1st Grade Curriculum

Math Objectives & Learning Targets

Number sense	• Count in steps of 2, 3, 5, & 10 • 1-10 more or less	• Compare and order numbers 1-100 • Use ordinal numbers • Read and write numbers up to 100	• Recognise place value in two digit numbers • Use place value to solve problems.
Number calculations	• Number bonds and number sentences for 1-20 • Work towards number bonds for 100. • Add and subtract numbers with up to two digits • Understand the communicative nature of addition • Inverse operations to find missing numbers • One-step written problems using addition and subtraction	• Multiplication facts for 0, 1, 2, 10 • Division facts for 0, 1, 2, 10 • Identify double facts • Numbers sentences using the ×), division (÷) and equals (=) signs • The communicative nature of multiplication • Problems involving multiplication and division, using manipulatives	• Addition, subtraction, division and multiplication to predict the next numbers in a patter • Create patterns involving number, symbols or colours • Recognize halves and wholes • Recognize quarters • 1/2, 1/3, 1/4, 3/4 of a quantity.
Measurement	• Arrange and compare different objects and lengths • Estimate and measure length in CM and non-standard units. • Estimate and measure temperature using C˚	• Compare the mass of two objects. • Estimate and measure mass in kg and g. • Use simple scales to measure kg	• Read and a write the date • Tell the time to within 5 minutes, and use half past, quarter to/ past • Know the number of minutes in an hour
Money	• Find different combination of coins that equal 100	• Problems involving simple amounts of money and change	• Introducing dollars, pounds and Czech crowns
Geometry	• Identify standard 2D shapes and relate them to the number of the sides • Create simple 2D shapes from smaller shapes	• Identify standard 3D shapes and relate them to the number of faces • Find 2D shapes on the faces of 3D shapes	• Mathematical terms to talk about direction, position and rotation • Recognise and create patterns using geometric shapes

English Language Objectives & Learning Targets

Punctuation	• Capital letters and full stops • Question marks • Exclamation marks	• Commas for a list • Apostrophe's for omission • Articles: a, an, the	• Types of sentences: declarative, interrogative, imperative, exclamatory
Grammar	• Present simple • Present simple progressive • Simple past • Simple past progressive • Write in the past, present and future.	• Commands using the imperative • Subject/verb agreement • Parts of speech: verbs, adjectives and pronouns	• Proper nouns • Common nouns • Plural nouns • Irregular nouns
Writing	• Form upper and lower case letters • Start questions with 'Wh' words and How	• Onomatopoeia with an exclamation mark • Prepositional phrases • Alliteration	• Expanded noun phrases • Temporal connectives • Complex sentences using 'because
Spelling	• Words with beginning digraphs SH, CH, TH, WH: chin, ship, chip, that, this, when, chat, shop • Long vowel words with “bossy e” (CVCe pattern): make, same, name, made, kite, five, hike, home, joke, hope, wide, smoke, rake, use, came, cute, June • Words with ending blends: ask, fast, raft, nest, melt, tusk, best, just, soft, milk, ring, sang, song, jump, lamp, limp, ant, sand, yank, dent, junk, pink, bank, nest	• Words with beginning blends: drum, stem, glob, flag, brush, twin, drip, brag, clap, frog, flip, plan, slip, swim, snap, spot, skip • Words with ending digraphs (SH, TH, WH, CH): wish, cash, blush, mash, rich, such, moth, bath, with, math • Words with AR & OR (r-controlled vowels): corn, for, sort, part, farm, yard, bark, dark, arm, barn, tart, pork • Words with QU: quack, queen, quit, quiz, quick, quest	• Words with CK: Check, thick, crack, click, break, seek, creek, beak, soak, took • Word play & chunk spelling: sorts 6-21 • Dolch sight vocabulary: Pre-primer, primer, 1st Grade • Compound nouns: noun + noun (football) adjective + noun (whiteboard) • Vowels-consonants, long and short vowels, bossy ‘e’ for long vowels, consonant blends and digraphs

Science Objectives & Learning Targets

Plants & Animals	• Classifying • Characteristics	• Food chain • Habitat	• Life cycles of plants and animals
The Water cycle	• Describe the water cycle using the correct terminology • Label the stages of the water cycle	• The importance of the water cycle to the environment and earth • How the water cycle helps to sustain the life of living things in nature • What happens if the water cycle gets interrupted?	• How water different parts of the world consume, gather or produce water for living? In the desert? On the Plateau, etc.? • Discuss water management and our responsibility to conserve water • Discuss ways to conserve water by recycling, reusing and filtration
The properties of matter	• The differences between solids and liquids • Where materials can be found in the environment • Melting and dissolving using everyday examples.	• Experiment and identify a variety of materials and determine which materials will and won't dissolve in a liquid • Separate undissolved solids from a solution • Turn salt water into drinking water.	• Identify significant temperatures such as freezing and boiling points. • Use a thermometer to record and measure changes in temperature in various states of matter and in different situations • Record results on a graph from experiments

Social Studies Objectives & Learning Targets

Community	• Define a community and who is in it • Jobs in a community • Ways to help a community	• Prepare a time capsule for artefacts • Prepare a personal timeline • Compare own life to grandparents' lives	• Find the Czech Republic on a map • Find country of origin on the map • Show and tell about home country
Egypt	• Find Egypt on the map • Find Egypt on a timeline of world events • Sources historians use to find out about Egypt • Use sources to make deductions	• Everyday life in Ancient Egypt • Social hierarchy from the slaves to the pharaoh • Compare the houses, food, clothing and jobs of Ancient Egypt to the present day	• Map the river Nile • Discuss why Egyptians lived by the river Nile • Desert terrain and climate • Compare life in a hot place with life in a snowy place
Islands & Map skills	• Study the island of Madagascar • Create an imaginary island • Compare a snowy island with a tropical island • Compare local climate with a place in Africa	• Different ways to rule an island • Necessary jobs on an island • Land use • Human activity • Services on an island • Geographical features of an island	• Follow simple compass directions • Use and read basic map symbols • Follow directions on a map in the local area • Find features on aerial photographs, plans and maps

Technology (STEM) Objectives & Learning Targets

Design	• Design purposeful, functional, appealing models/products for themselves and other users based on design criteria • Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology
Select	• Select from and use a range of tools and equipment to perform practical tasks • Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
Build	• Build structures, exploring how they can be made stronger, stiffer and more stable • Explore and use mechanisms [for example, levers, sliders, wheels and axles]
Evaluate	• Evaluate their ideas and models/products against design criteria • Adjust and rebuild to improve their models/products • Explore and evaluate a range of existing products

ICT Objectives & Learning Targets

Coding & controlling	• Programme Bee Bots and Blue Bots to move to places on a floor mat • Programme Bee Bots and Blue Bots to draw simple shapes • Use CodeMonkey® to create adventures, games and quizzes (Introducing students to the language of coding.)
Internet safety	• Understand the different parts of a computer and how they link to the Internet • How to turn appliances on and off safely • Asking for permission. • Safe searches • Viruses and unsafe websites • Sharing personal information • Online ethos
Multime-dia items	• Save pictures, take and download photographs, insert images, edit the size and rotation of an image • Create an image using a computer art program • Make recordings, store them and use a playback feature, compose simple music sequences using an online programme • Load a sequence of images to a simple online movie maker to create a short film (add background song)
Publishing	• Use Keyboarding Without Tears®. • Use simple authoring tools to create own content and begin to add basic effects to sections of text, changing the font size and colour • Word processing, using text boxes, word art, and learn how to cut, copy and paste • Create basic presentations

2nd Grade Curriculum

Math Objectives & Learning Targets

Number sense	• Count in multiples of 4, 25, 50, 100 • 1, 10 or 100 more or less	• Compare and order numbers 1-1000 • Read and write numbers up to 1000	• Recognise place value in three digit numbers • Use place value to solve problems
Number calculations	• Add and subtract numbers mentally, including: HTU+U, HTU+T and HTU+H • Add and subtract numbers with up to three digits, using formal written methods • Use the inverse relationship between addition and subtraction to solve missing number problems • Use a part-whole bar model or a comparison bar model to represent an addition or subtraction situation • One and two step word problems involving addition and subtraction	• Recall and use multiplication and division facts for the 3, 4, 5, 6 multiplication tables • Understand and use the commutative and distributive properties of multiplication • Multiply and divide numbers by 10 & 100 • One step word problem involving multiplication • Create and continue number patterns	• Recognise that tenths arise from dividing an object into 10 equal parts and count up and down in tenths; add and subtract tenths • Recognize and name a unit fraction up to 1/12 • Compare and order fractions with the same denominators • Divide whole numbers using simple fractions • Recognise simple equivalent fractions of 2/4 and 1/2 • Find the fraction that must be added to a given fraction to make a whole • Add and subtract fractions with the same denominator within one
Measurement	• Choose an appropriate unit of measure, compare, add and subtract: lengths • Measure the length of a line segment in (m/cm) • Draw a line segment of a given length • Measure the perimeter of simple 2-D shapes	• Measure and compare mass (g/kg) (Digital scales to the exact gram, spring scales to the nearest 100 kg) • Add and subtract mass • Measure and compare, capacity (l/ml) • Add and subtract mass	• Tell and write the time from an analogue clock to the nearest 5 minutes • Estimate and read time with increasing accuracy to the nearest minute • Record and compare time in terms of seconds, minutes and hours • Use a.m. and p.m. in telling time • the concept of 12 - 12/ midnight & noon)

Math Objectives & Learning Targets			
Money	• Read and write an amount of money in decimal notation • Count and tell the amount of money in a set of notes and coins	• Change dollars to cents and vice versa. • Compare amounts of money in dollars and cents • Give change for a purchase to nearest 10.	• Find different combinations of coins that equal the same amounts of money • One-step word problem involving money
Geometry	• Identify a line segment and a curve • Identify a semicircle and quarter circle • Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry • Draw 2-D shapes	• Recognise 3-D shapes in different orientations and describe them (flat and curved surfaces) • Identify the faces, edges, and vertices of a solid object in the shape of a cube, cuboid, cone, cylinder, or sphere	• Identify how many angles in a plane shape • Continue a pattern of plane (2D) or solid (3D) shapes according to one or two of these attributes: shape, size, color, and orientation
Statistics	• Interpret and present data using bar charts • Read and interpret a picture graph or bar chart with a scale	• Make a picture graph with a scale	• One-step and two-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in bar charts and pictograms and tables

English Language Objectives & Learning Targets

Punctuation	• Revision: complete sentence punctuation, commas in lists, apostrophe for contractions	• The possessive ('s) for singular nouns • The possessive ('s) for irregular plurals and plural nouns	• Comma for complex sentences involving main and sub clauses • Begin to use inverted commas/speech marks for direct speech
Grammar	• Revision: nouns and proper nouns • Identify word classes: pronouns, noun, verb, adjective, adverb and conjunctions • The subject of the sentence • Pronouns, nouns and proper nouns can all be the subject of a sentence	• Possessive adjectives: *my, your, his, hers, its, ours, theirs* • Reflexive pronouns • "a" and "an" • Irregular plural nouns • Nouns that appear only in the plural form • Compound nouns, countable nouns, uncountable nouns and abstract nouns	• Subordinate conjunctions to create a complex sentence: *when, if, that, because* • Coordinating conjunctions to create a compound sentence: *or, and, but (FANBOY)* • Conjunctions: *when, before, after, while, so, because* • Determiners/generalisers: most, some, all, many, much, more
Writing	• Plan, draft, edit & publish • Settings, characters & plot • Non-fiction headings and subheadings	• Compound sentences using: *and, but, for, yet, nor, so, or* • Complex sentences using: *until, although, even if* • Fronted adverbial phrases • Prepositions: *before, after, during, in, because of* • Adverbs: *then, next, soon*	• Transitional words for time (during, before, after, etc.) • Synonyms for verbs such as "said" *or "go"* • Onomatopoeia and add an exclamation mark. – *Ouch!* • Alliteration (verb + noun): *dancing dandelions* • Similes using "like"
Spelling	• Words with beginning digraphs SH, CH, TH, WH: chin, ship, chip, that, this, when, chat, shop • Words with beginning blends: drum, stem, glob, flag, brush, twin, drip, brag, clap, frog, flip, plan, slip, swim, snap, spot, skip, stop	• Long vowel words with "bossy e" (CVC): make, same, name, made, kite, five, hike, home, joke, hope, wide, smoke, rake, use, came, cute, June • Words with ending blends: ask, fast, raft, nest, melt, tusk, best, just, soft, milk, ring, sang, song, jump, lamp, limp, ant, sand, yank, dent, junk, pink, bank, nest	• Words with AR & O: corn, for, sort, part, farm, yard, bark, dark, arm, barn, tart, pork • Words with CK: Check, thick, crack, click, break, seek, creek, beak, soak, took • Words with QU: quack, queen, quit, quiz, quick, quest • Dolch Sight Words: Pre-primer, Primer, 2nd grade lists

Science Objectives & Learning Targets

The food chain	• Organisms in a food chain • A food chain starts with the sun, then plant life and ends with an animal • The sun as the source of energy for food chains • Label the food chain	• Producers, consumers, decomposers • The food chains importance to life and what would happen if it broke? • How the food chain changed over time	• Herbivore, carnivore, and omnivore • Predator & prey • Defensive traits such as camouflage, countershading, schooling and changes in external anatomy
Rocks & minerals	• The Difference between rocks and minerals • Rock formation and the cycle of a rock • Classify rocks and minerals by their properties	• The formation of sedimentary, igneous, and metamorphic rocks • Uses for certain rocks, including filtration • The vinegar test to determine if a rock is made of calcite	• Identify soil and its composition • Use a magnifying glass to look at various types of soil • Identify soil according to color, texture, capacity to hold water and particle types
Force & motion	• Observe, describe and compare human movements • The movement of objects in terms of speed and direction • The forces behind a variety of moving toys & objects	• What makes an object travel fast or slow? • What makes an object stop? Why? • Ways to make an object stop or move faster/ slower • Can objects change form or temperature after or during movement? Why and how?	• How friction, gravity, and slope play a role in movement. • The science wheel: Observe, predict, record, and hypothesize • How a spring can measure force and how to record it using newtons • Water and air resistance

Social Studies Objectives & Learning Targets

Global Challenges	• Timeline of the human race's time on Earth compared to other species, and global warming as a modern crisis • Why some companies or people may deny climate change is important. • List of major causes of global warming due to human activity. When did the activity start? • How human activity affects the environment	• The ways citizens can get governments to listen to their concerns • Poster for a female/male environmentalist • Connect ways of saving the environment with ways of saving money (cutting down on waste, reusing, recycling, turning off lights, etc.)	• Places on the globe most at risk of global warming (caps melt - deserts - sinking places/ floods) • The polar regions on the globe • Predict what will happen to animals in the Polar regions if global warming melts the ice • Examples of solutions happening around the world
Inventions	• Timeline of major inventions and concepts • What's an invention? What's a concept? • Famous female and non-white inventors • Advertisements for famous gadgets. Discussion whether adverts always tell the truth and their motivation for exaggeration • Create advertisements for products using hyperbole. How can you tell the truth and lie at the same time?	• Inventions on trial. Discussion as to whether certain inventions have made society worse or better • Children choose an invention they think is the most important. They have to present and argue for their invention to be voted the most game-changing. What is the line between fact and opinion?	• Investigate major inventions. Identify what caused the need for that invention and the effect of that invention having been made, e.g., the printing press: time saving/spread of ideas • Children create an invention of their choice and say how it would benefit the world • Timeline of an invention from idea to product
Japan	• Timeline of Japan • Compare events in Japanese history with Europes • Compare folktales from Japan and the Czech Republic • Life during the time of the Samurai • Tomoa Gozen: Japan's first female Samurai • The art works and installations of Yayoi Kusama	• Locate the Czech Republic, Prague, and major cities. • Locate Japan, Tokyo, and major Japanese cities • Take weather measurements. Compare the weather for CZ with Japan • Compare the difference between a village, town and city • Use 2 figure grid references for a physical map	• The causes of earthquakes and volcanoes. What geographical features are created by volcanoes and earthquakes? • Map the ring of fire • Different ways mountains are formed • Map the largest mountain ranges in the world • Contour lines

Technology (STEM) Objectives & Learning Targets

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Select	• Select from and use a range of tools and equipment to perform practical tasks • Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
Build	• Build structures, exploring how they can be made stronger, stiffer and more stable • Explore and use mechanisms [for example, levers, sliders, wheels and axles]
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ICT Objectives & Learning Targets

Coding & controlling	• Programme Bee Bots and Blue Bots to move to places on a floor mat • Programme Bee Bots and Blue Bots to draw simple shapes • Use CodeMonkey® to create adventures, games and quizzes (Introducing students to the language of coding.).
Internet safety	• Understand the different parts of a computer and how they link to the Internet • How to turn appliances on and off safely • Asking for permission. • Safe searches • Viruses and unsafe websites • Sharing personal information • Online ethos
Multime-dia items	• Save pictures, take and download photographs, insert images, edit the size and rotation of an image • Create an image using a computer art program • Make recordings, store them and use a playback feature, compose simple music se-quences using an online programme • Load a sequence of images to a simple online movie maker to create a short film (add background song)
Publishing	• Use Keyboarding Without Tears®. • Use simple authoring tools to create own content and begin to add basic effects to sections of text, changing the font size and colour. Word processing, using text boxes,

3rd Grade Curriculum

Math Objectives & Learning Targets

Number sense	• 1000 more or less • Count in multiples of 6, 7, 9, 25 and 1000	• Compare and order numbers beyond 1000 • Place value of each digit in a four-digit number	• Round any number to the nearest 10, 100 or 1000 • Calculate the difference between negative and natural numbers
Number calculations	• Add and subtract numbers with up to 4 digits • Inverse operations to check answers • Addition and subtraction two-step problems • Rounding as a strategy for mental arithmetic • Multiplication and division facts for multiplication tables up to 12 × 12 • Multiply two-digit and three-digit numbers by a one-digit number • Multiply single and double digit numbers by 10 or 100 • Divide 100s and 1000s by 10	• Decimal equivalents of any number of tenths or hundredths • Recognise and write decimal equivalents to ¼, ½ and ¾ • Dividing a one or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • Round decimals with one decimal place to the nearest whole • Compare numbers with the same number of decimal places up to two decimal places	• Count up and down in hundredths • Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten • Recognise and show, using diagrams, families of common equivalent fractions and convert the fraction into the simplest form • Add and subtract fractions with the same denominator • Add and subtract fractions with unlike denominators • Compare fractions with different denominators
Measurement	• Convert measurements into mm, cm, m and km • Add and subtract different lengths and distance • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimeters and meters • The area of rectilinear shapes by counting squares	• Convert grams into kilograms and vice versa • Add and subtract different weights • Convert liters into milliliters and vice versa • Add and subtract different volumes and capacities	• Convert between different units of measure (e.g. Hours to minutes) • Convert time between analogue and digital 12 and 24-hour clocks • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days

Math Objectives & Learning Targets

Money	• Simple money problems involving fractions and decimals to two decimal places	• Money problems using Euros/Dollars/Pounds and Czech crowns	• Role play shopping situations involving giving change
Geometry	• Horizontal and vertical lines • Perpendicular and parallel lines • Semicircle and quarter circle. • Describe positions as coordinates in the first quadrant • Plot points and draw sides to complete a polygon • Describe movements between positions as translations of a given unit to the left/right and up/down	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on properties and sizes • Identify lines of symmetry in 2-D shapes presented in different orientations • Complete a simple symmetric figure with respect to a specific line of symmetry	• Acute and obtuse angles • Compare and order angles by size • Recognise that two right angles make a half tur, that three right angles make a three quarter turn and that four right angles make a complete turn
Statistics	• Interpret and present bar charts and line graph • Create questions and answers for a bar graph	• Comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	• Take surveys, gather information, make tally tables, draw bar graphs using the information gathered

English Language Objectives & Learning Targets

Punctuation	• Capital letters for proper nouns: names, places, days of the week, months, titles and languages • Possessive apostrophes for regular singular and plural nouns	• Inverted commas for direct speech – sentence punctuation, new lines for new speakers, and adverbs for ways of speaking • Commas for addresses and dates	• Fronted adverbials followed by a comma begin to use inverted commas/ speech marks for direct speech • Paragraphs to group basic pieces of information that are related
Grammar	• Present perfect and past perfect • Past perfect continuous: *"had" + past participle + "-ing"* • Compound sentences using all the coordinating conjunctions reflexive pronouns	• Modal verbs: *could, should, would* • Possessive pronouns: *yours, mine, theirs, ours, hers, his, its* • Specific determiners: *their, whose, this, that, these, those, which*	• The difference between a preposition and an adverb • The difference between countable nouns (many) and uncountable nouns (much) • Prepositions: *at, underneath, since, towards, beneath, beyond*
Writing	• A sentence that gives three actions: *Tom slammed the door, threw his books on the floor and slumped to the ground* • Expanded noun phrases • Complex sentences using subordinating conjunctions	• Powerful verbs: synonyms of words to uplevel sentences • Informal and formal language • Repetition to persuade • Pronoun or proper nouns in sentences for cohesion	• Similies • Idioms • Hyperbole • Personification • Alliteration • Onomatopoeia • Metaphors
Spelling	• ar, are, air words: part, dark, sharp, air, care, pare, pear, chair, square, where • er, ear, eer words: her, perch, herd, fear, clear, year, deer, steer, cheer, earth, heard • ir, ire, ier words: girl, dirt, first, swirl, thirst, fire, wire	• or, ore, oar words: form,horn, corn, more, wore, board, roar, oar, work, word, world, worm • ur, ure, words: burn, hurt, curl, burst, surf, were, nurse, purse, sure, cure, pure • kn, wr, gn words: knife, knead, know, knot, knit, write, wrap, wrist, wrong, gnat, gnaw, gnome	• Hard and soft c: card, city, center, circle, cell, code, cat, cake, cart, • Hard and soft g: gave, goose, get, gap, gas, golg, got, gust, giant, gem, gym, germ • Compound words • ei or ie • Plural nouns of words ending in "o" or "y" • Dolch 3rd grade sight words

Science Objectives & Learning Targets

Adaptation & habitat	• Define habitat • Animal's need for air, food, water, shelter and space • Characteristics of different habitats (grassland, wetland, desert, Arctic tundra, and forests) • Classify animals according to their habitat • Recognize an animal has everything it needs from its habitat • Understand why certain animals need to live in a given area • Importance of preserving each habitat • Perform the bird beak experiment to demonstrate bird adaptations	• On a world map locate different habitats • Research, write and report on a habitat by identifying global position, weather conditions, typical vegetation and animals for the selected region • Introduce an animal and have the children figure out the adaptation features of the animal. • Do humans need to adapt? If so, how and why?	• Define adaptation and recognize every animal has special adaptation features to survive in its habitat • Discuss behavioral and structural adaptations • Identify specific animals and specific features, which help the animal adapt to its habitat ex. camouflage, fur, claws, and teeth, etc. • What happens if an animal doesn't adapt? • Identify how animals adapt to seasonal and climate changes • Physical, and chemical adaptations • How an animal would need to adapt if it moved to a different habitat
The Solar System	• Understand what comprises our solar system • The planets and their properties and distances from the sun • The orbits of Earth, moon, and the Sun • The movement of the Earth, and other planets, relative to the Sun in the solar system	• The movement of the Moon relative to the Earth • Describe the Sun, Earth and Moon as approximately spherical bodies • The idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	• Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
Light & sound	• we need light to see and that light comes from many sources, including the Sun • Light travels in a straight line • Refraction • The opacity of different materials and their uses • The terms reflect and absorb	• Shadows form when light traveling from a source gets blocked by an object • The position of the Earth/Sun effects the direction and length of shadows • Track a shadow • Can an object have more than one shadow? How?	• Vibrations create sounds and travel through a medium to the ear • The pitch of a sound and features of the object that produced the sound • The volume and the strength of the vibrations • Pitch and volume • Sounds get fainter as the distance from the sound source gets greater

Social Studies Objectives & Learning Targets

Explorers	• Timeline of explorers • Cause and effect timeline for major explorers • Why people explore • The exaggerations of Marco Polo. Can you trust travelers' tales? • Research a famous explorer • Famous female explorers: Isabella Bird, Gertrude Bell, Mary Kingsley, Nellie Bly. • Matthew Henson: discussion of why Henson's achievement of reaching the North Pole was forgotten in favour of Robert Peary • Plot explorers' routes on a map, using symbols to represent events that happened	• Monarchs/rulers who sponsored early explorers? Why? • Investigate the artefacts recorded on the three boats that sailed with Columbus. Make deductions about life on board ship. • Study the painting made of the explorers' first meeting with the natives Discussion how true this would have been • Look at the arguments for Columbus being considered a great man and those stating he is a historical villain • Identify places on the world maps named after European leaders/cities	• The major oceans and seas • Identify the equator, the Northern and Southern Hemisphere and countries that lie between the tropics of Cancer and Capricorn • The major geographical features of the world – highest mountains, largest jungles, hottest deserts, coldest polar regions etc. and the explorers who have conquered them • Create a picture map of a journey from home to school including a key
North America	• Timeline of the key events that made North America • The Oregon Trail • The Gold Rush • The rights of women in various Native American tribes • Compare the lives of Native Americans and the settlers • The way different native American tribes lived and their location	• The ecosystem of warm oceans and cold oceans • The ecosystem of a reef – symbiotic relationships and dangers from humans • How Canyons are formed • Virtually explore different canyons in North America	• The difference between weather and climate • The different climate zones of North & Central America • Use 4-figure grid reference to locate places on a physical map of North America • Design a map of a perfect Native American village
The Czech Republic & The Velvet Revolution	• Key events in Czech history from Slav settlement to the establishment of the Czech Republic • What features did Prague have as an early location? • Map of Vyšehrad based on a walk – compare with Aerial photographs, land maps, etc.	• Research what communism means. Compare it to liberal governments • What life was like under communism • Interviews a person who was at the Velvet Revolution • Investigate what people could buy in shops under communism	• Why did the Communists have so many rules? What freedoms did people have then and now? Why did people want the Velvet Revolution? • What could people do after the Velvet Revolution that they couldn't do under communism?

Technology (STEM) Objectives & Learning Targets

Design	• Research and develop design criteria to inform the design of innovative, functional, appealing models/products that are fit for purpose, aimed at particular individuals or groups • Develop, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
Select	• Select from and use a wider range of tools and equipment to perform practical tasks • Select and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
Build	• Understand how to strengthen, stiffen and reinforce more complex structures • Use mechanical systems (gears, pulleys, cams, levers and linkages)
Evaluate	• Investigate and analyse a range of existing products and key events and individuals in design and technology • Evaluate their ideas and models/products against their own design criteria • Adjust and rebuild to improve their models/products

ICT Objectives & Learning Targets

Coding & controlling	• Programme Bots to travel according to a preset plan, perform simple tasks and to draw geometric shapes • Use Scratch® to create short films and animations, quizzes and interactive presentations • Programme games in Scratch® that have scores or levels and a definite end
Internet safety	• Hackers and Internet fraud • Cyber bullying. • Sharing personal information, pictures and opinions, permissions and personal rights • Viruses and unsafe websites • Safe searches • Online ethos
Multimedia items	• Collect and edit images to create transparent backgrounds and recolouring. • Use a digital camera to take pictures, focusing on light and composition. Edit photos for size, light, contrast, colour; adding filters. • Create a video from a series of photos • Compose a music piece to a set theme using an online music generator • Record a book reading or story telling; editing the sound and adding simple effects • Create electronic art piece, using texture, layers and cutting tool
Publishing	• Use excel or word to create data tables and charts. • Word. Create titles, paragraphs, spacing, margins, manipulate text, add images and other media items, wrapping the text around it • Presentation: text boxes, images, embedded media (sound/video), hyperlinks, inter-slide action buttons, transitions and animations • Design a non-fiction (brochure, pamphlet, information card, poster, etc.) • Collaborate as a class to create a website (google sites)

4th Grade Curriculum

Math Objectives & Learning Targets

Number sense	• Read, write, order and compare numbers up to 1 000 000 • Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 00 • Round decimals with 2dp to the nearest whole number and to 1dp	• Identify the value of each digit in numbers to 3dp • Read, write, order and compare numbers with up to three decimal places • Square numbers and cube numbers • Prime numbers, prime factors and composite numbers	• Round any number up to 1 000 000 to the nearest 10, 100, 1000 • Round decimals from to 2dp • Negative numbers • Multiples and factors • Compare fractions with the same denominator
Number calculations	• Add and subtract whole numbers with more than 4 digits • Addition and subtraction multi-step problems • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • Multiply and divide numbers mentally partitioning and rounding • Multiply up to 4 digits by a one or two-digit number multiplication	• Relate thousandths to tenths, hundredths and decimal equivalents • Multiplication, subtraction, addition and division with decimals • Mixed numbers and improper fractions • Equivalent fractions • Add and subtract fractions with the same denominator • Multiply proper fractions and mixed numbers by whole numbers	• Write percentages as a fraction with denominator 100, and as a decimal • Percentage and decimal equivalents of ½ , ¼ , 1/5 , 2/5 , 4/5 • Simple ratios and rates • Probability of an event using fractions or percentages • The order of operations • Linear number sequences
Measurement	• Convert measurements into mm, cm, m and km • Measure using a variety of rulers/tapes • Measure and calculate the perimeter of composite rectilinear shapes in centimeters and meters • The area of rectangles (cm^2) and (m^2) • Estimate the area of irregular shapes	• Convert between Kg & g • Weigh using scales • Convert between L and ml • Sensibly estimate capacity	• Convert between standard units: seconds, minutes, hours, days, months and years • Read timetables • Calculate time intervals • The four math operations for money up to 2DP

Math Objectives & Learning Targets			
Geometry	• Parallel, perpendicular, intersecting lines • Describe positions on positive coordinates • Reflection or translation	• Regular and irregular polygons based on equal sides and angles • Identify compare and classify geometric shapes • Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	• Lines of symmetry • Acute, obtuse, and reflex angles • Angles at a point and one whole turn (360°); at a point on a straight line and a ½ a turn (total 180°) • Identify multiples of 90°
Statistics	• bar charts, line graphs and pie charts	• Construct bar chart and line graphs, necessary gathering data • Computer generate pie charts	• Calculate and interpret the mean, median and range as an average • Solve logic problems based on given data

English Language Objectives & Learning Targets

Punctuation	• Inverted commas • Indent for direct speech • Commas for direct speech	• Paragraphs • Commas for clarity • Bullet points	• Commas for parenthesis • Brackets for parenthesis • Dashes for parenthesis
Grammar	• Future tense: will, going to, present progressive • Past participle • Irregular verbs	• Relative pronouns • Relative clauses • Specific determiners: *their, whose, this, that, these, those, which* • Modal verbs to express degrees of possibility	• Degrees of possibility using adverbs: *perhaps, surely* • Indefinite pronouns: *somebody, something, someone, nobody, nothing, no-one, everything, anything, nothing*
Writing	• Simple essays • Narratives • Transition linking words between paragraphs • Technical writing • Citations	• Complex sentences: subordinate clauses divided by comma • Adverbials of time, place and sequence • Antonyms and synonyms • Root words to form adverbs, nouns and adjectives	• Similes • Personification • Alliteration • Onomatopoeia • Metaphors • Rhetorical questions
Spelling	• Words ending in /s/ : else, please, chance, tease, fence, glance, peace, bounce, cheese, dance, loose, seize, piece, prince • Words ending in the sounds f,l,s,z: beef, hoof, reef, roof, buff, cliff, stiff, stuff, coal, crawl, meal, seal, sell, cell, well, cactus, circus, fungus, mess, toss, buzz, chess, class • Words ending in U, V or J: move, leave, twelve, glove, sue, continue, value, issue, argue, true edge, bridge, fudge, stage, rage, cage, huge, large, charge, sponge, change, rage, lounge	• Words ending in /ch/ itch, catch, witch, pitch, fetch, match, switch, reach, coach, couch, beach, speech, lunch, torch, branch, crunch, porch • Words with s and es: eyes, plants, pieces, places, pages, houses, inches, boxes, classes, glasses, dresses, lunches, dishes, wishes, flashes • Words with ible/able: capable, invisible, renewable, edible, enjoyable, valuable, likable, navigable, accessible, flexible • Words with ent/ant: immigrant, radiant, confidant, observant, decent, urgent, confident	• Past tense with -ed • Common homophones • Suffixes with words ending in -e • Vowel suffixes • Suffixes with words ending in -Y • Common prefixes

Science Objectives & Learning Targets

The human body	• The main body systems *(nervous, circulatory, respiratory, digestive, skeletal, muscular)* • The key bones • The key muscles • Body system functions • The relationship between body systems • How the key organs work • Things that improve or deteriorate body systems? • Diseases that affect the body systems	• The digestive system • Parts of the body involved in the digestion process • The digestive process from start to finish • Foods that digest better or worse than others • How digestion affects our bodies energy, health and well-being? • What can help our digestive system work better	• Define a healthy lifestyle • Things that improve or damage a lifestyle? • Why a healthy lifestyle is important • The benefits of living a healthy lifestyle • Do you live a healthy lifestyle? • What ways can we improve our lifestyle? • Health goals and a health improvement plan
Climate & weather	• Distinguish between climate and weather • Describe the various climate zones • Locate various climate regions on a map • Explain what the climate is like in a given location	• Define climate change • Create a model of the greenhouse effect • Causes of global climate change • The effects of climate change • Your carbon footprint and ways to reduce your carbon footprint • How a person adds more greenhouse gases to the atmosphere	• Weather conditions specific to regions such as hurricanes, tornadoes, typhoons, blizzard, drought, etc. • Has weather changed over time? What are the indicators? Is it better or worse for our environment? • Why do we need to learn from the changes of the weather? What do we learn from it? Why do scientists study extreme weather?
Solids, liquids & gases	• Common solids, liquids and gases • Molecular structure and bonding for solid liquids and gases • Different materials are suited to different purposes due to their properties • States of matter map for gases, liquids and solids, showing the energy that changes one matter into another	• A liquid's viscosity and the rate it evaporates • Rates of evaporation by changing key variables: time, heat, place, etc. • How a gas can be changed into a liquid through condensation and distillation • The freezing points of different liquids	• Reversible and irreversible changes for states of matter (burning/cooking) • Chemical reactions to create a miniature space rocket • Create solutions to see if all solids are soluble • The saturation point of water by adding salt • Sort solids from solutions using filters • Extract solids (salt) from liquids using evaporation

Social Studies Objectives & Learning Targets

People on the move	• Waves of immigration to the US and events in Europe and the rest of the world • Political events that lead to immigration • Map showing where immigrants came from and where they went to in America	• Make deductions from artefacts found on Ellis Island website about immigrants' experience • Role play different people coming through Ellis Island immigration centre. • Famous female and non-white immigrants to USA	• Difference between refugees and economic migrants • How global warming could cause migration patterns in the future: Where would people move from? /Where would people move to? • Events that lead to economic immigration
Aztecs & Conquistadors	• Compare events in the Czech Republic, Europe, Asia, etc. with the time of the Aztecs • Produce maps to show the extent of the Incas and Aztecs Empires and the routes the Conquistadors took • Life in Mexico, Peru, etc., before and after the arrival of the Conquistadors • Essay on how so few Conquistadors could have conquered such mighty empires	• Artefacts we can use to find out about the Aztecs • Artefacts/facts (reproductions) of life in Aztec times; decide if the artefacts show the Aztecs as a civilized or barbaric • Aztec hierarchy • Role play different roles in Aztec society for the day • Investigate what an Aztec market would have been like. What would the Aztecs have traded? • Compare how the Aztecs and the Spanish governed	• Accounts of Europeans first meeting with the natives • Two accounts of the Conquistadors in South America. One, from the point of view a native, the other from the European side • How Malinche helped the Conquistadors defeat the Aztecs • The rights and life of women in 15th century Europe and the rights of women in Aztec societies
South America	• Timeline of key events • Physical map • Latitude & longitude • Compare the political rule in Bolivia with that of CZ • Compare life in La Pas and life in Prague. What would be different about a child's school day? • Produce an overhead plan of the school • Use topography maps • 4-number grid references. • Distances on a map for straight lines (map scale) • Distances for curved features (string)	• GDP of South American countries. Why are some countries rich/poor? • The economies of South America. What do they produce the same? • What Europe imports from South America • The journey of a banana from the plantation to a supermarket in Europe • The conflict between farmers and environmentalists • Why countries rich in natural resources, such as Bolivia, are quite poor	• Climate zones • Compare the weather for La Pas and Prague • Severe weather • The water cycle. • Label the parts of a river • How lakes are formed • Map the largest lakes in the world • How the Andes shape the flora and fauna • What makes a rainforest a rainforest • Map the major rainforests of the world • Explore the ecosystem of the rainforest

Technology (STEM) Objectives & Learning Targets

Design	• Research and develop design criteria to inform the design of innovative, functional, appealing models/products that are fit for purpose, aimed at particular individuals or groups • Develop, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
Select	• Select from and use a wider range of tools and equipment to perform practical tasks • Select and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
Build	• Understand how to strengthen, stiffen and reinforce more complex structures • Use mechanical systems (gears, pulleys, cams, levers and linkages)
Evaluate	• Investigate and analyse a range of existing products and key events and individuals in design and technology • Evaluate their ideas and models/products against their own design criteria • Adjust and rebuild to improve their models/products

ICT Objectives & Learning Targets

Coding & controlling	• Programme Bots to travel according to a preset plan, perform simple tasks and to draw geometric shapes • Use Scratch® to create short films and animations, quizzes and interactive presentations • Programme games in Scratch® that have scores or levels and a definite end
Internet safety	• Hackers and Internet fraud • Cyber bullying. • Sharing personal information, pictures and opinions, permissions and personal rights • Viruses and unsafe websites • Safe searches • Online ethos
Multimedia items	• Collect and edit images to create transparent backgrounds and recolouring. • Use a digital camera to take pictures, focusing on light and composition. Edit photos for size, light, contrast, colour; adding filters. • Create a video from a series of photos • Compose a music piece to a set theme using an online music generator • Record a book reading or story telling; editing the sound and adding simple effects • Create electronic art piece, using texture, layers and cutting tool
Publishing	• Use excel or word to create data tables and charts. • Word. Create titles, paragraphs, spacing, margins, manipulate text, add images and other media items, wrapping the text around it

5th Grade Curriculum

Math Objectives & Learning Targets

Number sense	• Read, write, order and compare numbers up to 10 000 000 • Equivalences between simple fractions, decimals and percentages • Compare & order fractions >1	• Common factors, common multiples and prime numbers • The value of each digit in numbers given to three decimal places	• Round any whole number to a required degree of accuracy • Round decimals from to 2DP, 1DP and whole numbers
Number calculations	• Addition and subtraction multi-step problems (up to 3-steps) • Partitioning, rounding and estimation • Inverse operations • Multiply multi-digit numbers up to 4 digits by a two-digit whole number • Divide numbers up to 4 digits by a two-digit whole number • Divide numbers up to 4 digits by a two-digit number • Multiply and divide numbers by 10,100 and 1000 giving answers up to 3dp • Convert between common currencies • Four math operations for money up to 2dp	• Multiply one-digit number with up to two decimal places • Multiply two numbers involving 2dp • Division methods in cases where the answer has up to two decimal places • Common factors to simplify fractions • Common multiples to express fractions in the same denomination • Add and subtract fractions with different denominators and mixed numbers • Multiply simple pairs of proper fractions • Divide proper fractions by whole numbers • Calculate decimal fraction equivalents	• Negative numbers in context: calculate intervals across zero • Add and subtract equations involving negative numbers • Order of operations • Generate and describe linear number sequences • Calculate percentages of whole numbers • Ratios to calculate amounts • Rate and speed • Express missing number problems algebraically • Algebraic number substitutions • Probability of an event using fractions or percentages • Predict outcomes using probability ratios
Measurement	• Convert measurements into mm, cm, m and km • Measure to 3DP • Area & perimeters ratios • Formula to calculate area of parallelograms, triangles, trapezoids and compound shapes	• Convert Kg, g, & mg • Weigh using a variety of scales • Calculate, estimate and compare volume of cubes and cuboids using standard units cm^3 and m^3	• Math operations (+, -, ÷, x) for times • Read, write and convert between standard units: seconds, minutes, hours, days, months and years • Read timetables • Calculate time intervals

Math Objectives & Learning Targets

Geometry	• Parallel, perpendicular, intersecting lines • Diagonals in a polygon • Positions on the full coordinate grid (all four quadrants) • Translate simple shapes on the coordinate plane, and reflect them in the axes • Rotate shapes • Enlarge shapes given a simple ratio	• Draw 2-D shapes using given dimensions and angles • Identify, compare and classify geometric shapes • Recognise parts of a circle: radius, diameter, circumference • Area and circumference of a circle where Pi is 3.1 • Recognise, describe and build simple 3-D shapes, including making nets	• Recognise lines of symmetry in shapes • Rotational symmetry • Angles in triangles, quadrilaterals, and regular polygons • Recocognise angles where angles meet at a point, are on a straight line, or vertically opposite and find the missing angle
Statistics	• Interpret bar charts, line graphs and pie charts • Create bar charts, line graphs and pie charts • Sort objects using a flow chart	• The mean as an average • Average for speed and earnings	• Resolve logic problems using charts for the given data • Organise data using Venn and Carol diagrams

English Language Objectives & Learning Targets

Punctuation	• Inverted commas with speaker's position anywhere within a sentence indent for direct speech • Drop-in clauses using commas, dashes or brackets as parentheses	• Colons, semicolons and dashes to mark the boundary between clauses • Colons and bullet points for a list • Semicolons to demarcate within a list	• Adverbial clauses • Bullet points • Ellipses • Hyphens for compound words
Grammar	• Subject and object • Main clauses, sub clauses and adverbial phrases • Perfect tenses – past, present and future simple & progressive • Defining and non-defining relative clauses	• Passive voice • Reported speech • Conditionals • Wishes and if only	• Question tags • Subjunctive mood • Modal verbs of probability and permission • Abstract and collective nouns
Writing	• Complex sentences • Compound sentences • Fronted prepositional phrases • Expanded "-ed" clause • Drop-in "-ed" clauses • Fronted prepositional phrases	• Connectives to signpost • Repetition for effect • Layout devices such as headings, sub-headings, columns, bullet points, tables and paragraphs • Informal v formal speech	• Alliteration • Oxymoron • Metaphors and simile • Rhetorical questions • Personification
Spelling	• Irregular plurals • /i/ sound spelt y, /k/ sound spelt ch, & /sh/ sound spelt ch • Words with the suffix –atio • Words with the suffixes -y, –ly, -ily • Words ending with gue and que • Words with the /s/ sound spelt sc • Words with the letter-string oug	• Differentiate between words ending in /chur/ & /zhur/ • Differentiate between words with /shun/ endings -tion, -sion, -ssion and -cia • Words ending in -ous or ious & words ending with -cious or -tiou • Words with the /ae/ sound spelt ei, eigh, or ey	• Words ending in the */shul/ sound by choosing the correct spelling -tial or -cial* • Differentiate between words ending in –ant, –ance/–ancy & –ent, –ence/–enc • Differentiate between words ending in –able and –ible, and –ably and –ibly • commonly misspelled words

Science Objectives & Learning Targets

Animal classification & evolution	• Animals have adapted to suit their environment, including humans, and the evolutionary process – Darwin's finches • Every organism has a niche within an ecosystem • The different stages of life in animals (including humans) and plants) • Reproduction as part of the life cycle	• Aristotle's methods of classification • Animals, plants and micro-organisms classified according to their features • Sort animals into insects, amphibians, reptiles, mammals, birds, etc. using flow diagrams • How mammals branch into families, canines, monkeys, etc. and the common features they have • Plant categories based on observations of flowers, leaves and seed dispersal	• Darwin's theory of evolution and natural selection • Survival of the fittest and genetic accidents • Humans on the animal classification chart and their nearest ancestors • How genes and DNA carry the programs of life • Genes are hereditary and they are passed from both parents to child • The importance of DNA maps and genetic research
Electricity	• How electricity is produced and transported into homes • Materials that conduct and insulate • Sources of renewable energy, including the pros and cons	• Build serial and parallel circuits, including bulbs, buzzers, motors, switches, etc. • Circuit drawings and conventional symbols • Construct an electrical circuit within a model that has some function. For example, a burglar alarm, electric car, mini-robot, doorbell, etc.	• The attraction and repulsion of magnets and their uses, including electro magnets • The dangers of electricity and how to stay safe
Simple Machines	• Newton's three laws of motion • Gravity and how it exerts a force on object around us • Force creates a counter force, and that forces can be measured	• Momentum, inertia and force using simple machines and constructions • The forces of friction and resistance and their uses	• Simple machines such as pulleys, ramps, levers, wedges, etc. can reduce the amount of force required to move an object • Simple machines in the school environment • Compound simple machines such as a bicycle

Social Studies Objectives & Learning Targets

Ancient Greece	• Ancient Greece on a timeline of world events • Sources we can use to find out about ancient civilizations • Ancient Greek pottery: making deductions • How the landscape of Ancient Greece – islands and mountains – shaped the early societies that developed there • How the climate of Ancient Greece could have played a part in the development of politics and theatre	• The different styles of government in Ancient Greece. • The pros and cons of democracy in Ancient Greece • Import and export • The trade routes and the spread of culture and colonies • What taxes are, who pays them and what they're spent on	• The main components of Greek society: trade, education, warfare, technology, religion, politics, etc. • The difference in women's rights in Sparta and Athens. Discussion of women's rights in today's world. • The battle of Salamis. Write news headlines from the point of view of the Persians and Ancient Greeks • The reasons for the Greeks winning the battles against the Persians
Gender Studies	• Timeline of inspirational women	• Research project on an inspirational woman	• The Suffragettes
The French Revolution	• French Revolution timeline • Collect evidence of the causes of the French revolution from contemporary sources • How the revolutionary French Newspaper used fake news and caricatures to drive the people onto the streets. Link to modern day fake news items	• The economic conditions that led to the French Revolution – taxation, bread prices, poor harvest, etc. • How France was split into the three estates at the time of the revolution	• The causes behind people changing their government • Hot seating for the French Revolution. Children enact how different sections of society would have felt • The causes of the French revolution – economic, social, climatic and personal. Children construct an essay, linking their points with evidence from the history lessons

Cross curricular topic: the world

- Economic indicators of wealth – how should you judge a country as being developed/developing?
- The causes, advancements and effects of the Industrial Revolution, including child labour, crime and health issues
- The causes of poverty around the world
- Children play the World Trade Game. Discussion of the advantages between developed and developing countries (trade barriers, manufacturing, natural resources, wealth, etc.)
- Children play the 'fair trade' game for world chocolate production. Discussion of how developed and developing countries feel about fair trade
- Fair Trade: children explore how fair trade can improve the lives of farmers and consumers
- Explore how colonialism was based on economic gain for Europe. Discuss natural resources sent to Europe from the rest of the world
- Compare map of colonizers/colonized with developed and developing world now
- Global maps showing economic development, water shortages and natural resource
- Map countries suffering from water stress and relate it to the position of developed and developing countries
- Research the ways countries make money. Compare the percentage of agricultural workers in Czech Republic and Kenya. Discuss why agricultural economies are poorer
- The top 100 public companies in the world. Record which countries have the most. Compare with the GDP for the richest countries in the world
- Research how many of the top 100 countries have female CEOs
- Discuss how poverty can be caused by climate and weather patterns (drought & floods)
- Name the major countries of Asia, Africa, South America and central America and Oceania
- The major rivers, mountains and deserts of the world. Revise the causes of erosion – wind and water
- Coastal features – bay, beach, cliff, inlet, peninsular, port, etc.
- Map symbols with coastal features.
- The major deserts of the world
- How deserts are formed on the 30˚lines above and below the equator
- How a shadow rain desert is formed
- Areas in the world that are suffering from desertification
- Weather caused by ocean currents
- Map the major deserts, mountains and jungles to see how they relate to each other and the ocean currents
- Compare the weather and climate for the Czech Republic and the countries they have chosen for their home projects.
- Country projects. Children choose a country to research (preferably one from each continent). The project should include physical and political maps, climate, flora and fauna, history, politics, economics, culture and social and economic problems. Children present the research to the class.
- Discuss the difference between political, physical and climate maps.
- Use 6-figure references for maps.
- Recognise and recall common map symbols for ordnance survey maps.
- Calculate distance using 50,000:1, 25:000:1 scales or map grids.
- Understand how contour lines represent the steepness of slopes on hiking maps
- Follow compass directions on an orienteering trip.
- Follow a hiking trail, identifying hills from contour lines, items from symbols, calculating distance from scale and locating places

Technology (STEM) Overview

Subject area	Learning targets
Design	• research and develop design criteria to inform the design of innovative, **functional**, appealing models/products that are fit for purpose, aimed at particular individuals or groups • Develop, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
Select	• select from and use a wider range of tools and equipment to perform practical tasks • select and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
Build	• understand how to strengthen, stiffen and reinforce more complex structures • use mechanical systems (gears, pulleys, cams, levers and linkages
Evaluate	• investigate and analyse a range of existing products and key events and individuals in design and technology • evaluate their ideas and models/products against their own design criteria • adjust and rebuild to improve their models/products

ICT (Computers) Overview

Subject area	Learning targets
Coding & controlling	• Programme Bots to travel according to a preset plan, perform simple tasks and to draw geometric shapes • Use Scratch® to create short films and animations, quizzes and interactive presentations. • Programme games in Scratch® that have scores or levels and a definite end.
Internet safety	• Hackers and Internet fraud • Cyber bullying. • Sharing personal information, pictures and opinions, permissions and personal rights • Viruses and unsafe websites • Safe searches • Online ethos
Multimedia items	• Collect and edit images to create transparent backgrounds and recolouring. • Use a digital camera to take pictures, focusing on light and composition. Edit photos for size, light, contrast, colour; adding filters. • Create a video from a series of photos • Compose a music piece to a set theme using an online music generator • Record a book reading or story telling; editing the sound and adding simple effects. • Create electronic art piece, using texture, layers and cutting tool.
Publishing	• Use excel or word to create data tables and charts. • Word. Create titles, paragraphs, spacing, margins, manipulate text, add images and other media items, wrapping the text around it. • Presentation: text boxes, images, embedded media (sound/video), hyperlinks, inter-slide action buttons, transitions and animations. • Design a non-fiction (brochure, pamphlet, information card, poster, etc.). • Collaborate as a class to create a website (google sites