

Medium Term Plan: Seasons Cycle A Y1/2			
Enquiry Type:	Working Scientifically Concepts:	Previous Scientific Vocabulary	New Scientific vocabulary
<ul style="list-style-type: none"> Observing over time Pattern seeking Researching 	<ul style="list-style-type: none"> Making observations and measuring them Engaging in practical enquiry Recording and presenting evidence Answering questions and concluding Communicating findings. 	<ul style="list-style-type: none"> Autumn Spring Summer Winter Trees Plants Weather Sun Snow Rain Wind Hibernation 	<ul style="list-style-type: none"> Sunrise sunset Months of the year Pattern Graphs Day Night
Previous Learning End Point Assessment in this concept:	Previous Learning End Point Assessment in working scientifically concepts:	End Point Assessment Statements:	
Seasonal Change 1. I know some similarities and differences between the natural world around me and contrasting environments, drawings on my experiences and what has been read in class. 2. I understand some important processes and changes in the natural world around me including the seasons	I make observations of plants. I record my observations in drawings, writing and photographs. I use my senses to explore my environment	Seasonal Change 1. I can observe changes across the four seasons 2. I can observe and describe how day length varies	

	Revisit of knowledge short Afl lesson	Autumn 1 Lesson 1	Autumn 1 Lesson 2	Autumn 2 Lesson 1	Autumn 2 Lesson 2	Spring 2 Lesson 1	Spring 2 Lesson 2	Summer 2 Lesson 1	Summer 2 Lesson 2
Learning Question	What can I remember about seasons?	What happens to the length of the days in Autumn?	What happens to animals in Autumn?	What happens to the length of the days in Winter?	What happens to animals in Winter?	What happens to the length of the days in Spring?	What happens to animals in Spring?	What happens to the length of the days in Summer?	What happens to animals in Summer?
Enquiry Type		<ul style="list-style-type: none"> Observing over time Pattern seeking 	<ul style="list-style-type: none"> Researching 	<ul style="list-style-type: none"> Observing over time Pattern seeking 	<ul style="list-style-type: none"> Researching 	<ul style="list-style-type: none"> Observing over time Pattern seeking 	<ul style="list-style-type: none"> Researching 	<ul style="list-style-type: none"> Observing over time Pattern seeking 	<ul style="list-style-type: none"> Researching
Conceptual Knowledge	Prior unit end point assessment	I can observe and describe how day length varies	I can observe changes across the four seasons	I can observe and describe how day length varies	I can observe changes across the four seasons	I can observe and describe how day length varies	I can observe changes across the four seasons	I can observe and describe how day length varies	I can observe changes across the four seasons
Working Scientifically		I can record my measurements e.g. using pictograms	I can make careful observations of the things around me to support comparison and change.	I can carry out: pattern seeking enquiries; and make observations over time.	I can make careful observations of the things around me to support comparison and change.	I can record my measurements e.g. using prepared tables and block graphs.	I can make careful observations of the things around me to support comparison and change.	I can carry out: pattern seeking enquiries; and make observations over time.	I can make careful observations of the things around me to support comparison and change.
Review/ Revisit	Class discussion: Name the seasons Match events to seasons: Christmas, Easter, Diwali, Chinese New Year,	Look back on work from previous learning. What happened in Autumn?	Look back on work from previous learning. What happened in Autumn?	Revisit the pictogram. How long were the days in Autumn?	Look back at the season wheel. Which months were in Autumn? What happened to the animals?	Revisit the pictogram. How long were the days in Autumn and Winter?	Look back at the season wheel. Which months were in Autumn and Winter? What happened to the animals in each season?	Revisit the pictogram. How long were the days in Autumn, Winter and Spring?	Look back at the season wheel. Which months were in Autumn, Winter and Summer? What happened to the animals in each season?
Read		Year 1 Science Study & Activity Book p 4		Year 1 Science Study & Activity Book p 4					

Teach	Halloween, long school holiday, their birthdays.	https://www.bbc.co.uk/bitesize/clips/zxcxnbk Discuss what time it gets dark at night? Is it the same time every day? Explain sunrise and sunset Show the children a chart with sunrise and sunset for a week in autumn. Work out the hours of daylight each day	https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-animals-preparing-winter-storing-food-migrating-hibernating/z6h6nrd Why do the animals migrate, store food or hibernate?	What is happening to the length of day and night? What have they noticed? Share the sunrise and sunset times for the past week. Work out the hours of daylight each day.	https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-winter-weather-behaviour-british-animals-plants/zbcg92p How can animals find food? Can we help?	What is happening to the length of day and night? What have they noticed? Share the sunrise and sunset times for the past week. Work out the hours of daylight each day.	https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-seasonal-changes-behaviour-animals-growth-cycle-plants/zfynvk7 Discuss animal behaviour during spring – what do pupils think makes them act the way they do. Does the weather help or hamper them?	What is happening to the length of day and night? What have they noticed? Share the sunrise and sunset times for the past week. Work out the hours of daylight each day.	https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-how-summer-weather-affects-behaviour-of-british-animals-plants/zkdkjihv
Practice		Children begin a pictogram of the hours of daylight in each season. Add the information for Autumn.	Begin the season wheel by identifying which months are in Autumn. Add info about what the animals are doing in autumn.	Add the hours of daylight to the pictogram for Winter. Compare to the length of day in Autumn.	Add to the season wheel. Identify the months Add what the animals are doing and what humans can do to help	Add the hours of daylight to the pictogram for Spring. Compare to the length of day in Autumn and Winter. What is happening?	Add to the season wheel. Identify the months Add what the animals are doing and why,	Add the hours of daylight to the pictogram for Spring.	Add to the season wheel. Identify the months Add what the animals are doing and why,
Apply		Think about the information read and seen during the lesson can they predict what will happen to the length of day in each season? Add to the pictogram	Which months do they think will be in Winter? What do they think animals will be doing in Winter?	Look at their predictions for the other seasons. Do they want to leave them or change them?	Which months do they think will be in Spring? What do they think animals will be doing in Spring?	Look at their prediction for Summer. Do they want to change it?	Which months do they think will be in Summer? What do they think animals will be doing in Summer?	Compare to the length of day in Autumn, Winter and Spring. What has happened? What happens to the length of day and night across the seasons?	Look at the season wheel. Can they talk through what happens to the animals over the year?
Reflect		Mix, pair, share. Did they agree?	Mix, pair, share. Share their predictions. Do they want to change their minds. Why?	Mix, pair, share. Did they agree?	Mix, pair, share. Share their predictions. Do they want to change their minds. Why?	Mix, pair, share. Did they agree?	Mix, pair, share. Share their predictions. Do they want to change their minds. Why?	Inside outside circle. Tell each other what happens to the length of day and night and the animals in each season	


Medium Term Plan: Animals Cycle A Y1/2			
Enquiry Type:	Working Scientifically Concepts:	Previous Scientific Vocabulary	New Scientific vocabulary
<ul style="list-style-type: none"> Research using secondary sources Identifying, classifying and grouping 	<ul style="list-style-type: none"> Asking questions Making observations Engaging in practical enquiry Answering questions and concluding 	<ul style="list-style-type: none"> Legs Fur Ears Arms Feet Wings Eyes Mouth Nose Head Face teeth 	<ul style="list-style-type: none"> knee elbow ankle sense basic needs survive healthy diet hygiene fish amphibians reptiles birds mammals Life cycle Offspring
Previous Learning End Point Assessment in this concept:	Previous Learning End Point Assessment in working scientifically concepts:	End Point Assessment Statements:	
1. I explore the natural world around me 2. I can describe some similarities and differences between the natural world around me and contrasting environments, drawing on my experiences and what has been read in class.	I record my observations in drawings, writing and photographs. I make observations of animals. I use all my senses in hands-on exploration	Animals including humans 1. I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. 2. I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). 3. I can describe the basic needs of animals, including humans, for survival (water, food and air). 4. I can describe the importance of exercise for humans, eating the right amounts of different types of food and hygiene. 5. I can identify which part of the body is associated with each sense. 6. I can identify, name, draw and label the basic parts of the human body 7. I know that animals, including humans, have offspring which grow into adults	

	Revisit of knowledge short Afl lesson	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6	Lesson 7
Learning Question	What do I already know about animals?	Is the leg bone connected to the hip bone?	What is my nose for?	What do I need to survive?	What do I need to keep healthy?	What is the life cycle of an animal?	Is it a bird?	
Enquiry Type		Identifying	Comparative testing	Identifying, classifying & grouping	Research using secondary sources	Research using secondary sources	Identifying, classifying & grouping	Identifying, classifying & grouping
Conceptual Knowledge	Previous unit assessment end points	I can identify, name, draw and label the basic parts of the human body	I can identify which part of the body is associated with each sense.	I can describe the basic needs of animals, including humans, for survival (water, food and air).	I can describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene	I know that animals, including humans, have offspring which grow into adults	I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).	
Working Scientifically		I can record my observations e.g. using drawings & labelled diagrams	I can use practical resources provided to gather evidence to answer questions created by myself or my teacher I can use my senses to make my observations.	I can sort and group these things, identifying my own criteria for sorting.	I can use my experiences of the world to suggest appropriate answers to questions.	I can use my experiences of the world to suggest appropriate answers to questions.	I can use simple secondary sources to name living things. I can describe the characteristics I used to identify a living thing.	I can use simple secondary sources (such as identification sheets) to name living things. I can describe the characteristics I used to identify a living thing.
Review/ Revisit	Review learning in Reception	Sing Head Shoulder, Knees & Toes	Label the body on the board	https://www.bbc.co.uk/bitesize/topics/z9yycdm/articles/zxy987h Quiz on senses	True false quiz on basic needs Year 2 Science Study & Activity p 25	Match food with its food fact Year 2 Study & Activity book p 27	Order the life cycle of a frog	True or false Year 1 Study & Activity book p 25
Read		The labels of the parts of the body	Year 1 Science Study & Activity p 22	Year 2 Science Study & Activity p 24	https://www.twinkl.co.uk/resource/t-t-5508-healthy-living-how-can-i-help-myself-powerpoint?sign_in=1		Year 1 Science Study & Activity p 26	Year 1 Science Study & Activity p 24

Teach		https://www.bbc.co.uk/bitesize/clips/zsjsbk7 Show the children the different words and ask them to identify them on their own body.	https://www.bbc.co.uk/bitesize/topics/z9yycdm/articles/zxy987h Discuss the senses. When do we use them? Are they all important?	https://www.youtube.com/watch?v=PAyyDuk6xAg Add the 3 basic needs to the learning wall. How can we get them? How do animals get them? Is there anything else? Explain shelter and add it to the list	https://www.bbc.co.uk/bitesize/clips/zgtr82p Discuss: Exercise Diet Hygiene	https://www.bbc.co.uk/bitesize/topics/z6882hv/articles/zttckqt Discuss how all animal lifecycles are similar.	https://www.youtube.com/watch?v=mH7WkbE80Vg Add the new vocabulary: fish, amphibian, reptile, bird and mammal to the learning wall. Explain that the children are going to be researchers and find out more about each group. Model activity with amphibians https://school-learningzone.co.uk/key_stage_one/ks1_science/animals_and_plants/types_of_animals/types_of_animals.html write down the characteristics of an amphibian	Revisit learning from the previous lesson. What are the characteristics of fish, amphibians, reptiles, birds and mammals Revisit lesson one when they labelled the parts of a human (mammal). Label another mammal on the board and compare. What is the same?
		Children to use the labels to label the parts of the body on a child	Children match body parts to their senses.	Show the children a picture of a pet dog with lots of objects around it eg water bowl, toys, food, kennel, lead, collar, treats etc. Identify the things the dog needs to survive. Discuss.	Exercise Identify activities that include exercise from different photos eg watching tv, running, playing in a park, reading etc Diet Identify healthy/unhealthy food. Hygiene What part of your body should you clean once a day? Twice a day? Once a week?	Share the life cycle of an owl, a human and a butterfly. Identify similarities and differences.	https://school-learningzone.co.uk/key_stage_one/ks1_science/animals_and_plants/types_of_animals/types_of_animals.html In pairs write down the characteristics of a reptile. Feedback	Label a drawing of a bird, fish, reptile, amphibian. As class discuss similarities and differences
		Label a diagram of the body.	Children complete taste, touch smell, sight and hearing tests set up around the room. Smell: smell 4 containers and identify which one is orange, coffee, soap & toothpaste. Taste: Identify 3 different flavours of crisp – ready salted, cheese & onion, salt & vinegar Hearing – listen to 4 sounds. What are they? Touch. What is in the 4 feeling bags? Sight. Move a short distance with a blindfold on. How did it feel?	Needs or wants? Show the children a variety of things eg water, sweets, toys, cars, houses, pets, food, holidays etc Sort into two groups – wants and needs. Discuss	Think of 5 things you can do every day to be fit, healthy and clean. Write them down.	Create/order a simple life cycle of an animal that gives birth to their young and one that lays eggs.	In pairs watch the clips and note down the characteristics of fish, mammals and birds.	Give the children some pictures of animals with a short amount of information (similar to p32-33 Year 1 Science study & Activity book). Give them some information about people who want to buy pets. Eg I would like a carnivore who can fly. I want an animal that lays eggs and can swim Match them together
		Mix pair share: have we labelled them in the same way?	What would happen if we lost one of our senses?	One stray. Have they sorted in the same way? If any difference try to persuade the group to why you are right.	Mix pair, share. Do you have the same? Add any ideas you like to your list	Do all offspring look like their parents? https://www.youtube.com/watch?v=CseuNrSU0Io	One stray. Have you identified the same characteristics? Can you add to your list?	Share. Have we got the same owners and pets matched?
End of Unit Assessment: The pet shop has muddled up its animal labels and information. Can you sort it out?								

Medium Term Plan: Materials Cycle A Y1/2			
Enquiry Type:	Working Scientifically Concepts:	Previous Scientific Vocabulary	New Scientific vocabulary
<ul style="list-style-type: none"> Comparative testing Identifying, classifying and grouping Observing Problem solving 	<ul style="list-style-type: none"> Asking questions Making observations and measuring them Engaging in practical enquiry Recording and presenting evidence Answering questions and concluding Evaluating and predicting Communicating findings. 	<ul style="list-style-type: none"> sorting similarities differences hard soft 	<ul style="list-style-type: none"> rough smooth bendy shiny
		<ul style="list-style-type: none"> classify properties flexible stiff tough 	<ul style="list-style-type: none"> brittle transparent opaque waterproof dull
Previous Learning End Point Assessment in this concept:	Previous Learning End Point Assessment in working scientifically concepts:	End Point Assessment Statements:	
1. I can comment on unknown objects, based on my own exploration. 2. I understand that some materials can change state eg melting and baking	1. I can carry out a simple set up experiment (sorting materials) that enables me to talk about similarities 2. I can classify materials based on their similarities and differences	1. I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. 2. I can explore how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 3. I can describe the simple properties of a variety of everyday materials. 4. I can distinguish between an object and the material from which it is made	

	Revisit of knowledge short Afl lesson	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
Learning Question	What do I already know about materials?	What is it made from?	What is a property?	Can I sort materials?	Can I change a material?	Which material is best for an umbrella for Incy Wincy Spider?	Which material should I use to keep Humpty Dumpty safe?
Enquiry Type		Observing	Identifying, classifying and grouping	Identifying, classifying and grouping	Comparative testing	Comparative testing	Problem solving
Conceptual Knowledge	Prior unit assessment end points	I can distinguish between an object and the material from which it is made	I can describe the simple properties of a variety of everyday materials.	I can describe the simple properties of a variety of everyday materials.	I can explore how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.
Working Scientifically		I can carry out: tests to classify	I can use my observations and testing to compare objects, & materials.	I can sort and group these things, identifying my own criteria for sorting.	I can make careful observations of the things around me to support comparison.	I can use practical resources provided to gather evidence to answer questions created by myself or my teacher.	I can use practical resources provided to gather evidence to answer questions created by myself or my teacher.
Revisit	Investigate a group of materials and decide how to sort them. Explain how they sorted them eg colour, size etc	Revisit previous lesson. How did we sort our objects?	Play Relay Robin in pairs naming objects made from a given material.	Play Relay Robin in pairs naming objects made from a given material.	Complete the quiz from the start of the clip	Quiz: Quick fire quiz 5 questions.	How did we solve the problem last week?
Read		Year 1 Science Study & Activity Book p 34-35	Year 1 Science Study & Activity Book p 36	Year 1 Study & Activity Book p38-39 complete in pairs.	Year 2 Study & Activity Book p34 - 35	Year 2 Study & Activity Book p32	Year 2 Study & Activity Book p36
Teach		Explain that objects are made from different materials. Watch https://www.youtube.com/watch?v=g3r-g5dPyVE Make a list of materials on the learning wall.	Watch https://www.youtube.com/watch?v=340MmuY_osY Look at the objects shared at the beginning of the last lesson. Explain the properties of them eg transparent/opaque, flexible/ stiff, shiny/dull.	Show the children the collection of materials from the last 2 lessons and model how to sort into sorting rings based on a chosen property eg flexible/stiff.	https://classroom.thenational.academy/lessons/how-can-the-shape-of-solid-objects-be-changed-74uk2c?step=2&activity=video Use the clip to explain squashing, bending, twisting and stretching.	Introduce the problem. What properties will the material need? What is the most important property? How could we test whether something is waterproof? Model how to complete the test. How will we know which is the most waterproof?	Introduce the problem. What properties will the material need? What is the most important property? Share the different materials: cardboard, paper, bubble wrap, foil,. felt, gravel. Model how the experiment will be carried out using the ziplock bags and the eggs

Practice		Show the children a few everyday objects – a pair of glasses, elastic band, ruler, foil, house brick, bookcase, plastic ball - ask them to match to the material using the list on the learning wall.	Show the children a small group of objects and ask them to name the object, material and the property of the material.	Ask the children to sort the same materials using a different criteria eg shiny/dull.	Give the children a sponge, slinky and a skipping rope. Practise squashing, bending, twisting and stretching.	 <p>Children make five umbrellas for the plastic spider using felt, foil, paper, cardboard. Predict which they think will be the best.</p>	Children prepare the eggs and the bags. Use the results table to predict what they think will happen to each egg.
Apply		Material Hunt: in pairs, children choose 8 objects from the room. Name the object and identify what material it is made from.	Material Hunt: in pairs, children choose 8 objects from the room. Name the object and identify what material it is made from and identify their properties.	Give children a set of materials and ask them to use the sorting rings to sort them using the different property cards (transparent/opaque, flexible/ stiff, shiny/dull. Tough/brittle, rough/smooth). Children record.	Children complete a simple investigation using: A sock, playdough, a rubber band, a paper straw, a ruler, a squishy, a piece of wood. Record in a table.	In small groups children complete the investigation and record their results.	In small groups children complete the investigation and record their results.
Reflect		Mix, pair, share. Children share their findings with another pair. Do they agree?	Round Robin. Children share their findings with another pair. Do they agree?	One Stray. Children share their findings with another pair. Do they agree?	Mix, pair, share. Children share their findings with another pair. Do they agree?	Which was the best material? Why? Do we all agree? Was it a good way of testing why?	Which was the best material? Why? Do we all agree? Was it a good way of testing? Why?
End of Unit Assessment: Little Red Riding Hood needs a new basket, but she doesn't know which material would be the best to make it from. Can we help her?							