East Dene School Science Medium Term Plan Year: 3/4 Aut 1 Teachers: Miss Paisley/Mrs Beighton/Miss Tompkins/Miss Chowdrary

Animals including Humans Y3

Previous Knowledge

Y1 - Pupils should be taught to:

identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals

identify and name a variety of common animals that are carnivores, herbivores and omnivores

describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)

Y2 - Pupils should be taught to:

notice that animals, including humans, have offspring which grow into adults

find out about and describe the basic needs of animals, including humans, for survival (water, food and air)

describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene

Y3 - Pupils should be taught to:

- **identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat**
- **identify that humans and some other animals have skeletons and muscles for support, protection and movement**

N.C link:

Previous learning consolidation from Y1 and 2

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Lesson 1: Recap prior knowledge from Y1 and 2

WALT: Recap prior knowledge

Context: animals including humans

Connect: Recap of previous learning	Activate: New skills	Demonstrate: Activity to apply new skills	Review: Reflection, Extension, Consolidation, AFL opportunity
Give children some key words from Y1 and Y2 and ask them to recall what they already know about animals and humans. What do these words mean – can you give examples. Fish, amphibians, retiles, birds, mammals, carnivores, herbivores, omnivores, food, water, exercise, survive, healthy, rest.	Activity 1 - Create a mind map of what they know – scribe for children who need support or ask them to draw what they know and tell you about it. Activity 2 - show images of a snail, worm and mouse (stick in books) and ask them to discuss which they feel is the odd one out. (Explain reasons). Activity 3 - think about what the animals all have in common, and whether they also have this in common with humans. (present in table of similarities and differences)		Play animal guess who using the features they know to describe the animal they have chosen (small groups)

Language Development			
Key Vocabulary		**Structures:**	**Equipment**
See above		I know that…… I think that…… ……is a …….because……	Odd one out images Guess who template

N.C link:
identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Lesson 2:

WALT: Identify and name the bones of the skeleton.
Context: Animals including humans

WS –
Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Ask relevant questions

Connect: Recap of previous learning	**Activate: New skills**	**Demonstrate: Activity to apply new skills**	**Review: Reflection, Extension, Consolidation, AFL opportunity**
Recap any misconceptions from last lesson. **Explorify activity** - What if my bones were bendy? PUT IN FLOOR BOOK Positive Negative Something interesting  Introduce new vacb for this lesson and ask children to work in groups to match the definition and the picture to the word.	Give children the outline of a human body and ask them to draw where their different bones are. Discuss in small group and compare. Do you know what the different bones are called? How many bones do you think we have? (write the number on their initial ideas sheet) Do all animals have skeletons? Look at some examples of endo/exoskeletons and discuss. Consider these questions in groups 1. What would it be like if you had no skeleton? 2. Do you think a fabric skeleton would work? 3. Do you know about muscles and how they work? 4. Show a model of a human skeleton and the key word (names of the different bones) on card. How many bones do you think we have? Can we count them? They learn the names and locations of major bones, including the skull, jaw, humerus, radius, ulna, spine, pelvis, femur, tibia and fibula Children research the human skeleton using books and or ipads. Using a diagram of a skeleton children to label to main bones. Discuss the three main functions of the human endoskeleton - to protect, to support, and to allow movement. Which bones might help do these things? Give examples and explain these in books. https://www.youtube.com/watch?v=ywDOiNEdJVc		Concept cartoon consider whether Ricky would be better off without any bones. Record in floor book.

Language Development			
Key Vocabulary		**Structures:**	**Equipment needed**
Skeleton, exoskeleton, endoskeleton, bones, the skull, cranium jaw, mandible, humerus, radius, ulna, spine, pelvis, femur, tibia and fibula, patella		I know that…….. The bone is…….. If we did not have a skeleton ……because…… The functions of the skeleton are……..	Explorify activity Outline of the body Skeleton templates and key words Concept cartoon

N.C link:
identify that humans and some other animals have skeletons and muscles for support, protection and movement

Lesson 3:

WALT: Identify joints and their functions
Context: Joints

WS -
Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Ask relevant questions

Connect: Recap of previous learning	**Activate: New skills**	**Demonstrate: Activity to apply new skills**	**Review: Reflection, Extension, Consolidation, AFL opportunity**
Explorify activity: Have you ever broken a bone – see activity prompts and considerations https://explorify.uk/en/activities/have-you-ever/broken-a-bone Vocab match for this session plus the ones from last lesson as a recap. Children to recap prior knowledge on the bones of the body. What is the difference between an endoskeleton and an exoskeleton? What is the skeletal system? Complete the group labelling activity from last lesson. How many can you remember? Did you d this faster than last time?	Explain that we can move our bodies where there are joints between two bones. Ask children to find joints on their bodies and then to consider whether all joints moved in the same way. Ask the children to circle their joints on a picture pf the human skeleton and discuss their choices. Why have they selected this place, what movement does it allow you to make? Watch the video clip – tell children to listen carefully as there will be a quiz at the end. https://iframe.dacast.com/vod/e0fca63d7ceeb0dc78d6f49f821d0388/87992fa3-b77a-4f2c-aadd-4de9167987e4 Using the information, they have gather during the video label the main joints of the body and give examples of the 3 main joint and the type of movement they provide. LA – to us sentence stems to give examples of each joint with adult support to discuss and direct. Discuss choices and correct misconceptions.		Show me Say one of the 3 types of joints and children point to these on their body and show the movement. Odd one out – record in flor book Show children 3 examples of animals which is the odd one out and why. Direct them to think about their learning in science so far. Extend with How can the ladybird and octopus could move, support and protect itself without a skeleton? Assess what they know about muscles.

Language Development

Key Vocabulary	**Structures:**	**Equipment needed**
Words from previous lesson (bone names) Joints Hinge Ball and socket Pivot	I know that……because…… A joint is…… A ……joint is……	Floor books and explorify activity Vocab match cards Skeleton A3 and labels from last lesson Skeleton sheet to circle joints Labelling joints recording sheet. White boards for quiz wuestions.

N.C link:
identify that humans and some other animals have skeletons and muscles for support, protection and movement

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Lesson 4:

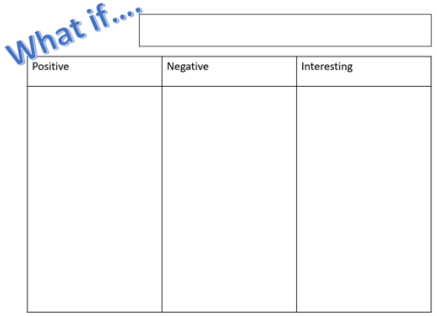
WALT: Identify muscles and their functions

Context: muscles

WS

Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Ask relevant questions

Connect: Recap of previous learning	**Activate: New skills**	**Demonstrate: Activity to apply new skills**	**Review: Reflection, Extension, Consolidation, AFL opportunity**
Explorify activity: What if we couldn't exercise? PUT IN FLOOR BOOK Positive Negative Something interesting  Vocab match for this session plus the ones from last lesson as a recap. Children to recap prior knowledge on the bones and joints of the body.	Show children a picture of the human body with the muscles showing – front and back. Ask What are muscles? How many muscles do we have? Play video https://www.bbc.co.uk/teach/class-clips-video/science-ks2-how-do-muscles-and-bones-work/zfgtscw Ask how do muscles work. Let children have a go at loving different body parts and trying to identify where muscles are. Complete exploring movement activity individually or in mixed ability pairs. Show children the image of the different muscles highlight and ask them to point to these on their own body. MTYT naming the scientific words for the muscles they need to know this lesson. Complete the different movements activity – children to identify and label the muscles being used and describe their observations using the sentence stems and key words. LA to work with and adult and discuss the movements before recording. Go through each example and children to assess and make corrections.		What happens to your muscles when you exercise? Do you need to warm up your muscles before exercise? Explain why..

Language Development		
Key Vocabulary	**Structures:**	**Equipment needed**
Words from previous lesson (bone and joint names) Muscles, tendons, cartilage , biceps, triceps, quadriceps, hamstrings. Tibialis anterior, Gastrocnemius, Pectorals Latissimus dorsi, Gluteus maximus ,Hip flexors, contracts, relaxes	I know that……because……. A muscle is…… A ……muscle is……	Floor books and explorify activity Vocab match cards Muscle activity sheets

<table>
<tr><td rowspan="4">N.C link:
identify that humans and some other animals have skeletons and muscles for support, protection and movement

Progression Document link:
Lesson 5:

WALT: Compare and classify skeletons
Context: Endo/exoskeletons

WS
Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Ask relevant questions

Identify differences, similarities or changes related to simple scientific ideas</td><td>Connect: Recap of previous learning</td><td>Activate: New skills</td><td>Demonstrate: Activity to apply new skills</td><td>Review: Reflection, Extension, Consolidation, AFL opportunity</td></tr>
<tr><td>Explorify activity: Zoom in, zoom out – Light as air
https://explorify.uk/en/activities/zoom-in-zoom-out/light-as-air
PUT IN FLOOR BOOK

Vocab match for all previous lessons – go over any misconceptions.

Children to recap prior knowledge on endo/exoskeletons</td><td colspan="2">Remind children of the functions of the human skeleton – protection, support, movement
Introduce the idea of skeletons being different
Do you think animals have skeletons like ours?
Are there any bones which might be similar?
Do all animals need a skeleton?
Can you think of some that don't?

Sort it out activity – children to work in groups or pairs to sort out examples of animals with endo/exoskeletons/no skeleton. Give children time to discuss their choices.
Look at endo/exoskeletons definition in more detail and children use the research booklets on their tables to stick or change their choices. Discuss answers as a class (expect children to explain why)

Show children some examples of animal skeletons – give them time to look at and discuss these. Look at 2 examples and compare these together – think about bones, joints, size etc

Using given examples stick in their books and write their notes and observations Can they identify the animal that it belongs to? Ask the children to stick the picture of the skeleton in their books and to annotate it with the name of the creature they think that it belonged to; they should also describe the clues that lead them to that conclusion – body shape, teeth in the skull, number and length of limbs, etc.

LA – Complete matching skeleton activity and with support write key words for a chosen skeleton of their choice.</td><td>Can you give an example of
- A vertebrate
- An invertebrate
- Animal with an exoskeleton
- Animal with an endo skeleton
- An animal with no skeleton</td></tr>
<tr><td colspan="4">Language Development</td></tr>
<tr><td>Key Vocabulary</td><td colspan="2">Structures:</td><td>Equipment</td></tr>
<tr><td></td><td colspan="2">I know that……because……
…….skeleton is a ……..because……</td><td>Vocab match activity from previous lessons
Sort it out activity (pairs or groups)
Skeleton examples
Word mats from previous lesson on bones</td></tr>
</table>

<table>
<tr><td rowspan="4">N.C link: identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat

Lesson 6:

WALT: Research and identify food groups
Context: Animals including humans

WS –
Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Ask relevant questions

Gather, record, classify and present data in a variety of ways to help in answering questions

Identify differences, similarities or changes related to simple scientific ideas</td><td>Connect: Recap of previous learning</td><td>Activate: New skills</td><td colspan="2">Demonstrate: Activity to apply new skills</td><td>Review: Reflection, Extension, Consolidation, AFL opportunity</td></tr>
<tr><td>Explorify activity: Odd one out(see flip)
PUT IN FLOOR BOOK

Vocab match activity

Assess what children remember from ks1
• find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
• describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</td><td colspan="2">Give out the eat well plate to each group A3 and ask they to discuss the key questions.
Do all humans and animals have the same diet? Why/why not?
Why might it be important to have a balanced diet? What does this mean?
Go through the different diets (omnivore, vegetarian and vegan) discuss the pros and cons of these.

Sort it activity in groups or pairs to introduce the children to the different food groups. Allow children to make their initial choices and discuss these as a class. (have a teach copy on the board so that choices can be moved about) Show answers and discuss any misconceptions.

Research task – using books and the research booklet children to fill in the missing parts of the table provided.
LA – to work in pairs with word mats and support from an adult.

Children to draw their favourite meal and annotate this with the food groups/nutrients they would get from this meal.
Look at the eat well plate again and discuss the key questions to make children think about their food choices. Ask children to look back and evaluate their meal and explain how this could be improved. Model how this is done by using an example.</td><td>Children to apply their learning by completing an odd one out activity either orally or written in books.

Ensure children are using the correct vocabulary that has been learnt this lesson.</td></tr>
<tr><td colspan="5">Language Development</td></tr>
<tr><td colspan="2">Key Vocabulary</td><td>Structures:</td><td colspan="2">Equipment needed</td></tr>
<tr><td>Diet, nutrition, herbivore, carnivore, omnivore, balanced</td><td>carbohydrates, proteins, oils, fruit and vegetables, dairy, sugary, fatty</td><td>My meal could be improved by……
To make my meal balanced I need to……
I need more of……because……
I need less of because……
I know that……because……
….is important because……</td><td colspan="2">Odd one out activities
Eat well plate
Sort it activity
Recording table
Meal plan sheet
Research booklet and books</td></tr>
</table>

<table>
<tr><td rowspan="2">N.C link: identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat

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Lesson 7:

WALT: Identify nutritional information

Context: animals including humans

WS
Gather, record, classify and present data in a variety of ways to help in answering questions

Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

Identify differences, similarities or changes related to simple scientific ideas and processes</td><td>Connect: Recap of previous learning</td><td>Activate: New skills</td><td>Demonstrate: Activity to apply new skills</td><td>Review: Reflection, Extension, Consolidation, AFL opportunity</td></tr>
<tr><td>Explorify activity: Have you ever? Have you ever been told to eat more fruit and vegetables? https://explorify.uk/en/activities/have-you-ever/been-told-to-eat-more-fruit-and-vegetables

relate science learning to children’s prior experiences; to get them to all think about something they have experienced

Vocab match activity

Can you remember the key food groups and any examples? Which food group should we eat the most/least of?</td><td>https://www.nutrition.org.uk/putting-it-into-practice/food-labelling/looking-at-labels/ play the video to introduce food labels.

Show children a picture of a food labels from 2 different foods to compare?
What does this show us?
What food could it be?
Why is it important to look and compare food labels?

Give some food packaging and ask children to sort it according to how much fat and then sugar they contained. Show the food labels - column that displays content per 100g so that they could compare food items. Ask children to rank the food in order of sugar content and discuss their finding.

Look at the McDonald’s nutrition calculator https://www.mcdonalds.com/gb/en-gb/good-to-know/nutrition-calculator.html

Model how to use this to compare items and their nutritional values.
Ask children in their groups to select one nutrient and compare this across some of the McDonald’s products. Record their findings as a group and discuss their findings as a class
Were you surprised by any of your findings?
What would be the healthiest choice on the menu?
What would be the unhealthiest choice on the menu?</td><td>What if question https://explorify.uk/en/activities/what-if/you-only-ate-chips

We only ate chips for a month?

Would you enjoy just eating chips?
Is just eating one type of food healthy?
What would you drink?
What might you feel like at the end of the month?

Prompt children to think about their learning in science on eating a balanced diet.</td></tr>
<tr><td></td><td colspan="4">Language Development</td></tr>
<tr><td></td><td colspan="2">Key Vocabulary</td><td>Structures:</td><td>Equipment needed</td></tr>
<tr><td></td><td>Energy
Nutrition
Diet
Healthy
Unhealthy</td><td>carbohydrates, proteins, oils, fruit and vegetables, dairy, sugary, fatty</td><td>I know that…. because……
I have found out that……
I was surprised by……..because……
……higher/lower in…….than……</td><td>Explorify activities
A range of food packages
Ipads or computers</td></tr>
</table>