

# REAL PROJECTS



**R**  
rigorous

**E**  
engaging

**A**  
authentic

**L**  
learning



Oral presentations to a variety of different audiences about the importance of water cleanliness for ourselves and our environment.



How Clean is our water?

Term: Spring

Class: Indigo, Turquoise, Emerald

Classroom Immersion: Water themed

Trips/Experiences: Visit to Tate and St Ives  
sewage plant  
Marazion Marshes

Experts: Surfers Against Sewage  
Global Boards  
South West Water Board  
Environment Agency  
Cornwall County Council  
Tate Education team

### Literacy:

Persuasive leaflets about why we need to keep our water clean concentrating on persuasive language using 'A FOREST' for features and structure

SPAG: modal verbs, colons/semi-colons, active and passive

Written text followed by design of three-fold leaflets

Reading: DERIC non fiction

Class novel: White Dolphin by Gill Lewis

Outdoor learning:  
Beach clean with families  
Canvassing with leaflets

### Creative:

Designing and illustrating leaflets

Collecting 'found objects' from beach clean to construct sculptures

### RE/Virtues/PSHE

Symbolism of water (RE)

Understanding rights and responsibilities (PHSE)

Virtues: following and linking with virtues timetable

### Maths:

Statistics through surveys and data

## Mini Project Persuasive leaflets



### Science:

Properties and changes of materials (particularly serving, filtering, separating)

### Humanities:

Geography:

Water Cycle

### Computing:

Presenting data on Numbers and manipulating, creating bar graphs, pie chart etc. Link to Maths and Science

Research, presentation

### PE:

Turquoise - swimming

Gymnastics and orienteering

Literacy:  
Reading: Poetry with DERIC

Poetry on a postcard - persuasive poetry to  
accompany postcard art  
Flash mob poetry  
Poetry telling in assembly

SPAG focus; Synonyms and Antonyms,  
Changing verbs to adjectives using suffixes,  
homophones, near homophones, homonyms  
Using commas to avoid ambiguity

Selected poems both formal and informal, variety  
of structures  
Class novel: White Dolphin by Gill Lewis

Outdoor learning:  
Outdoor sketching and photography - St Ives  
Visit to Marazion Marshes  
Pond work



Creative:  
Creating water themed persuasive images using found  
objects from beach/paintings  
Visit to Tate 23 Jan by train

RE/Virtues/PSHE  
Symbolism of water (RE)  
Understanding rights and responsibilities (PHSE)  
Water safety  
Virtues: following and linking with virtues timetable

Maths:  
Fractions, decimals percentages  
through analysing data collected

Science:  
Animals, including humans  
(habitats) Visit to Marazion Marshes

Humanities:  
Energy - water as a source of energy

Computing:  
Image manipulation, using cut outs, backgrounds,  
mixed media photos for digital versions of postcards

PE:  
Turquoise - swimming  
Gymnastics and orienteering

## Literacy:

Reading: Narrative with Deric - based on class novel 'White Dolphin'

Critiqued writing piece - Persuasive writing for oracy.

Practice presentations around school  
Oral skills

SPAG focus: subjunctive form, past progressive  
Adapt vocabulary between personal and impersonal

## Outdoor learning

Voice projection in amphitheatre

## Creative:

Music to accompany presentations

## Final Project Outcome

Written presentations  
to secondaries and  
other primaries in  
TPAT.

## RE/Virtues/PSHE

Understanding rights and responsibilities (PHSE)  
Water safety

Virtues: following and linking with virtues timetable

## Maths:

Area and Perimeter using beach clean  
launch evidence

Volume and Capacity - as for area and  
perimeter and through science.

## Computing:

Preparation of presentation including hyperlinks

## Science:

(Continuing links with maths,  
literacy and humanities)

## Humanities:

Mapping and researching major waterways in  
Cornwall and UK

## PE:

Gymnastics and orienteering

Resources:

Art materials - acrylic paint and glue

Teaching legacy Packs

FINAL OUTCOME

Oral presentations to secondaries  
and other primaries in TPAT.

What: Presentations

Where: Different locations

When: Rolling programme of  
presentations in final two weeks of term

Costs:

Postcard costs - either in house or professional

Adults and responsibilities:

Lewis, Fran, Chrissy, Giuse, Kate, Sarah, Serena,  
Amanda, Elaine, Georgina, Jeremy

All to be available to drive children to presentations

Experts

Surfers Against Sewage, Tate, Cornwall County  
Council, South West Water to critique work at various  
stages.

Work to be displayed:

Leaflets, postcards, collage of photos of journey  
and examples of work

Children input:

Presentations!

Children to choose locations for presentations.

## Yr 5 Reading:

I can apply my growing knowledge of word families, root words, prefixes and suffixes to understand the meaning of new vocabulary.

I can use a range of strategies to work out any unfamiliar words.

I can pay attention to and collect new vocabulary, word meanings and pronunciations.

## Comprehension:

I have read books and other reading material for a range of purposes.

I have an increased familiarity with a wide range of books, including books from other cultures and traditions.

I can recommend books to others and give reasons for this.

I can begin to identify and discuss themes across a range of texts.

I can make simple comparisons across texts - characters, events, etc.

I can read a wider range of poetry including learning some by heart.

I can prepare and perform poems and plays to read aloud, with variation in intonation, tone and volume.

I can skim and scan a text to find key information.

I can ask questions to improve my understanding of a text.

I can predict what may happen from details stated and implied.

I can discuss how the author's choice of language (including some figurative language) impacts on the reader.

I can continue to draw inferences about characters and plot and justify these, beginning to refer to different parts of a text.

I can distinguish between statements of fact and opinion.

I can retrieve, record and present information from non-fiction.

I can discuss my understanding of a text providing justification for my views.

I can participate in discussions, building on my own and others' ideas.

## Composition: Yellow - leaflets Green - poetry for art postcards Orange - presentations

I can identify audience and purpose for writing and select the appropriate form with guidance, using models.

I can develop initial ideas, drawing on reading and research.

I can consider how authors develop character and setting in what I have read, seen and/or heard.

I can select appropriate grammar and vocabulary and know how this can change and enhance meaning.

I can describe setting and characters and use dialogue.

I can begin to build cohesion within and across paragraphs using different narrative devices.

I can use organisational and presentational devices to structure a text. E.g. subheadings.

I can critique the effectiveness of my own and others' writing, making useful and detailed suggestions for improvement.

I can use expanded noun phrases effectively.

I can use adverbial and prepositional phrases effectively.

I can ensure correct subject and verb agreement when using singular and plural.

I can mostly use consistent and correct tense throughout a written piece.

I can proof-read for any errors and make corrections based on spelling, grammar and punctuation.

I can precis longer passages.

I can use literary devices such as; alliteration, simile, metaphor, onomatopoeia and personification.

## Speaking and Listening:

I can speak audibly and fluently with an increasing command of standard English

I can participate in discussions, presentations, performances, role play, improvisations and debates

I can gain, maintain and monitor the interest of the listener(s)

I can consider and evaluate different viewpoints, attending to and building on, the contributions of others

I can select and use appropriate registers for effective communication

## Spelling:

I can spell words with endings that sound like 'shuhs' with -tious or -ious

I can spell words containing the letter string -ough

I can spell words with silent letters - knight, doubt, lamb etc

I can distinguish between homophones and other words that are often confused

I can correctly spell the words from the year 5 word list.

I can convert nouns or verbs into adjectives using suffixes: -ful, -ive, -al

I can convert nouns or adjectives in to verbs using the suffixes: -ate, -ise, -ify, -en

I can create nouns using suffixes: -ity, -ness, -ship

I can spell words adding verb prefixes: -de, -re, and -over

I can use a dictionary to look up the meaning of a word

I can use a thesaurus

## Yr 6 Reading:

I can apply my growing knowledge of word families, root words, prefixes and suffixes to understand and compare meanings of new vocabulary in context.

I can use a range of strategies to work out any unfamiliar words and explain their meanings.

I can pay attention to and collect new vocabulary, word meanings and pronunciations

## Comprehension:

I have read a wide range of fiction and non-fiction, poems, plays and other reading material for a range of purposes.

I have an increased familiarity with books from other cultures and traditions and can compare to books from our literary heritage.

I can make detailed recommendations to others based on their tastes.

I can confidently identify and discuss themes across a wide range of texts.

I can make comparisons across texts including different text types.

I can read a wide range of poetry by heart.

I can prepare and perform poems and plays to read aloud

choosing intonation, tone and volume to show meaning.

I can quickly and efficiently skim read to locate key information.

I can ask searching questions to improve my own and others' understanding of a text.

I can accurately make detailed predictions from details stated and implied.

I can explain and evaluate how figurative language, vocabulary, grammar, text structure and organisational features affect meaning and the reader.

I can make inferences referring to all aspects of the text and refer to different parts of the text.

I know the purpose, audience and context for writing and use this knowledge to support comprehension.

I can clearly identify the writer's viewpoints and explain this with specific evidence from the text, explaining how this has an effect on the reader.

I can make critical comparisons across texts and genre.

I can discuss my own understanding of a text maintaining a focus on the topic and provide justification for this.

I can build on my own and others' views of a text and ideas in written form.

## Composition:

I can identify audience and purpose for writing and consider how it reflects the audience and purpose.

I can add detailed developments to initial ideas, drawing on reading and research.

I can consider and apply character and plot developments in what I have read, seen and/or heard.

I can use a wide range of imaginative and ambitious vocabulary and grammar and use this to change and enhance meaning

I can convey character and advance action using effective descriptions and dialogue.

I can build cohesion within and across paragraphs using a range of narrative devices such as; repetition and ellipses.

I can vary sentence length and word order confidently to sustain interest.

I can critique the effectiveness of my own and others' writing, making insightful and thorough suggestions for improvement.

I can use a range of powerful expanded noun phrases to add key detail.

I can a range of powerful adverbial and accurate prepositional phrases effectively to add key detail.

I can use organisational and presentational devices to structure a text. E.g. columns, bullet points, sub-headings.

I can distinguish between formal and informal registers in writing and use these effectively.

I can consistently use correct subject-verb agreement.

I can use consistent and correct tense throughout a piece of writing.

I can proof-read and make effective corrections to improve the overall effect of a piece of writing.

I can precis and organise writing, supporting ideas and argument with factual detail.

I can produce writing which is varied, interesting and thoughtful and features figurative language that is suited to purpose.

## Spelling:

I can spell words with endings which sound like 'shuhl' after a vowel and a consonant letter

I can spell words ending in -ant, -ance/-ancy, -ent, -ence/-ency

I can continue to distinguish between homophones and pairs of words opposite, nouns end -ce and verbs end -se.

I can spell words ending in -able and -ible, -ably and -ibly

I can use a hyphen to join a prefix to a root word

I can spell words with a long /e/ sound spelt 'ie' or 'ei' after c and exceptions.

I can correctly spell the words from the year 6 word list.

I can spell words adding suffixes beginning with vowel letters to words ending in -fer

I can use the first three or four letters of a word to check spelling, meaning or both of these in a dictionary

I can use a thesaurus.



## Punctuation:

I can use capital letters, full stops, ? and ! consistently.

I can identify and add missing punctuation into text e.g. . , - "" ! ? : () "

**I can use commas to clarify meaning and avoid ambiguity within a sentence**

I use apostrophes to indicate singular and plural possession and for contractions consistently including collective noun plurals

**I use bullet point to list information consistently.**

**I can use a colon to introduce a list.**

I can use ellipses accurately and consistently to build tension.

**I can use brackets, dashes and commas to indicate parenthesis.**

**I am beginning to recognise and use semi-colons, colons or dashes to mark boundaries between independent clauses.**

## Grammar:

I recognise a noun, verb, adjective, adverb, pronoun, preposition, determiner and article are and their function within a sentence.

I recognise the 4 types of noun - abstract, collective, common and proper.

I know what an article is and identify and use them correctly within sentences.

I know what a determiner is and identify them within sentences.

**I can use modal verbs or adverbs to indicate possibility.**

**I am beginning to recognise synonyms and antonyms**

**I am developing my understanding using passive verbs to clarify the information in a sentence and perfect verbs to mark relationships of time and cause.**

I can recognise homonyms, homophones and near homophones

I can recognise the difference between direct speech and reported speech

I can select different sentence structures and adapt these for purpose.

I am begin to recognise and use vocabulary and structures for formal writing.

**I can use relative clauses using who, which, where, when, etc.**

**I can recognise the different between phrases and clauses**

**I can use adverbials of time, place and number to link across paragraphs.**

I understand and identify subordinate clauses and the conjunctions used to introduce them, e.g. Jay wanted to go to the party even though he wasn't feeling very well.

I know the difference between subordinating and co-ordinating conjunctions.

**I can convert nouns and adjectives into verbs using suffixes.**

**I can convert verbs by using prefixes eg dis, re-, mis -**

**I can use verbs to mark relationship of time and cause.**

I recognise and use layout devices eg headings, sub-headings, columns, bullets, or tables to structure text

I can discuss the reasons for the use of grammar and vocabulary in my writing and reading.

## Maths Y5 Place value:

I can read and write, numbers to 1,000,000 and explain the value of each digit.

I can order numbers to 1,000,000.

I can compare numbers to 1,000,000.

I can count forwards or backwards in steps of powers of ten for any given number up to 1,000,000.

I can round any whole number up to 1,000,000 accurately to the nearest 1, 10, 100, 1000, 10,000 and 100,000.

I can use negative numbers in context, and calculate across zero.

I can count forwards and backwards with positive and negative whole numbers.

I can solve number and practical problems that involve all the above.

I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

## Addition and subtraction:

I can add and subtract numbers with more than four digits using written methods such as the column method.

I can add and subtract increasingly large numbers mentally.

I can solve multi-step addition and subtraction problems in a range of contexts, deciding which operations and methods to use and why.

I can use estimation and rounding to check the answers to calculations.

I can check answers using the inverse.

I can solve problems involving addition and subtraction including understanding of the meaning of the equals sign.

## Punctuation:

I can identify, explain and add a full range of missing punctuation into a text e.g.: . , - "" ! ? : ( ) ; \* "

**I can use commas consistently and accurately to clarify meaning and avoid ambiguity within a sentence**

Recognise how where a comma is placed within a sentence can affect the meaning.

**I use bullet points to list information (including . , \* , 1), i) etc.**

**I can use semi-colons, colons or dashes to mark boundaries between independent clauses.**

**I can use a colon to introduce a list and semi-colons within a list.**

**I can use hyphens to avoid misunderstanding eg man eating shark v man-eating shark**

## Grammar:

I can recognise all the word classes and sort words accordingly

I recognise the types of pronoun (personal, relative, possessive).

**I can use passive verbs to affect the presentation of information in a sentence.**

**I can re-write sentences in the active and passive voice.**

**I recognise synonyms and antonyms and how they are related by meaning**

I can turn direct speech into reported speech and vice versa.

**I can recognise the difference between structures typical of informal speech and structures appropriate for formal speech and writing**

I can use relative clauses beginning with who, which, where, when, whose, that or with an implied (i.e. omitted) relative pronoun.

I understand adverbials and how to manipulate sentences to use them in different places e.g. We turned the light off before we left - Before we left, we turned the lights off.

I understand and use a wide range of conjunctions and can place them within a sentence for the best effect.

**I can link ideas across paragraphs using a wider range of cohesive devices: repetition of a word or phrase, grammatical connections (eg, the use of adverbials such as on the other hand, in contrast, or as a consequence), and ellipsis.**

I can identify words that are part of word families, e.g. circle, circus, etc.

**I can adapt vocabulary between a personal and impersonal tone eg go in/enter, ask for/request.**

I recognise and know how to use past progressive verbs.

**I can use subjunctive verb forms e.g. 'If I were...' or 'Were they to come...' in some very formal writing and speech.**

**I recognise and use layout devices [eg headings, sub-headings, columns, bullets, or tables] to structure text**

I can discuss the reasons for the use of grammar and vocabulary in my writing and reading

## Maths Y6 Place value:

I can read and write numbers up to 10,000,000 and explain the value of each digit.

I can order numbers to 10,000,000.

I can compare numbers to 10,000,000.

I can round any whole number to a required degree of accuracy.

I can use negative numbers in context and calculate across zero.

I can solve number and practical problems that involve all the above.

I can read and write Roman numerals to 3000 (MMM) and recognise and write years in Roman numerals.

## Addition and subtraction:

I can add and subtract numbers of any size and including decimals using written methods such as the column method.

I can perform mental calculations quickly and efficiently including with mixed operations and decimal numbers.

I can add and subtract using missing numbers or parts of calculations.

I can solve multi-step addition and subtraction problems in a range of contexts, deciding which operations and methods to use and why.

I can use estimation and rounding to check answers and determine an appropriate degree of accuracy.

I can check answers using the inverse.

I can use knowledge of the order of operations to carry out calculations.

## Multiplication and division:

I can multiply numbers up to four digits by one or two digits using formal written methods.

I can divide numbers up to four digits by one digit using formal written methods and interpret remainders in context.

I can multiply and divide numbers mentally using known facts.

I can recognise and use square and cube numbers.

I know the language of prime numbers, prime factors and composite numbers.

I can identify prime numbers to 19 and establish whether a number up to 100 is prime.

I can multiply and divide whole numbers and some involving decimals by 10, 100 and 1000.

I can identify common multiples and factors including finding factor pairs and common factors.

I can solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes.

I can solve problems involving multiplication and division including understanding the meaning of the equals sign.

I can solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

## Fractions, decimals and percentages:

I can compare and order fractions whose denominators are multiples of the same number using  $<$ ,  $=$ ,  $>$ .

I can identify and find equivalent fractions including tenths and hundredths.

I can add and subtract fractions with the same and multiple denominators.

I can solve problems which require knowing percentage and decimal equivalents of  $\frac{1}{2}$ ,  $\frac{1}{4}$ , fifths and denominator multiples of 10, 25

I can read and write decimal numbers as fractions including hundredths. E.g.  $0.71 = \frac{71}{100}$ .

I can multiply proper fractions and mixed numbers by whole numbers.

I can read, write and order numbers up to three decimal places.

I can write percentages as decimals and fractions e.g. 25%,  $\frac{1}{4}$ , 0.25    10%,  $\frac{1}{10}$ , 0.1

I can recognise mixed numbers and improper fractions and convert from one to the other.

I can recognise the percentage symbol and understand it relates to number of parts per hundred.

I can write mathematical statements  $>1$  as a mixed number. E.g.  $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1$  and  $\frac{1}{5}$ .

I can recognise and use thousandths and relate to tenths and hundredths.

I can relate thousandths, hundredths and tenths as decimal equivalents.

I can solve problems involving number up to 3 decimal places.

## Measurement:

I can solve problems involving converting measurements. E.g. km to m, cm to mm, g to kg and l and ml.

I can solve problems involving converting between units of time in a range of contexts.

I can convert between metric and imperial units including: inches, pounds and pints.

I can measure and calculate the perimeter of composite rectilinear shapes in cm and m.

I can calculate and compare areas of rectangles and estimate the area of irregular shapes.

I can estimate volume and capacity using knowledge of cube numbers.

I can use the four operations to solve problems involving measure.

## Geometry:

I can identify 3D shapes including cubes and cuboids from 2D representations.

I know angles are measured in degrees and can recognise, estimate and compare acute, obtuse, reflex and right angles.

I can draw given angles and measure in degrees.

I can identify angles at a point and one whole turn.

I can identify angles at a point on a straight line, and  $\frac{1}{2}$  a turn and other multiples of 90 degrees.

I can find missing angles in rectangles.

I can draw 2D shapes using simple angles.

I can distinguish between regular and irregular polygons.

I can begin to represent the position of a shape following a reflection or translation including using coordinates.

I can describe and write coordinate positions (positive quadrants).

## Multiplication and division:

I can multiply numbers up to four digits by two digits and those with decimals using formal written methods including long multiplication.

I can divide numbers up to four digits by two digits using formal written methods.

I can interpret remainders as whole numbers, fractions or decimals or by rounding.

I can perform mental calculations, including with mixed operations and large numbers.

I can identify common factors and multiples and prime numbers.

I can solve problems in context deciding which operations to use and why.

## Fractions and decimals:

I can compare and order fractions (E.g.  $\frac{3}{5}$ ,  $\frac{3}{6}$ ) and those greater than 1.

I can add and subtract fractions with different denominators and mixed numbers.

I can multiply simple pairs of proper fractions writing the answer in simplest form. E.g.  $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$

I can divide proper fractions by whole numbers.

I can associate a fraction with division and calculate decimal-fraction equivalents.

I can recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

I can use common factors to simplify fractions.

I can use common multiples to express fractions in the same denomination.

I can identify the value of each digit in numbers given to three decimal places.

I can multiply and divide numbers by 10, 100 and 1000 giving answers to three decimal places.

I can multiply one digit numbers with up to two decimal places by whole numbers.

I can solve problems involving decimals, percentages and fractions which require answers to be rounded to specific degrees of accuracy.

## Measurement:

I can solve problems involving the calculation and conversion of units of measure up to 3 decimal places.

I can convert between miles and kilometres.

I can calculate problems involving perimeter and area, recognising that shapes with the same area can have different perimeters and vice versa.

I can use formulae for area and volume of shapes.

I can calculate the area of parallelograms and triangles.

I can calculate, estimate and compare volumes of cubes and cuboids.

## Geometry:

I can draw and represent translations of shapes confidently.

I can draw and represent reflections of shapes confidently.

I can recognise angles where they meet at a point and on a straight line or are vertically opposite and find missing angles.

I can draw 2D shapes using given dimensions and angles.

I can recognise, describe and build simple 3D shapes using nets.

I can illustrate and name parts of a circle including radius, diameter and circumference.

I know the diameter is twice the radius.

I can describe and write positions on the full coordinate grid (all four quadrants).



Probability, ratio and proportion:

I can begin to use the language of probability. E.g. more/less likely, certain, probable  
I can begin to understand ratio in practical contexts. E.g. cooking, measurement

Statistics:

I can read and interpret information in a range of tables and representations including timetables.  
I can solve comparison, sum and difference problems using information presented in a line graph.

Algebra:

I can begin to use simple formulae in algebra.  
I can begin to express missing number problems.

Probability, ration and proportion:

I can solve problems with ratio and proportion which include missing values using multiplication and division facts.  
I can solve problems which include the calculation of percentages.  
I can solve problems involving similar shapes where the scale factor is known or can be found.  
I can solve problems using unequal amounts using knowledge of fractions and multiples

Statistics:

I can calculate and interpret the mean as an average.  
I can construct and interpret a range of representations of data including pie charts and line graphs.

Algebra:

I can use simple formulae.  
I can generate and describe linear number sequences.  
I can find possibilities of combinations of two variables.  
I can express missing number problems algebraically.  
I can find pairs of numbers that satisfy an equation with two unknowns.  
I can enumerate possibilities of combinations of two variables.

# Science

## Yr5 Working scientifically:

Plan investigations, recognising/controlling variables.

Take precise/accurate measurements using a range of scientific equipment.

Record data/results: scientific diagrams/labels, classification keys, tables, bars and line graphs and models.

Report findings from investigations: written explanations, explanation involving causal relationships and conclusions.

Continue to develop the ability to use test results to make predictions and set up further comparative/fair test.

## Life processes:

Describe life cycles of animals, humans and plants.

Describe the process of respiration.

Identify/name basic parts and organs of the human circulatory and gaseous exchange systems and explain their function.

## Materials:

Compare/group material based on comparative tests and fair tests (incl. hardness, solubility, conductivity and insulation, behaviour with magnets).

Explain dissolving, solutions and how to recover a substance from a solution.

Use knowledge of solids/liquids/gases to decide how mixtures might be separated.

Demonstrate reversible changes.

## Forces:

Compare/give reasons for how forces affect movement (incl. gravity, friction, air and water resistance).

Explain through observations that forces push/pull objects making them change shape.

Explain the effect of drag forces.

Measure the size of a force.

## Electricity and Magnets

Explain magnets have two pole and these attract and repel).

Describe the effects of static electricity.

## Yr6 Working scientifically:

Plan investigations, recognising/controlling variables.

Take precise/accurate measurements using a range of scientific equipment.

Record data/results: scientific diagrams/labels, classification keys, tables, bars and line graphs and models.

Report findings from investigations: written explanations, explanation involving causal relationships and conclusions.

Continue to develop the ability to use test results to make predictions and set up further comparative/fair test.

## Life processes:

Explain classification including the term kingdom.

Compare the life processes of reproduction amongst plants/animals.

Describe the changes of human from birth to old age.

Evolution and inheritance

Give reasons why living things produce off spring but these are not identical.

Explain evolution happens over time, linking to fossils and adaptation and how this leads to evolution.

## Materials:

Explain that some changes result in the formation of new materials and that this change is difficult to reverse.

## Light and sound:

Light

Explain how objects are seen, explain that light travels in straight lines or is reflected from a surface into the eye.

Explain that light can be broken into colours and different colours can be combined to appear as a new colour.

Explain how the ray model of light explains the size of shadows.

Use simple optical instruments.

## Forces:

Explain the idea of speed.

Determine the distance travelled based on the speed and time of travel.

## Electricity and magnetism:

Identify and name basic parts of a simple electric series circuit.

Explain and sort circuits and fuses.

Explain the effect of changing the voltage of a battery.

Art: Y5

Materials

Experiment with working on different surfaces.  
Different textures (laminating, modroc, collage.)  
Natural materials to create sculptures.

Expression and Imagination:

Use Art to express an emotion. Why have they chosen the materials and techniques that they have?

Techniques:

Use drawing techniques to introduce perspective. (Drawing from above and below, near/far.)  
Begin to experiment with the techniques of different artists.  
Practice skills to create different surfaces.  
Develop sculpture techniques by manipulating natural materials to create a structure.

Artists:

Use the work of a famous artist as a stimulus for their own work.  
Use other artists work as a basis for critique.  
Research and develop the techniques of other artists to use in own work.  
Be introduced to the work of great designers through history.

DT:

Use research and develop design criteria to design innovative, functional and appealing products that are fit for purpose and aimed at particular groups or individuals.  
Develop and communicate design ideas using annotated sketches, detailed plans, oral and digital presentations.  
Select and use tools and equipment for a range of uses. E.g. cut and shape ingredients, join fabrics, cut accurately and safely, use bradawl to mark holes, hand drill and pin and tacks during textile work.  
Join and combine a range of materials and ingredients using appropriate methods. E.g. beating, rubbing in, drilling, glueing, sewing, screwing.  
Show a clear understanding of the specification and use this to inform decisions.  
Justify decisions about materials and methods of construction.  
Evaluate products and use of information sources.  
Build frameworks using a range of materials e.g. wood, corrugated card, plastic to support mechanisms.  
Use linkages to make movement larger or more varied.  
Incorporate motor and a switch into a model.  
Use research and exploration to identify and understand user needs when designing a product.  
Develop and communicate design ideas using annotated sketches, detailed plans, oral and digital presentations and computer based tools.  
Select from and use specialist tools and techniques for a range of uses. E.g. Whisk, craft knife, cutting mat, safety ruler.  
Select from and use a wider range of materials, components and ingredients taking into account their aesthetic properties.  
Test, evaluate and refine ideas and products against a specification.  
Evaluate products and use of information sources throughout the process and use this to inform planning.  
Build complex frameworks using a range of materials to support mechanisms.  
Use a CAM to make an up and down mechanism.  
Control a model using an ICT control programme.

Art: Y6

Materials

Explore materials to create sculptures (mod roc, clay, natural materials, household object, chicken wire.)  
Different textures and consistencies of paint.

Expression and Imagination:

Use Art to express an abstract concept e.g war, love, creation.

Techniques:

Use viewfinders and perspective techniques in composition.  
Apply paint to show textures.  
'Limited palette' work. Working with one colour and developing work using tints and shades.  
Construct scale models using joining and drawing techniques.  
Combine techniques and give reasons for choices.

Artists:

Have an in-depth knowledge of the work of an architect and choose a style to emulate in constructing a scale model.  
Be able to identify and appraise the work of designers through history.

Computing: Y5

Technology in the real world:

Use digital devices to combine software and present data and information.  
Use search technologies and understand how results are ranked.  
Evaluate validity of a range of digital sources.

Programming

Design and write programmes that control simulations and physical systems.  
Work with variables and various forms of input and output to test programmes.  
Purposeful application  
Create and implement a range of programmes and content to accomplish specific goals.  
Use technology to collect, analyse, evaluate and present data and digital content

E-Safety

Use technology securely.  
Know how to protect your online identity.

Computing: Y6

Technology in the real world:

Use a range of digital devices to combine different software and present data and information.  
Collect, analyse and evaluate data.  
Use technology to accomplish challenging goals.

Programming

Understand several key algorithms that reflect computational thinking for sorting and searching.  
Purposeful application  
Use a range of programmes, systems and content to accomplish challenging goals.  
Use technology creatively to collect, analyse, evaluate and present data and digital content

E-Safety

Know why you need to use technology securely.  
Know why it is important to protect your online identity.  
Recognise correct content and conduct.

Year	Autumn 1	Autumn 2	Spring 1
C	<b>Christianity</b>  TOPIC: The History of Christianity THEME: Inspiration, persecution, growth and division	<b>Christianity</b>  TOPIC: The History of the Christianity in Cornwall THEME: Inspiration, persecution and division	<b>Christianity</b>  TOPIC: The Church THEME: community and identity
DD	Has Christianity been a force for good in history?	Should people be free to worship as they wish?	Does it make sense for God to be one thing and three things at the same time?
AA	Which of the key figures in the History of the Church are still thought of as role-models for Christians today?	Why is Trans Cathedral important to Christians in Cornwall today?	Why do Christians get baptised and confirmed today?
HH	What is it like to communicate the 'Good News' about Jesus to people who do not know about him?	What is it like for Methodists and Catholics to take part in worship?	Would it be appropriate for me to join in with Christian rituals? How might it enable me to develop a sense of what it means to belong to the Christian community?
SS	How have Christian missionaries been inspired by Christian stories differently?	How was John Wesley inspired to change things by the Gospel accounts of Jesus?	Where can we see Christian stories in church life?

Spring 2	Summer 1	Summer 2
<b>Christianity</b>  TOPIC: The Church THEME: community and worship	<b>Islam</b>  TOPIC: Islamic belief THEME: belief and revelation	<b>Islam</b>  TOPIC: Submission to Allah THEME: worship and belief in action
Can you be a Christian without going to church?	Do messengers of God exist? If so, in what sense?	Who or what should we live our lives for?
Why do Christians today still follow the Church's year?	How do the Messengers of Allah inspire Muslims today?	Which of the five pillars of Islam is the most significant for Muslims today?
What can Christian worship offer me?	How can looking for forms and patterns in nature help you understand Muslim beliefs and feelings about the nature of Allah's creation?	Can the development and performance of a routine of specific body positions, each conveying a particular meaning, provide insights into the feelings and emotions of Muslims in prayer?
How does Christian worship influence Christians in bible stories?	How do stories about the prophets guide Muslims today?	How does the Hajj influence Muslims in the story of Islam?

## PSHE: Health and Wellbeing

Discuss how the body changes and how to maintain hygiene through puberty.

Know how to prevent the spread of diseases and viruses.

Understand the effects of mental health problems.

Understand the impact of disease in the wider world.

Discuss how to manage change and transition. Discuss how to manage emotions and other changes within puberty.

### Relationships

Begin to see their actions from a different perspective.

Know what stereotyping is.

Understand different values, traditions and customs.

Discuss differences between people such as religion, race, disability etc...

Discuss behaviour choices in society and their consequences. Recognise and challenge stereotypes.

Identify positive and negative relationships and where to access support. Respect equality and diversity between people.

Begin to understand sexual relationships.

### Wider World

Understand rights and responsibilities and how they impact on own lives and the wider world. Justify personal opinions linked to broad topical issues. Understand decision making and the impact this has on others. Show an understanding of enterprise. Discuss how to protect the environment and advise others.

Begin to explore democracy and government as well as justice and laws. Analyse different sources and understand media interpretation. Show a deeper understanding of enterprise and the economic/business environment. Understand the term sustainable development. E-SAFETY and DRUGS/ALCOHOL

## Humanities:

### Geography:

#### Locational Knowledge

Locate on a map- Human and physical characteristics of countries around the world and major cities.

Know meaning of latitude or longitude, Equator or Tropics of Capricorn and Cancer or Arctic and Antarctic Circles or Time zones.

#### Place Knowledge

Study geographical similarities and differences between countries around the world.

Study environments and compare similarities and differences in a range of some features stated above.

#### Human and Physical Geography

Know where energy comes from.

Know about the water cycle and natural resources (where they come from)

Know meaning of Biomes and vegetation belts.

OR Know about climate change or Know about plate tectonics.

#### Geographical Skills and Fieldwork

Use Geographical information systems (GIS) to analyse data.

Use multiple sources of complex information to draw conclusions.

## PE Y5

### Gymnastics/ Athletics

Control a take-off and landing.

Combine a range of running, jumping and throwing techniques.

Create a fluid sequence applying learnt skills.

### Team games

Explain rules and tactics in detail.

To work in a team or alone to gain possession of a ball.

### Dance and movement

When composing it is imaginative, creative and expressive.

Movements show control.

Outdoor Adventurous activities

Orientate self to solve problems, locating particular places. Adapt actions to changing situations.

Strike a ball using backhand and forehand skills. Use a variety of techniques to pass a ball

## Drugs and Alcohol:

Know different legal and illegal harmful substances.

Make informed choices about risks and develop strategies to deal with peer pressure.

Know how legal and illegal substances affect the body and make informed choices.

Know what physical contact is acceptable and how to access help and support.

Know how to respond in an emergency.

### Music:

#### Singing and Performing

Perform in a group and alone using voices and instruments creatively incorporating expression and control.

Sing in two parts including two part harmonies.

Perform in a group and alone using voices and instruments with increasing fluency, accuracy, control and expression

#### Composing

Begin to use simple formal notation including beats in a bar.

Compose using an understanding of music from a range of cultures, times and styles.

Plan for expression in compositions.

#### Listening and Appraising

Listen and appraise using appropriate musical vocabulary.

Identify characteristics of a piece and repeat using voice or instrument.

Identify features that typify the work of great composers through time.

Analyse and compare musical features.

## Humanities:

### History:

#### Chronological events

Shows some understanding and talks with some clarity about the impact of historical events.

Talk in depth about the theme in relation to other historical events and the impact of these, linking to modern day.

#### Use of sources

Use a variety of reliable sources to gain a deeper understanding of Compare historical sources and suggest the validity of these.

Understand the methods of historical enquiry, including how it is used to make historical claims.

#### Historical Enquiry

Begin to use questions to understand significant events.

Identify significant events, make connections, draw contrast and analyse trends

Analyse and evaluate the impact of significant people/events in history

A detailed study of a particular famous person and their historical legacy.

A detailed study of a particular famous person and their historical legacy from at least two different points of view.

Language: Language specific to topic (e.g. mummified)

#### Vocabulary

Language specific to topic (e.g. mummified)

Language specific to topic (e.g. mummified)

## PE Y6

### Gymnastics/ Athletics

Show accuracy, control, speed, strength and stamina consistently within a range of movements.

Develop and adapt techniques to improve performance.

### Team games

Gain possession confidently and apply attacking and defending skills.

Apply understanding of rules and tactics e.g. officiating

### Dance and movement

Perform dances using advanced techniques with a range of dance styles and forms.

### Outdoor Adventurous activities

Confidently orientate self and others to solve a problem in a more unfamiliar environment.

Develop skills to solve problems in intellectual and physical challenges.

Any child not meeting the 25m requirement will receive swimming intervention.

## Virtues timetable

Week 1 4/9	Unity	Week 23 26/2	Generosity
Week 2 11/9	Unity	Week 24 5/3	Excellence
Week 3 18/9	Friendliness	Week 25 12/3 Week 26 19/3	Self-discipline Forgiveness
Week 4 25/9	Cooperation		
Week 5 2/10	Helpfulness	Week 27 26/3	Creativity
Week 6 9/10	Respect	Week 28 16/4	Love
Week 7 16/10	Courage	Week 29 23/4	Optimism
Week 8 30/10	Patience	Week 30 30/4	Courtesy
Week 9 6/11	Self - confidence	Week 31 7/5	Understanding
Week 10 13/11	Enthusiasm	Week 32 14/5	Compassion
Week 11 20/11	Caring	Week 33 21/5	Joyfulness
Week 12 27/11	Thankfulness	Week 34 4/6	Loyalty
Week 13 4/12	Trust	Week 35 11/6	Tolerance
Week 14 11/12	Peacefulness	Week 36 18/6	EYFS choice
Week 15 18/12	Peacefulness		
Week 16 1/1	Kindness	Week 37 25/6	Phase 1 choice
Week 17 8/1 Week 18 15/1	Kindness Perseverance		
Week 19 22/1 Week 20 29/1	Honesty Justice	Week 38 2/7 Week 39 9/7	Phase 2 choice
Week 21 5/2 Week 22 19/2	Flexibility Determination		
		Week 40 16/7	Phase 3 choice
		Week 41 24/7	