turns to the left or right and clockwise or anti-clockwise.
- Know that a right angle is a measure of a quarter turn and recognise right angles in rectangles.

#### C. SYMMETRY

- Begin to recognise reflective symmetry.

### V. DATA

- Collect, process, represent, interpret and discuss data in simple ways, such as in a list, table, diagram, pictogram or block graph.

## **VI. PROBLEM SOLVING AND REASONING**

- Recognise and continue patterns involving numbers or shapes.
- Describe relationships involving numbers or shapes.
- Solve mathematical problems and puzzles involving numbers or shapes.
- Solve problems involving addition, subtraction, multiplication or division in the context of numbers or measurements, including money.



## Science: Year 2

### I. LIVING THINGS AND THEIR ENVIRONMENTS

**Teachers:** Introduce the idea of interdependence between living things and their environment.

#### A. HABITATS

- Living things live in environments to which they are particularly suited.
- Specific habitats and what lives there, for example:
  - Forest (for example: oak trees, squirrels, foxes, badgers, snails, mice)
  - Meadow and plains (for example: wildflowers, grasses, prairie dogs)
  - Underground (for example: fungi, moles, worms)
  - Desert (for example: cacti, lizards, scorpions)
  - Water (for example: fish, oysters, starfish)
- The food chain: a way of picturing the relationships between living things
  - Animals: big animals can be eaten by little ones, big animals die and are eaten by little ones.
  - Plants: nutrients, water, soil, air, sunlight

#### B. OCEANS AND UNDERSEA LIFE

- Most of the Earth is covered with water.
- Locate oceans: Pacific, Atlantic, Indian, Arctic
- Oceans are salt water (unlike fresh water rivers and lakes)
- Coast, shore, waves, tides (high and low)
- Currents, the Gulf Stream
- Landscape of the ocean floor: mountain peaks and deep valleys (trenches)
- Diversity of ocean life: from organisms too small for the eye to see (plankton), to giant whales
- Dangers to ocean life (for example, overfishing, pollution, oil spills)

#### C. ENVIRONMENTAL CHANGE AND HABITAT DESTRUCTION

- Environments are constantly changing, and this can sometimes pose dangers to specific habitats, for example:
  - Effects of population and development
  - Rainforest clearing, pollution, litter

#### D. SPECIAL CLASSIFICATIONS OF ANIMALS

- Herbivores: plant-eaters (for example, elephants, cows, deer)
- Carnivores: flesh-eaters (for example, lions, tigers)
- Omnivores: plant and animal eaters (for example, bears)
- Extinct animals (for example: dinosaurs)

## II. THE HUMAN BODY: SYSTEMS AND PREVENTING ILLNESS

#### A. BODY SYSTEMS

**Teachers:** Introduce the idea of body systems, and have children identify basic parts of the following body systems:

- Skeletal system: skeleton, bones, skull
- Muscular system: muscles
- Digestive system: mouth, stomach
- Circulatory system: heart and blood
- Nervous system: brain and nerves

## B. GERMS, DISEASES, AND PREVENTING ILLNESS

- Taking care of your body: exercise, cleanliness, healthy foods, rest
- Vaccinations

## III. MATTER

**Teachers:** Introduce children to the idea that everything is made of matter, and that all matter is made up of parts too small to see.

- Basic concept of atoms
- Names and common examples of three states of matter:
  - Solid (for example, wood, rocks)
  - Liquid (for example, water)
  - Gas (for example, steam)
- Water as an example of changing states of matter of a single substance

## IV. PROPERTIES OF MATTER: MEASUREMENT

**Teachers:** Have children describe and classify objects according to what they are made of, and according to their physical properties (colour, shape, size, weight, texture, etc.)

- Units of measurement:
  - Length: centimetre, metre
  - Volume: millilitre, litre
- Temperature: degrees Celsius

## V. INTRODUCTION TO ELECTRICITY

**Teachers:** Through reading aloud, observation and experiment, explore with children the basic principles of electricity and safety rules.

- Static electricity
- Basic parts of simple electric circuits (for example, batteries, wire, bulb or buzzer, switch)
- Conductive and nonconductive materials
- Safety rules for electricity (for example, never put your finger or anything metallic in an electrical outlet, never touch a switch or electrical appliance when your hands are wet or when you're in the bathtub, never put your finger in a lamp socket, etc.)

## VI. INTRODUCTION TO ASTRONOMY

- Sun: source of energy, light, heat
- Moon: phases of the moon (full, half, crescent, new)
- The eight planets (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune)
  - Note that, in 2006, Pluto was classified as a dwarf planet.
- Stars
  - Constellations: the Plough
  - The sun is a star.
- Earth and its place in the solar system
  - The Earth moves around the Sun; the sun does not move
  - The Earth revolves (spins); one revolution takes one day (24 hours)
  - Sunrise and sunset
  - When it is day where you are, it is night for people on the opposite side of the Earth



## VII. THE EARTH

### A. GEOGRAPHICAL FEATURES OF THE EARTH'S SURFACE

- The shape of the Earth, the horizon
- Oceans and continents
- North Pole and South Pole, Equator

### B. WHAT'S INSIDE THE EARTH

- Inside the Earth
  - Layers: crust, mantle, core
  - High temperatures
- Volcanoes and geysers
- Rocks and minerals
  - Formation and characteristics of different kinds of rocks: metamorphic, igneous, sedimentary
  - Important minerals in the Earth (such as quartz, gold, sulphur, coal, diamond, iron ore)

## VIII. SCIENCE BIOGRAPHIES

- Rosalind Franklin (often-overlooked woman scientist, discovered double-helix structure of DNA)
- Thomas Edison (invented an electric light bulb)
- Edward Jenner (found a way to stop smallpox)
- Louis Pasteur (made milk safe to drink)