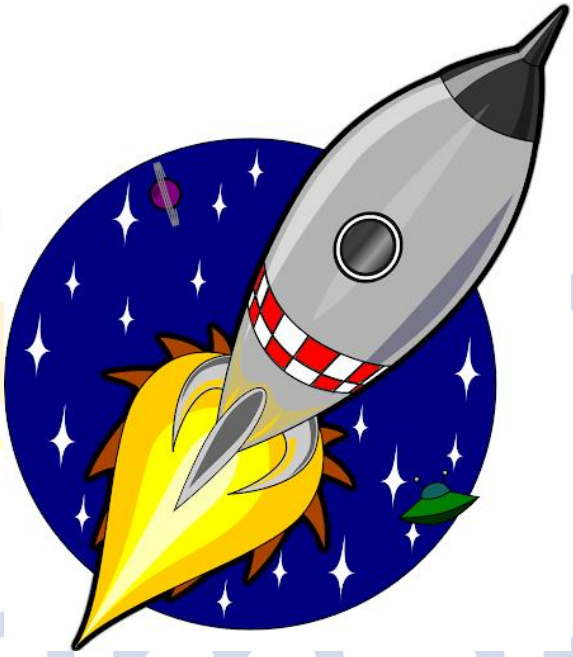
Moon Zoom



Year Group: 1/2

Cycle A

Geography • name and locate the world's seven continents and five oceans • use world maps, atlases and globes to identify the United Kingdom and its countries, as well as the countries, continents and oceans studied at this key stage • identify seasonal and daily weather patterns in the United Kingdom and the location of hot and cold areas of the world in relation to the Equator and the North and South Poles	**Design and Technology** • Children will learn how to make a moving vehicle incorporating wheels and axels.

Computing	Science
• Programming	• Year 1 and 2 Working scientifically: rocket investigations • Year 1: Seasons and weather

Science

National Curriculum (Knowledge and Skills): Pupils should be taught to:

Year 1	Year 2
• observe changes across the four seasons • observe and describe weather associated with the seasons and how day length varies • observe closely, using simple equipment • perform simple tests • gather and record data to help in answering questions • use their observations and ideas to suggest answers to questions	• observe closely, using simple equipment • perform simple tests • use their observations and ideas to suggest answers to questions

Suggested Investigations:
Year 1 Investigation: Weather investigations e.g. wind diary or rain gauge

Year 1 and 2 investigation: Fizzy bottle rockets https://www.rigb.org/docs/fizzybottlerockets_infosheet_v2_0.pdf

Prior Learning

Forever Firs children working at ARE in Year 1 should already be able to:	Forever Firs children working at ARE in Year 2 should already be able to:
• Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes. (ELG KUW:TW)	• See Year 1 statements above

Key Vocabulary

Tier 1		Tier 2		Tier 3	
Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
Hot Cold Weather Sun Rain Night Day Snow Wind Cloud rocket	Rocket	Observe change season sunrise sunset question answer observe gather record predict test experiment fuel rocket gas propel	Question Answer Observe Test Experiment Fuel Rocket Gas Propel Predict	Autumn Spring Summer Winter Chemical reaction	Chemical reaction

Science Assessment			
Children working below ARE	**Children working towards ARE**	**Children working at ARE**	**Children working above ARE**

Geography

National Curriculum: Pupils should be taught about:

- name and locate the world's seven continents and five oceans
- use world maps, atlases and globes to identify the United Kingdom and its countries, as well as the countries, continents and oceans studied at this key stage
- identify seasonal and daily weather patterns in the United Kingdom and the location of hot and cold areas of the world in relation to the Equator and the North and South Poles

Key Lines of Enquiry:

- What does the Earth look like from space? Using globes and atlases to meet the objectives above.

Age Related Subject Skills (Progression Guidance):

Year 1

<u>*Using maps*</u>

- *Use a simple picture map to move around the school*
- *Use relative vocabulary such as bigger, smaller, like, dislike*
- *Use directional language such as near and far, up and down, left and right, forwards and backwards*

<u>*Map knowledge*</u>

- *Use world maps to identify the UK in its position in the world.*
- *Use maps to locate the four countries and capital cities of UK and its surrounding seas*

<u>*Making maps*</u>

- *Draw basic maps, including appropriate symbols and pictures to represent places or features*
- *Use photographs and maps to identify features*

Year 2

<u>*Using maps*</u>

- *Follow a route on a map*
- *Use simple compass directions (North, South, East, West)*
- *Use aerial photographs and plan perspectives to recognise landmarks and basic human and physical features*

<u>*Map knowledge*</u>

- *Locate and name on a world map and globe the seven continents and five oceans.*
- *Locate on a globe and world map the hot and cold areas of the world including the Equator and the North and South Poles*

<u>*Making maps*</u>

- *Draw or make a map of real or imaginary places (e.g. add detail to a sketch map from aerial photograph)*
- *Use and construct basic symbols in a key*

Prior Learning

Forever Firs children in Year 1 working at ARE should already be able to:

Maths; SSM ELG

- Use everyday language to talk about size, weight, capacity, **position, distance**, time and money to compare quantities and objects and to solve problems.
- Recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

UTW; The World ELG

- Know about similarities and differences in relation to places, objects, materials and living things.
- Talk about the features of their own immediate environment and how environments might vary from one another.
- Make observations of animals and plants and explain why some things occur, and talk about changes.

Forever Firs children in Year 2 working at ARE should already be able to:

- *See Year 1 Progression statements above.*

Key Vocabulary

Tier 1		Tier 2		Tier 3	
Near Far Up Down Wet Rain	Sun Windy Snow Cold Hot	Left Right World Seas Oceans	Season Seasonal Daily Weather	United Kingdom Countries Continents Europe North/South America Antarctica Australia Africa Asia	Autumn Summer Winter Spring Equator North and South Poles North South Map Atlas Globe

Geography Assessment

Children working below ARE	Children working towards ARE	Children working at ARE	Children working above ARE

Design and Technology

National Curriculum: Pupils should be taught to:

- explore and use mechanisms [wheels and axles], in their products
- select from and use a range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing]
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Curriculum Intentions (Key Knowledge and Skills to be learned):

- Children will learn how to make a moving vehicle incorporating wheels and axels.

Age Related Subject Skills (Progression Guidance):

Design

- State the purpose of the design and the intended user
- Explore materials, make templates and mock ups e.g. moving picture / lighthouse
- Generate own ideas for design by drawing on own experiences or from reading

Make

- Select from a range of tools and equipment explaining their choices
- Select from a range of materials and components according to their characteristics
- Follow procedures for safety
- Use and make own templates
- Measure, mark out, cut out and shape materials and components
- Assemble, join and combine materials and components Use simple fixing materials e.g. temporary – paper clips, tape and permanent – glue, staples
- Use finishing techniques, including those from art and design

Evaluate

- Talk about their design ideas and what they are making
- Make simple judgements about their products and ideas against design criteria
- Suggest how their products could be improved Evaluating products and components used
- Investigate - what products are, who they are for, how they are made and what materials are used

Technical Knowledge

- Understand about the simple working characteristics of materials and components
- Understand about the movement of simple mechanisms including levers, sliders (Year 1) wheels and axles (Year 2)
- Understand that food ingredients should be combined according to their sensory characteristics
- Know the correct technical vocabulary for the projects they are undertaking
- Understand how freestanding structures can be made stronger, stiffer and more stable

Prior Learning - Forever Firs children working at ARE should already be able to:

Physical Development

(40-60 months)

- Use simple tools to effect changes in materials
- Handle tools, objects, construction and malleable materials with safety and increasing control
- Show understanding of how to transport and store equipment safely

(ELG)

- Handle tools and equipment effectively

Expressive Arts and Design

(40-60 months)

- Understand that different materials can be combined to create new effects
- Manipulate materials to achieve a planned effect
- Construct with a purpose in mind, using a variety of resources
- Use simple tools and techniques competently and appropriately
- Select appropriate resources and adapts work where necessary
- Select tools and techniques needed to shape, assemble and join materials they are joining

(ELG)

- Safely use and explore a variety of materials,

	tools and techniques, experimenting with colour, design, texture, form and function

Key Vocabulary			
Tier 1	**Tier 2**		**Tier 3**
Fast Slow Faster Slower Cut Glue Wheels Scissors tape	measure saw join design materials	wood card plastic characteristics evaluate	Axels Elastic band

Design and Technology Assessment

Children working below ARE	Children working towards ARE	Children working at ARE	Children working above ARE

Computing

National Curriculum:

- understand what algorithms are; how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs

Key Lines of Enquiry:

-

Curriculum Intentions (Key Knowledge to be learned):

Year 1

- Children will be able to explore how technology is used in toys such as toys that make noises, move or are remote controllable. Children understand that this links to computer programming.
- Children will be able to give each other clear instructions to their partner to move around a maze/grid. Children will link their vocabulary to maths position and direction.
- Children will be able to follow instructions to move around a grid by using their knowledge of mathematical vocabulary.
- Children can use toys and robots and explain what the buttons tell the computer to do.
- Children will use a beebot to replicate instructions that they gave their peers. They will begin to recognise similarities with giving instructions and pressing buttons. They explore this further using 'Screen Turtle' on Textease to replicate similar movements.

Year 2

- Children will be able to talk about every day items that involve technology and control such as a microwave, laptop etc. They will start to talk about why objects need to be controllable.
- Children will be able to use an on screen turtle to do a sequence of movements. They will be able to talk about the 'end point' and plan their route to get there. They will understand how this links to positional language in maths.
- Children will link their knowledge of properties of shapes to use the 'Screen Turtle' to draw it. They may link this to what they would have to do to draw it. They will know that they need to plan the order, direction and amount they need to move.

Age Related Subject Skills (Progression Guidance - DDAT):

- Pupils learn to program a basic floor turtle such as a BeeBot to navigate increasingly complex routes and are able to debug their instructions when the turtle does not reach the intended destination
- Pupils learn to program an onscreen app such as BeeBot or Kodable to complete a set task and are able to debug their instructions when the turtle does not reach the intended destination
- Pupils use a more complex turtle with standard units to navigate increasingly complex routes, and are able to debug their instructions when the turtle does not reach the intended destination
- Extension - Pupils learn to use a simple graphical programming language such as Logo, Scratch or Turtle to navigate around the screen
- Extension - Pupils create a 3D environment, using a graphical language such as Kodu. They link this to a story such as an island adventure

Year 1	Year 2
• Explore a range of control toys and devices • Follow instructions to move around a course • Create a series instructions to move their peers around a course • Explore outcomes when individual buttons are pressed on a robot	• Talk about how everyday devices can be controlled • Know that devices and actions on screen may be controlled by sequences of actions and instructions • Create a sequence of instructions to create a right-angled shape on screen • Create a sequence of instructions to control a programmable

• Explore an on screen turtle (or Bee BOT) navigate it around a course or grid • Have experiences of controlling other devices such as sound recording devices, music players, video recording equipment and digital cameras • While navigating around a course on a computer predict what will happen once the next	robot to carry out a pre-determined route to include direction, distance and turn (on screen or floor robot)

Prior Learning

Forever Firs children working at ARE should already be able to:

(40-60 Months)

- Complete a simple program on a computer.
- Uses ICT hardware to interact with age-appropriate computer software.

(Early Learning Goal)

- Recognise that a range of technology is used in places such as homes and schools.
- Select and use technology for particular purposes.

Key Vocabulary

Tier 1		Tier 2		Tier 3	
Turn Move Forwards Backwards Left Right	Shape Steps Stop Start	Programme Instruction Direction Plan	Devices Right-angled Beginning End	Sequence	

Computing Assessment			
Children working below ARE	**Children working towards ARE**	**Children working at ARE**	**Children working above ARE**