



Knowledge and Skills Mind Map (Science) - Year 2 Autumn Term (page 1)

Knowledge - 
Skill - 



Animals, including Humans

1. Can I **identify** different ways of keeping fit and **classify** activities related to exercise?

- **Prior knowledge (Year 1):** common animals (fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores)
- **Vocab:** exercise, fitness, healthy
- Know that exercise helps to keep our bodies healthy and strong (e.g. running makes our heart beat faster, jumping helps build strong muscles)
- Know that there are different types of physical activities that help keep us fit (e.g. swimming, dancing, cycling, playing football)
- Know that we can group and classify activities based on whether they help us keep fit or not (e.g. sorting jogging and skipping as exercise, and watching TV or playing on a tablet as not exercise)
- **Identify and Classify**

2. Can I **perform a simple test** before and after exercise? (one long session e.g. whole afternoon)

- **Prior knowledge (last lesson):** identify ways of keeping fit. Classified exercise (see lesson 1)
- **Vocab:** test, oxygen, pulse/ heart rate, results,
- Know that exercise helps humans to develop physically, mentally and emotionally
- Know that we must warm up before exercise
- Know that we can measure heart rate for a set amount of time
- Know your heart rate has a resting rate which increases during exercise and returns after exercise
- Your heart rate increases to allow the oxygen to reach muscles quicker
- Know that we can perform a simple test to see how exercise affects our bodies (e.g. measuring pulse or counting heart beats before and after running)
- Know that we can compare results before and after exercise to find out what has changed (e.g. noticing their pulse is higher after star jumps than when resting)
- **Notes for teachers— suggested task:**
 - **Resting test**
 - Children sit quietly for 1 minute.
 - Show them how to find their pulse (wrist or neck) or place a hand on their chest.
 - Count heart beats together for **30 seconds** (teacher timing).
 - Record the number (use a simple worksheet or tally).
 - **Exercise**
 - Pupils complete **1 minute of exercise** (e.g. star jumps, jogging on the spot, skipping).
 - **After exercise test**
 - Immediately repeat the pulse count for 30 seconds.
 - Record the new number.
 - **Compare results**
 - Children discuss and circle or draw:
 - Before = slower
 - After = faster
- **Perform a simple test**

5. Can I **answer questions** about why animals and humans have offspring?

- **Prior knowledge (last lesson):** hygienic/unhygienic tasks
- **Vocab:** offspring, reproduce, life cycle
- Know that offspring is a scientific definition of ‘babies’ or ‘young’
- Know that animals and humans have offspring that grow into adults
- Know that humans have offspring to ensure their species continues to exist
- Know the human life cycle (e.g. foetus, baby, child, adolescent, adult and being elderly)
- All animals and humans follow a life cycle
- **Use observations and ideas to suggest answers to questions**

4. Can I **classify** hygienic and unhygienic tasks?

- **Prior knowledge (last lesson):** healthy and unhealthy foods
- **Vocab:** hygiene, clean, germs
- Know that personal hygiene is how we look after our bodies and prevent the spreading of germs e.g. washing, brushing teeth
- Know how to be hygienic— hand washing, teeth brushing, clean underwear and clothes, washing body and hair, covering a cough
- Know that unhygienic actions can spread germs and make us unwell (e.g. not washing hands after the toilet, coughing without covering your mouth, not bathing regularly)
- Know that we can group and classify actions as hygienic or unhygienic (e.g. sorting “washing hands” as hygienic and “not brushing teeth” as unhygienic)
- **Identifying and classifying**

3. Can I **classify** healthy and unhealthy foods?

- **Prior knowledge (last lesson):** tested heart rate/pulse before and after exercise
- **Vocab:** healthy, unhealthy, diet
- Know that some foods help our bodies stay healthy (e.g. fruit, vegetables, milk, fish)
- Know that some foods should only be eaten sometimes because they are less healthy (e.g. sweets, chocolate, crisps, fizzy drinks)
- Know that we can group and classify foods into healthy and unhealthy categories (e.g. sorting apples and carrots as healthy, and cakes and sweets as less healthy)
- **Identifying and classifying**



Knowledge and Skills Mind Map (Science) - Year 2 Autumn Term (page 2)

Knowledge - 
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Animals, including Humans

6. Can I ask a scientific question about the basic needs of animals (including humans)?

- **Prior knowledge (last lesson):** explained why animals and humans have offspring
- **Vocab:** scientific question, survive, basic needs
- Know that a scientific question can be answered by observing (watching), investigating, or experimenting.
- Know that a suitable question children could ask might be, 'What must animals and humans need to survive?'
- Know that to answer this we could make observations
- Know that all animals (including humans) have three basic needs to survive:
 - **Water:** stay hydrated, helps with digestion, allows bodies to function
 - **Food:** provides energy for movement, growth and strength, Different animals eat different things
 - **Air:** allows animals to breathe, provides oxygen which allows body to release energy from food
- **Ask simple questions and recognise they can be answered in different ways**

7. Can I identify and classify different teeth?

- **Prior knowledge (last lesson):** basic needs of animals and humans: food, air, water
- **Vocab:** teeth, incisors, canines, molars
- Know that humans have two sets of teeth in their life time
- Know that humans have different types of teeth that do different jobs (e.g. incisors at the front cut food, molars at the back grind food)
- know that different teeth have different shapes (e.g. incisors are flat and sharp, molars are large and bumpy)
- know that we can identify and classify teeth based on their shape and function (e.g. grouping cutting teeth as incisors and grinding teeth as molars)
- Know the main types of teeth:
 - incisors (biting),
 - canines (tearing)
 - molars (grinding and chewing)
- Know that a build up of plaque can cause tooth decay/cavities
- Know how to care for teeth: dentist, brushing twice a day, diet including water
- **Identifying and classifying**

