

Year 2

Spring One Knowledge Organisers



Hanslope Primary School

Computing Knowledge Organiser

Year 2: Programming -Robot algorithm

How does this link to my previous learning?

- Create and debug simple programs.
- Use logical reasoning to predict the behaviour of simple programs.

What key vocabulary will I learn:

Program - Is a specific set of ordered operations for a computer to perform.

Robot – A machine that follows instructions and commands

Algorithm - a set of instructions that is designed to accomplish a task

Direction - a variable that determines the direction of movement or orientation

Route - the process of path selection in any network

Obstacle - a thing that blocks one's way or prevents or hinders progress.

Design - A design is a plan that helps people to make a product.

Error - A software bug is an error, flaw, failure or fault in a computer program or system

Chunking - Chunking breaks up long strings of information into units or chunks

Debugging - The process of finding and fixing errors or bugs in the source code of any software.

National Curriculum Links:

- Create and debug simple programs.
- Use logical reasoning to predict the behaviour of simple programs.

How does this link to my future learning?

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

What will I know by the end of this unit:

- To describe a series of instructions as a sequence
- To explain what happens when we change the order of instructions
- To use logical reasoning to predict the outcome of a program
- To explain that programming projects can have code and artwork
- To design an algorithm
- To create and debug a program that I have written





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Design Technology Knowledge Organiser

Year 2: Mechanisms (wheels and axles)

Overview:

Mechanisms are the parts that make something work.

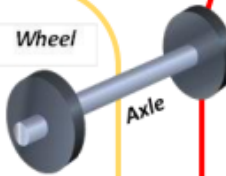
-Mechanisms are all around us! Most objects that help us in our lives are made up of different mechanisms.

Wheels and Axles are mechanisms that help things to move.

-Wheels are circular objects that roll on the ground, helping vehicles and other objects to easily move.

-Axles are rods that help wheels to rotate. The wheel can either rotate freely on the axle, or be attached to (and turn with) the axle.

Wheel



Axle

How does this link to my future learning?

- Year 3 Mechanisms (Levers and Linkages)

National Curriculum Links:

- Design, make and evaluate products
- Technical knowledge: understand and use mechanical systems in their products [for example, gears, pulleys]

What key vocabulary will I learn?

Mechanism, wheel, axis, axle holder, friction, dowel, chassis, design, make, evaluate.

What steps will I follow to create my final product?

Designing

Chassis

-The chassis is the frame or base on which the vehicle is built. A chassis should be strong and rigid enough to hold the vehicle.

-The chassis should include axle holders. These designed so that the axles do not have too much friction against them.

Axle

-Consider what you will make your axle from. It needs to be strong enough to hold the wheels, and fit freely in the axle holder.

Wheel

-Consider whether your wheels will be fixed to the axle, or free.

-If fixed, they need to be firmly attached. If not, they need a stopper to prevent them from falling off.

-Some materials allow the wheel to move more freely on surfaces.

Making

-Wheels could be made from wood, card, MDF, plastic, cotton reels, or foam-covered reels.

-Axles could be made from dowels or paper sticks.

Free Axles - Fixed Wheels

-The axles move with the wheels. Loose-fitting axle-holder, tightly fixed wheels.

Fixed Axles - Free Wheels

-The axles will remain fixed to the chassis. The wheels move alone. Tight-fitting axle-holder, loose-fitting wheels.

Evaluating

-How well does your mechanism work? Does it move smoothly?

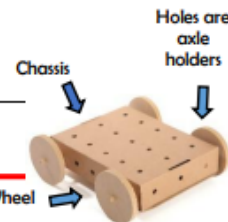
-Does it meet its purpose?

-Who would use your mechanism?

What would they like about it?

-How did you stop any unwanted friction? How did this effect the mechanism?

-What else could you do to improve your mechanism?



Chassis

Holes are axle holders

Wheel

Health and Safety

-Remove any jewelry and tie back long hair.

-Wear an apron and roll up your sleeves.

-Walk safely and calmly around the classroom/workshop.

Keep your work area and floor area clear – keep your belongings well clear.

Follow the teacher's cutting instructions carefully.

Make sure that you are wearing the correct equipment for tasks.

If you need to move around with scissors, hold around the closed blades, facing down.

Report all spillages & clean up properly after yourself.



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Geography Knowledge Organiser

Year 2: Why is our world wonderful?

How does this link to my previous learning?

- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
- Explore the natural world around them, making observations and drawing pictures of animals and plants.

What key vocabulary will I learn:

- **Country** - a nation with its own government, occupying a particular territory.
- **Land** - the part of the earth's surface that is not covered by water.
- **Location** - a particular place or position.
- **River** - a large natural stream of water flowing in a channel to the sea, a lake, or another river.
- **Scale** - ratio of a distance on the map to the corresponding distance on the ground.
- **Data collection** - the process of gathering and measuring information.
- **Map** - a diagrammatic representation of an area of land or sea showing physical features, cities, roads, etc.
- **Ocean** - a very large expanse of sea
- **Symbol** - a mark or character used to represent an object
- **Fieldwork** - study that consists of practical activities that are done away from your school, college, or place of work:

National Curriculum Links:

- 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
- Name and locate the world's seven continents and five oceans
- Name, locate and identify characteristics of the four countries and capital cities of the United Kingdom and its surrounding seas

How does this link to my future learning?

- Locate the world's countries, using maps to focus on Europe and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
- Use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.

What will I know by the end of this unit:

- To identify geographical characteristics of the UK.
- To locate some of the world's most amazing places.
- To know the names of the five oceans and locate them on a map.
- To understand how to draw human and physical features on a sketch map.
- To investigate local habitats and record findings.
- To understand how to present findings in a bar chart.





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PSHE Knowledge Organiser – Year 2

Spring 1: Safety and the changing body.

How does this link to my previous learning?

In Year 1, children focused on:

- Understanding how the internet can be used to help us.
- How to remain safe online and what to do if something online makes them feel uncomfortable.
- Understanding what a secret is and what a surprise is.
- Know the name of parts of the body, including those of the private parts for their gender.

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What key vocabulary will I learn:

private	Something that is personal to us that we do not want to share with everybody.
secret	Something which nobody is meant to see or know about.
surprise	Something nice that people might not know about straight away.

National Curriculum Links:

In Year 2 children will learn to:

Develop their understanding of safety: roads, medicines and an introduction to online safety; distinguishing secrets from surprises; naming body parts and looking at the concept of privacy.

How does this link to my future learning?

In Year 3, children will learn about:

Cyberbullying and how to be good digital citizens; first aid, bites and stings and how to be safe near roads. Pupils also think about choices and influence.

What will I know by the end of this unit:

- Understand how the internet can be used to help us.
- Understand how to remain safe online and what to do if something online makes them feel uncomfortable.
- Understand what a secret is and what a surprise is.
- Know the name of parts of the body, including those of the private parts for their gender.
- Explain the PANTS rule.
- Understand how to keep safe near roads.
- Explain the rules for crossing the road.



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Music Knowledge Organiser

Year 2: Instruments (Theme: Musical Storytelling)

How does this link to my previous learning?

- This links to previous learning when exploring dynamics and using instruments to play patterns.

National Curriculum Links:

- Use their voices expressively and creatively by singing songs and speaking chants and rhymes.
- Play tuned and untuned instruments musically.
- Listen with concentration and understanding to a range of high-quality live and recorded music.
- Experiment with, create, select and combine sounds using the inter-related dimensions of music.

How does this link to my future learning?

- This links to future learning in year 2 when using instruments to explore pitch and call and response.

What key vocabulary will I learn?

- Tempo: The speed of the music (fast or slow).
- Encore: When the audience claps and asks musicians to play more music.
- Instrumental sound: A sound produced by musical instruments.
- Dynamics: The volume of a piece of music.
- Sound effect: A sound created to represent something in a film, television programme or play.

What will I know by the end of this unit:

- Identify sections of the music where the tempo changes.
- Correctly describe sections of music as fast or slow.
- Point out moments in the music where the dynamics change.
- Accurately describe dynamic change changes as soft or loud.
- Give specific examples of how the music corresponds to actions in the story.
- Provide clear and specific examples of how music supports the story.
- Justify tempo and dynamic choices made to represent a character, event or feeling.
- Suggest appropriate musical dynamics and tempo changes for different scenes of the story.
- Work as part of a group to rehearse a performance.
- Perform confidently using appropriate instrumental sounds.
- Play their part at appropriate tempo and dynamics.



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Spring 1

PE Knowledge Organiser

Year 2: cognitive skills, gymnastics

How does this link to my previous learning?

- Build upon social skills from last term and apply them
- Build upon gymnastics skills from last year

National Curriculum Links:

- Develop balance, agility and coordination and begin to apply these in a range of activities, individually and with others.
- Engage in competitive and cooperative physical activities.

How does this link to my future learning?

- Will allow to understand creative skills
- Preparation for Y3 gymnastics

What key vocabulary will I learn:

- Recognise
- Order
- Lifting
- 90 degrees
- low beam
- Preparation phase
- Absorb impact
- Footwork pattern
- Landing spot
- Controlled
- Accurate
- Fluent
- Pivoting
- Spotting
- Accuracy of shape

What will I know by the end of this unit:

Cognitive skills:

- I can understand and follow simple rules.
- I can name some things I am good at.
- I can explain why someone is working or performing well.
- With help, I can recognise similarities and differences in performance.
- I can explain what I am doing well and begun to identify areas for improvement

Gymnastics:

- I can maintain an accurate shape throughout.
- I can move smoothly and fluently.
- I can remain balanced throughout.
- I can rotate with control.
- I can remain balanced throughout.
- I can maintain contact with apparatus



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Religious Education Knowledge Organiser

Year Two- Is it important to celebrate the New Year?

National Curriculum Links:

- To explore the ways that different people and different faiths celebrate New Year.

How does this link to my previous learning?

- Year 1 – Should we celebrate Harvest or Christmas?
- Year 1 – Do we need shared special places?

How does this link to my future learning?

Year 3 – Is light a good symbol for celebration?

What key vocabulary will I learn:

- **Celebration**-the action of celebrating an important day or event.
- **New Year**-the first few days or weeks of a year.
- **Rosh Hashanah (Head of the Year)**- a time when Jewish people think about leaving their old shortcomings behind and look forward to a sweet new year, praying for a year of life, health and prosperity.
- **Shofar**- a ram's horn
- At Rosh Hashanah, the Shofar is sounded as a call to say sorry and as a celebration of God as King of the universe.
- **Yom Kippur**- Day of Atonement

What will I know by the end of this unit:

What I will know by the end of this unit:

- *Key features of New Year celebrations explored
- *The New Year celebrated in the United Kingdom is not a religious festival
- *The story of Adam and Eve and the sacrifice of Isaac
- *The foods eaten at Rosh Hashanah and their significance
- *The significance of the Shofar



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Science Knowledge Organiser

Year Two – Living things and habitats- lifecycles and habitats

How does this link to my previous learning?

- Animal Classification (Year 1)

What key vocabulary will I learn:

- **Living**- something that is alive like plants or animals
- **Dead** – something that is no longer alive but once was, like dead plants or parts of plants that are no longer attached
- **Never been alive**- something that has never been a living thing like objects made from rocks or plastic
- **Habitat** – The place where an animal or plant lives and provides basic needs like shelter, air, water and food.
- **Environment** – The world around us



National Curriculum Links:

- Explore and compare the differences between things that are living, dead, and things that have never been alive
- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other

How does this link to my future learning?

- Plants and their lifecycle (Year 3)
- Living things and their habitats (Year 4)
- Living things and their cycles (Year 5)
- Living things and their habitats (Year 6)

What will I know by the end of this unit:

- I can explore and compare the differences between things that are living, dead and things which have never been alive
- I can identify that most living things live in habitats to which they are suited and describe how habitats provide for the basic needs of different animals and plants and how they depend on each other.
- I can describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

Living	Dead	Never Alive