



Summerseat Methodist Primary School
Steps in Learning, Skills for Life

Expectations for Class Three
(Cycle A, Year Three)

What knowledge and skills will you gain on your learning journey this year?

Summerseat Methodist Primary School's Steps in Learning

This booklet provides an overview of the topics taught in the year group for all the subjects and also outlines the end of year expectations for children in our school for maths and English. It also contains the knowledge organisers for maths and English which we use with the children in school. Science, geography and history knowledge organisers for the autumn term are also included for information and subsequent terms will come home at the start of each topic to let you know the key knowledge children will gain during the topic.

At the back of the booklet are our learning to learn skills which are taught progressively and explicitly in all year groups to ensure our pupils leave the school as 'well rounded' individuals.

This is a 'snapshot' of our curriculum and more information on skills progression for each curriculum area can be found in our subject 'Steps in Learning' which are our key progression documents.

Class Beech topics—Cycle A	
Autumn 1	Rainforests
Autumn 2	Deserts
Spring 1	Stone Age, Iron Age, Bronze Age
Spring 2	
Summer 1	Ancient Civilisations
Summer 2	

If you have any queries regarding the content of this booklet or want support in knowing how best to help your child please talk to your child's class teacher.



The school vision, motto and values have directed our curriculum intent and design and are interwoven within in.

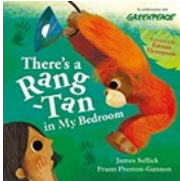
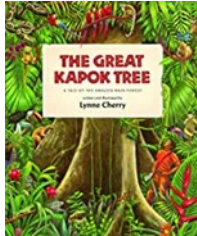
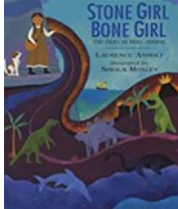
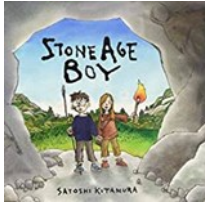
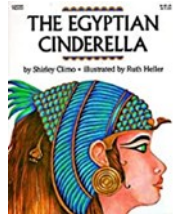
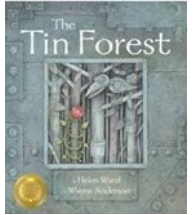
"I have come so that they may have life and have it to the full." John

10:10

Believe. Achieve. Shine.



Summerseat Methodist Primary School – Steps in Learning
Class Three – Cycle A

	Autumn1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	Rainforests	Deserts	Stone age, Iron age, bronze age		Ancient civilisations	
Hook	Rainforest sounds Rainforest pictures Rainforest fruits		Mock archaeological dig			
Visits and Visitors					Museum visit	
Key Texts						
Additional Stimulus	Little People, Big Dreams - Attenborough	The Grinch who stole Christmas – Seuss	Fossil Girl - Brighton	How to wash a woolly mammoth	You wouldn't want to be an Egyptian Mummy	
Writing Outcomes	Instructions/rules for living in the bedroom Information page about orang-utans Angry speech bubble in role as the little girl Letter of complaint Short Biography	Setting description New page for The Great Kapok Tree incl. persuasive speech in role Letter of complaint re: deforestation	Diary - Mary Anning Setting Description Recount	Dialogue – between two characters Narrative – own versions of the story Instructions Non-chronological report – stone age to iron age	Narrative Setting description Mystery story Dialogue to convey character and move the action on Explanation – Mummification Diary – Howard Carter	Writing in role Diary Entry Descriptive Writing Persuasion
Mathematics	Number: Place value Number: Addition and Subtraction	Number: Addition and Subtraction Number: Multiplication & Division	Number: Multiplication & Division Measurement: Length, perimeter, area Number: Fractions	Number: Fractions Measurement: Mass and Capacity	Number: Decimals (including money) Measurement: Time	Statistics Geometry: Properties of shape
Science	<u>Physics:</u> How far can you throw your shadow? Light & dark – reflections & shadows	<u>Physics:</u> Why is the sound made by *** loved by so many? Sound – Sound vibrations, pitch & volume	<u>Biology:</u> What happens to the food we eat? Animals including humans – Digestive system and teeth	<u>Biology:</u> Which animals and plants thrive in our local environment? Plants & animals – Basic structure and functions, life cycles, transportation of water, classification of plants and animals		

Summerseat Methodist Primary School – Steps in Learning
Class Three – Cycle A

	Autumn1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
History			Stone Age, Bronze Age and Iron Age (Changes in Britain from Stone Age to Iron Age)		Ancient Civilisations (The achievements of the earliest civilisations – an overview of when and where the first civilisations appeared and a depth study of one.)	
Geography	Rainforests	Deserts				
Art			<u>Collage</u> Jesse Treece		<u>3D Art</u> Ancient civilizations Sarcophagus (Clay & hinge)	<u>Printing</u> <u>William Morris</u>
Design Technology	Mechanisms <i>Levers, pulleys, winding mechanisms, pneumatics</i> Moving Animals	Structures <i>Stiffening, reinforcing</i> Frames and axles <i>Engineer: <u>Stephenson's</u> (Robert & George)</i>		Food <i>Healthy and varied diet</i> Making bread & soup <i>Chef: Jamie Oliver</i>		
Computing	Unit 3.1-Coding Lesson 1, 2 & 4 3 weeks Unit 4.1-Coding lessons 1, 2 & 3 3 weeks Online Reputation/Self-image & identity	Unit 3.2-Online Safety 2 weeks Unit 3.9-Presenting Managing Online Information	Unit 3.3 & 3.4-Spreadsheets & Touch Typing 7 weeks Privacy & Security/Copyright & Ownership	Unit 3.5-Email-including email safety 6 weeks Online Relationships & Bullying	Unit 3.6-Branching Databases 4 weeks Health, Wellbeing & Lifestyle	Unit 3.7 & 3.8-Simulations & Graphing 6 weeks
Music	Mama Mia (Musicals)	Songs for Christmas performances	Western Classic to 1940: Classical Period : Focus on Beethoven 'Symphony no. 5' Western Tradition & Film post 1940: Jai Ho from Slumdog Millionaire	Western Classic to 1940: Medieval & Renaissance: William Byrd (Recorder popular – lead into recorder unit) Recorder Course (Steps 1-10)	Western Classic to 1940: Medieval & Renaissance: William Byrd (Recorder popular – lead into recorder unit) Recorder Course (Steps 1-10)	Let your spirit fly (R&B) Stop! (rap)
RE	2a.1: CREATION/ FALL: What do Christians learn from the creation story?	How do festivals and family life show what matters to Jewish people?	2a.2 PEOPLE OF GOD: What is it like to follow God? Methodist Unit: Warm hearts: what does it feel like to experience God's presence?	How do festivals and worship show what matters to a Muslim?	2a.4 GOSPEL: What kind of world did Jesus want?	How and why do religious and non-religious people try to make the world a better place?
PSHE	Knowing Me, Knowing You	Anti-Bullying Jobs and Money	Keeping Healthy	Keeping Safe (Inc. CWP Preventing Early Use)	Friends, Family & SRE	Friends, Family & SRE

Reading

- I can read and understand tricky words with unusual spellings and identify the difficult bits inside them.
- I can read aloud and silently, using what I know about how words work and are built from chunks of meaning to help me understand what I am reading.
- I can apply knowledge of root words, prefixes and suffixes to read aloud and to understand the meaning of unfamiliar words.
- I can attempt pronunciation of unfamiliar words drawing on prior knowledge of similar looking words
- I can read for a wide range of purposes from a wide range of texts. (Fiction, non-fiction, poetry, reference books, text books)

V - I can pick out and talk about words and phrases from my reading that caught my attention and made me think. I am starting to explain the meaning of new words using the context.

I - I can pick up clues the writer has given me to help work out why characters do and say the things they do and I can explain how I worked this out. Justify responses to the text using the PE prompt (Point + Evidence).

P - I can say what I think is going to happen next in a story based on what has happened so far and hints the writer has given me.

E- I can identify language, structure and presentation features in a text that help me understand what the writer wants me to understand. I can see how language, structure and presentation contribute to meaning.

R- Retrieve and record information effectively from non-fiction.

S - I can identify what the main ideas in a longer text are and sum them up in a few sentences. Sequence the main events in stories, orally and in note/picture form.



A Year Three Child English

Speaking

- Sequence and communicate ideas in an organised and logical way in complete sentences as required
- Vary the amount of detail and choice of vocabulary dependent on the purpose and audience
- Participate fully in paired and group discussions
- Show understanding of the main points in a discussion
- Start to show awareness of how and when Standard English is used
- Retell a story using narrative language and added relevant detail
- Show they have listened carefully through making relevant comments
- Formally present ideas or information to an audience
- Recognise that meaning can be expressed in different ways dependent on the context
- Perform poems from memory adapting expression and tone as appropriate

Handwriting

- I can develop my use of the diagonal and horizontal strokes needed to join letters and understand which letters, when adjacent are best left unjoined.
- I can develop my use of the diagonal and horizontal strokes needed to join letters and understand which letters, when adjacent are best left unjoined. The legibility, consistency and quality of my handwriting is improving.

Writing

I can use varied and carefully selected vocabulary.
With support, I can organise paragraphs around a theme, change of time or location.
I can create settings, characters and plot in narratives.
I can use simple organisational devices in non-narrative (e.g. headings & sub-headings)
I can extend my range of sentences with more than one clause by using a wider variety of conjunctions and subordinate clauses. (including: when, if, because, although)
I use the present perfect form of verbs.
I can use adjectives, adverbs, prepositions (including phrases) and conjunctions.
I learn the grammar for Year 3 in the English Appendix. (See knowledge organiser – includes a/an, prepositions)
I choose nouns or pronouns appropriately for clarity and cohesion and to avoid repetition.
I use conjunctions, adverbs and prepositions to express time and cause.
I am beginning to use fronted adverbials, with a comma.
I can use further suffixes and prefixes and know how to add them.

I can use further suffixes and prefixes and know how to add them.
I can spell further homophones.

I can spell words that are often misspelt. (English Appendix 1)
I can place the possessive apostrophe accurately in words with regular plurals (e.g. girls', boys') and irregular plurals (e.g. children's).

Use the first 1 or 2 letters of a word to check its spelling in a dictionary. (and our spelling knowledge organiser)
Use the first 1 or 2 letters of a word to check its spelling in a dictionary. (and our spelling knowledge organiser) I can write from memory simple sentences, dictated by the teacher, that include words and punctuation taught so far.
I can use full stops, capital letters, exclamation marks and question marks consistently.

I can use full stops, capital letters, exclamation marks and question marks consistently. I use commas for lists.
I am beginning to use commas after fronted adverbials.
Use the comma to separate clauses in complex sentences where the subordinate clause appears first, e.g. While you were sleeping, I visited the Enchanted Wood. Since they had invaded Britain, the Romans had built many roads.

I can use apostrophes for:

Contracted form

Possessive singular and plural

I can use inverted commas to indicate speech.

Punctuation

Don't forget:

. ! ? , ' "

Inverted commas: To punctuate direct speech.

The teacher asked, "Where is your homework?"

"Where is your homework?" the teacher asked.

Capital letter to start speech

Inverted commas around spoken words

Commas to separate the spoken word

Punctuation before closing the inverted commas

Apostrophes:

For contractions to show letters are omitted:

Don't (do not) She'll (She will)

For singular possession, add apostrophe 's'.

The girl's bike. The dog's lead

For plural possession, if the noun ends with 's', just add the apostrophe

The girls' bike. The babies' ball.

If the noun is plural and does not end with s, we add 's to the end.

Children's ball

Remember!

Word Classes

Noun: person, place or thing

Proper Noun: names of specific people, places or things.

Always need a capital letter

Verb: action word

Adjective: describes a noun

Preposition: where or when something is (position)

Adverb: describes the verb or adjective.

Pronoun: Takes the place of the noun

Prefixes: letters added to the front of a word to change the meaning

Suffixes: letters added to the end of a word to change the meaning



Grammar Knowledge Organiser

3

Word - Articles

A - use for nouns, adverbs or adjectives which begin with consonant sounds.

A teacher A unicorn A really beautiful flower

An - use for nouns, adverbs or adjectives which begin with vowel sounds.

An invitation An umbrella An extremely cold day

PREPOSITION

A **preposition** links nouns, pronouns and phrases within a sentence.

about over from
beside during
in across



Sentence - Conjunctions & Adverbs

Subordinate Conjunctions



Joins a subordinate clause and a main clause.

Coordinating Conjunctions



Terminology

Preposition, conjunction, word family, prefix, clause, subordinate clause, direct speech, consonant, consonant letter, vowel, vowel letter, paragraph, inverted commas (or 'speech marks')



Spelling Knowledge Organiser

3 & 4

-ful
full of

-less
without

-ment
action

-ness
a state or quality

-ly
in a certain manner

-ation
an action or process

-ous
full of

accident	century	experiment	interest	particular	remember
accidentally	certain	extreme	island	peculiar	sentence
actual	circle	famous	knowledge	perhaps	separate
actually	complete	favourite	learn	popular	special
address	consider	February	length	position	straight
answer	continue	forward(s)	library	possess	strange
appear	decide	fruit	material	possession	strength
arrive	describe	grammar	medicine	possible	suppose
believe	different	group	mention	potatoes	surprise
bicycle	difficult	guard	minute	pressure	therefore
breath	disappear	guide	natural	probably	though
breathe	early	heard	naughty	promise	(although)
build	earth	heart	notice	purpose	thought
busy	eight	height	occasion	quarter	through
business	eighth	history	occasionally	question	various
calendar	enough	imagine	often	recent	weight
caught	exercise	increase	opposite	regular	woman
centre	experience	important	ordinary	reign	women

Prefixes	
Most prefixes can be added to the beginning of root words without any changes in spelling, except in-	
Suffix	Meaning
un- / dis- / mis-	Negative meanings
in-	Can mean not or 'in' / 'into'
re-	Means 'again' or 'back'
sub-	Means 'under'
inter-	Means 'between' or 'among'
super-	Means 'above'
anti-	means 'against'
auto-	means 'self' or 'own'

Before a root word starting with l, in- becomes il
illegal, illegible

in-

Before a root word starting with m or p, in- becomes im
immature, immortal

Before a root word starting with r, in- becomes ir-
irregular, irrelevant

Homophones

Two

Is a number also represented as 2.

The fox has two ears.

Too

Can mean 'in excess' or 'also'.

I ate too much!

To

Is used for everything else!

I love to swim!

their

there

they're

AFFECT

EFFECT

Affect vs. Effect

hear

here

write it right

Which

Is an interrogative pronoun used to identify a person or thing.

Which dragon is yours?

Witch

Is a female sorcerer or magician.

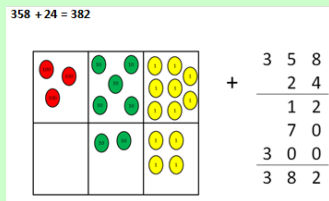
Being a mathematician **Number & Fractions**

- Read and write to 1000 in numerals and words.
- Compare and order numbers to 1000
- Count in multiples of 4, 8, 50 and 100.
- Represent and estimate numbers using different visuals
- Recognise place value of each digit in 3 digit numbers
- Partition 3 digit numbers into different combinations of hundreds, tens and ones
- Add and subtract mentally 3-digit numbers and ones / tens / hundreds
- Add numbers with up to 3-digits using formal written methods
- Subtract numbers with up to 3-digits using formal written methods
- Recall doubles of all numbers to 100 with units digits 5 or less, and corresponding halves (E.g. Double 43, double 72, half of 46)
- Estimate the answer to a calculation
- Use the inverse to check calculations
- Solve one step, then two step number problems
- Solve missing number problems
- Recall and use multiplication and division facts for 3, 4 and 8 times tables verbally and in written form
- Solve problems involving multiplication and division using mental and written methods including 2-digit number with a 1-digit number
- Solve missing number problems that involve multiplication and division using written methods
- Count up and down in tenths
- Recognise that tenths arise from dividing an object into ten equal parts
- Divide one digit numbers into tenths and quantities by 10R
- recognise, find and write fractions of shapes and a discrete set of objects using unit and non-unit fractions
- Recognise, find and write fractions of numbers using unit and non-unit fractions
- Add and subtract fractions with the same denominator within one whole ($5/7 + 1/7 = 6/7$)
- Compare and order unit fractions and fractions with the same denominators

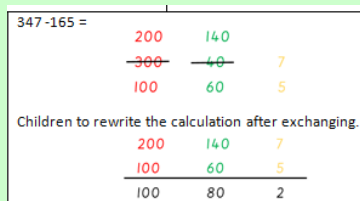


A Year Three Child Mathematics

Addition strategies



Subtraction strategies



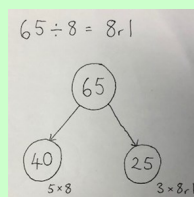
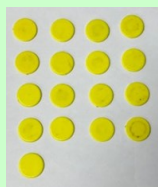
Multiplication strategies

$13 \times 4 =$

X	10	3
4	40	12

$$\begin{array}{r} 24 \\ \times 4 \\ \hline 80 \\ 16 \\ \hline 96 \end{array}$$

Division strategies



Being a mathematician **Measurement, geometry & statistics**

- Measure and compare length in any direction (m/cm/mm)
- Add and subtract length
- Measure the perimeter of simple 2-D shapes
- Measure and compare mass (kg/g)
- Add and subtract mass
- Measure and compare volume/capacity (l/ml)
- Add and subtract volume/capacity
- Add and subtract amounts of money using both £ and p
- Tell and write the time to the nearest minute from an analogue clock on a 12-hour clock
- Tell and write the time to the nearest minute from an analogue clock on a 24-hour clock
- Tell and write the time using Roman numerals I to XII
- Record and compare time in seconds, minutes and hours
- Use specific vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight
- Know the number of seconds in a minute and the number of days in each month, year and leap year
- Compare durations of events
- Recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn
- Interpret data using bar charts, pictograms and tables to solve problems
- Present data using bar charts, pictograms and tables to solve two step problems
- Draw 2-D shapes and make 3-D shapes using modelling materials
- Recognise 3-D shapes in different orientations and describe their properties
- Identify right angles; compare other angles to being greater or smaller than a right angle
- Identify horizontal and vertical, parallel and perpendicular lines

For more detail on our mathematical strategies, please see our calculation policy.

Perimeter

Perimeter = distance around the edge of a shape.

$$4\text{cm} + 3\text{cm} + 4\text{cm} + 3\text{cm} = 14\text{cm}$$

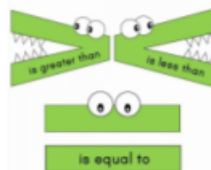


Place Value

Hundreds	Tens	Ones	decimal	tenths
5	4	1		

Numerals: 1, 20, 50, 100, 550

Words: four, seven, eight, thirty, forty, fifty, ninety, hundred



2D Shapes

Name of shape	No. of sides
Quadrilateral	4
Pentagon	5
Hexagon	6
Heptagon	7
Octagon	8

Roman Numerals

I	2	3	4
I	II	III	IV
5	6	7	8
V	VI	VII	VIII
9	10	11	12
IX	X	XI	XII

Measure

1 centimetre	10 millimetres
1 metre	100 centimetres
1 litre	1000 millilitres
1 kilogram	1000 grams

Equivalent fractions



Fractions with different numerators and denominators that represent the same value.

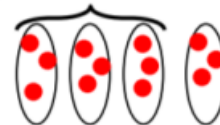
Finding fractions of numbers

Divide by the denominator and multiply by the numerator

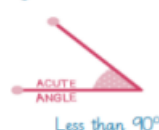
$$\frac{3}{4} \text{ of } 12$$

$$12 \div 4 = 3$$

$$3 \times 3 = 9$$



Angles



Fractions

$$\frac{3}{5}$$

← numerator
← denominator

Adding fractions

$$\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$$

If the denominator is the same, just add the numerators

3D Shapes



square-based pyramid



triangular prism



cone



cuboid



pyramid



cube

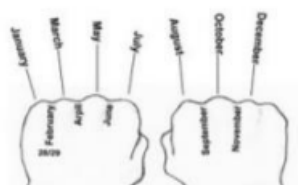


cylinder



sphere

Time fact



$$365 \text{ days} = 1 \text{ year}$$

$$366 \text{ days} = 1 \text{ leap year}$$

$$60 \text{ seconds} = 1 \text{ minute}$$

3

Maths

Lines

Horizontal



Vertical



Perpendicular



Parallel



Quadrilaterals

Parallelogram



Trapezium







Rhombus



Kite



<p>LKS2 Physics Light and Dark</p>  <p>How far can you throw your shadow?</p>	<p>To be secure in this unit you must:</p> <p>Knowledge:</p> <ul style="list-style-type: none">• Know what dark is (the absence of light). Know that light is needed in order to see.• Know that light is reflected from a surface.• Know the danger of direct sunlight and describe how to keep protected.• Recognise that shadows are formed when the light from a light source is blocked by an opaque object.• Find patterns in the way that the size of shadows change.	<p>Skills:</p> <ul style="list-style-type: none">• Asking relevant questions and be encouraged to re-search the answers themselves.• Presenting findings in a table or graph.• Setting up a fair test to see what happens when there is more than one source of light and record findings.• Looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.	
Vocabulary		Sticky Knowledge	Interesting Books
Reflection	A reflection occurs when a ray of light hits a surface and bounces off.	<ul style="list-style-type: none">❑ Black and dark objects absorb light and heat whilst white or light objects reflect it.❑ Some objects like glass are transparent which means that light can shine through them.❑ Our main source of light on Earth comes from the Sun. A ray of light travels very fast.❑ Darkness is made by blocking light from the sun or some other source of light, which makes shadows. The Sun and other stars, fires, torches and lamps all make their own light and so are examples of sources of light. 	
Shadows	A shadow is formed when an object blocks out the light. The object must be opaque or translucent to make a shadow.		
Light Source	The main light source for Earth is the Sun. Some other luminous objects give out light, for example, torches, candles and lamps.		
Opaque	<i>Opaque objects do not allow light to pass through them, in most cases creating a shadow.</i>		
Refraction	It is the change of direction of a light ray as it passes through different surfaces, for example, from air to water.		
Persicope	A periscope is an instrument people use to look at things from a hidden position.		
Nocturnal	If something is nocturnal, it belongs to or is active at night. For example, bats and owls.		
Orbits	An orbit is a repeating path that one celestial body takes around another.		
Convex	Convex lenses, also called positive lenses, are lenses that curve outward from the edges to the centre.		

LKS2 Geography Rainforests



At the end of this unit you must:

Knowledge

I know what is meant by tropics.

I can identify the position and significance of Northern Hemisphere and Southern Hemisphere.

Know the names of four countries and four cities from the Northern and Southern Hemisphere.

I can locate the equator and know what physical things are there.

Know the names of and locate at least eight major capital cities across the world.

I know the names of and can locate some of the world's deserts.

Describe and understand a vegetational belt (Amazon Rainforest).

Label layers of a rainforest and know what deforestation is. (vegetation belt)

Understand geographical similarities and differences through the study of human and physical geography of a region in South America (small region in Brazil – Yanomami Tribe).

I can identify key features of the South American rainforest.

Skills:

Interpret a range of sources including maps, diagrams, globes, aerial photographs and GIS.

Use a wider range of maps (including digital), atlases and globes to locate countries and features studied.

Use maps and diagrams from a range of publications e.g. holiday brochures, leaflets, town plans.

Use maps at more than one scale.

Recognise that larger scale maps cover less area.

Recognise patterns on maps and begin to explain what they show.

Use the index and contents page of atlases.

Label maps with titles to show their purpose

Recognise that contours show height and slope.

Use 4 figure coordinates to locate features on maps.

Create maps of small areas with features in the correct place.

Link features on maps to photos and aerial views.

Use the eight points of a compass, four figure grid references, symbols and key (including OS) to build their knowledge of the United Kingdom and wider world.

Vocabulary

Sticky Knowledge

Rainforest

Thick forests found in wet areas of the world are called rainforests. Tropical rainforests occur around the equator in the hot, wet region called the tropics.

Vegetation belt

Vegetation belts are regions of the world that are home to certain plant species determined by the climate.

Climate

Climate is the average weather conditions in a place over 30 years or more.

Deforestation

Deforestation is the cutting down of forests or groups of trees which is then turned into non-forest use.

Biome

Biomes are regions of the world with similar climate (weather, temperature) animals and plants.

Equator

The Equator is an imaginary line that is drawn around the middle of the Earth to divide it into the Northern and Southern Hemispheres.

Tropics

The tropics are the region of the Earth near to the equator and between the Tropic of Cancer in the northern hemisphere and the Tropic of Capricorn in the southern hemisphere.

Yanomami Tribe

The Yanomami are the largest relatively isolated tribe in South America. They live in the rainforests and mountains of northern Brazil and southern Venezuela.

Settlement

Settlements are places where people live and sometimes work.

Land use

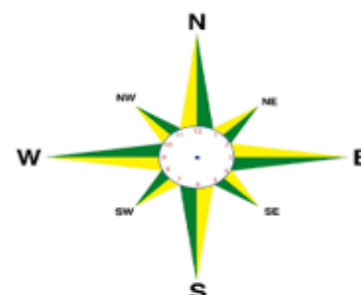
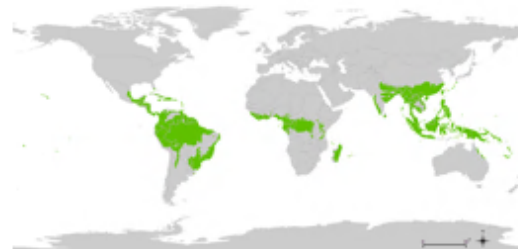
Function of land – what land is used for.

The Amazon Rainforest is the world's largest tropical rainforest. It is located in northern South America. The rainforest covers some 6,000,000 square kilometres of land surrounding the Amazon River and its tributaries.



The Amazon Rainforest lies in parts of nine countries: Brazil, Ecuador, Venezuela, Suriname, Peru, Colombia, Bolivia, Guyana, and French Guiana. However, most of the rainforest is in Brazil, where it makes up about 40 percent of the country's total area.

The Amazon Rainforest has the richest and most varied plant and animal life in the world. It contains several million species of plants, insects, birds, other animals, and other living things.



LKS2 Aut 1 A Mechanisms



To be secure in this unit you must:

Design:

- Use ideas from other people and designs when planning and designing.
Produce a plan and explain the design with reasons why it meets the criteria.
Communicate ideas in a range of different ways including working drawings and annotation on drawings to generate, develop and extend ideas.

Make:

Follow a step-by-step plan, choosing the right equipment and materials.
Select materials and components appropriately from a wide range based on their appearance and function including construction materials, textiles and ingredients.

Evaluate:

Evaluate products for both their purpose and appearance.
Evaluate and suggest improvements for design.

Technical Skills:

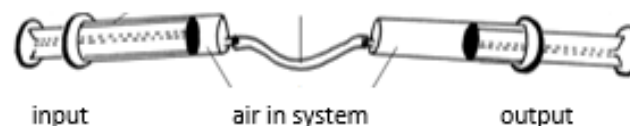
Mechanisms:

- Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).

Vocabulary

mechanism	a device used to create movement
pneumatic	a system that works using gases (air)
syringe	a tube with a nozzle and plunger
plunger	a rubber suction cup and handle
system	a set of related parts and components that have an input, process and output.
process	
compressed	something squashed, such as air in a tube
input	what goes into a system
output	what comes out of a system
inflate	fill something with air or gas to make it swell up
deflate	removing air/gas to allow an object to shrink
pressure	the force used on an object or surface

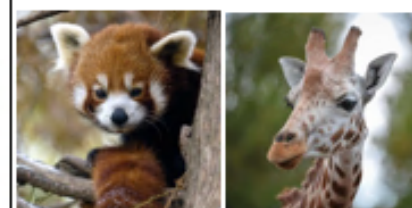
Sticky Knowledge



Key Experiences

- Identify the user, purpose and function from a letter from Chester Zoo
- Explore existing products that work with air; they will sketch these products and write an explanation for how they work.
- Attempt to move a book across a table using 2 syringes and tubing. They will attempt to lift a book off the table using a syringe, tubing and a balloon.
- Sketch and annotate their own design based on animals found in Chester Zoo.
- Write step-by-step instructions for making a moving animal
- Evaluate their product with reference to the design brief.

Inspiration



Design Brief:
Design, make and evaluate a toy that includes a part that moves using a pneumatic system.



Learning Qualities

Class Three

The following outlines the key year group skills that we are committed to developing which will help our children to become successful life long learners. It is helpful to see these as 'Learn to Learn' skills.

Gaining Independence

- Begin to take increased responsibility for organising their own things, including resources and belongings
- Welcome opportunities to take an added responsibility
- Work within a time frame and prioritise the most important things that need doing
- Set and review learning targets
- Explain who helps them learn and why
- Not put off by changes to normal routine

Becoming Collaborative

- Work harmoniously and constructively with others in joint activity
- Make sure that everybody takes a turn when speaking
- Give feedback to others in a group on their performance
- Work readily in different teams
- Listen to and follow instructions independently
- Take on a specific allocated role in a group
- Respect and tolerate values and beliefs of others in a joint activity
- Communicate capably as a team member

Building Resilience

- Begin to talk about 'Growth Mindset' and 'Fixed Mindset'
- Keep emotions in check when tasks get tough
- Enjoy challenges, especially open ended or deeper thinking ones
- Try different ways to solve a problem
- Start to understand the power of 'yet'
- Know we can learn from mistakes and recognise

Developing Confidence

- Work harmoniously and constructively with others in joint activity sharing ideas with confidence
- Communicate capably as a team member
- Describe own strengths and weaknesses
- Say who or what helps them learn; and how and why they know
- Understand the factors that stop them from learning effectively

Being Inquisitive

- Devise sensible questions to ask different people
- Suggest a question which can be investigated
- Follow up a question to gain clarification
- Show thinking in different ways, e.g. mind maps
- Use more than one piece of evidence to support findings
- See the relationship between things and use to explain to others
- Sort information and choose what is most relevant