Year 6 – Science- Classifying Critters
Autumn 1 Knowledge Organiser

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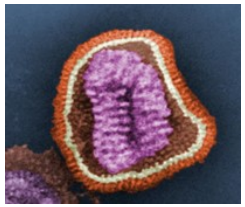
This Science unit follows on from previous studies of living things and their habitats in Year 4. This unit will deepen the children's understanding of classifying organisms based on similarities and differences. They will learn about the importance of classification and how we use classification keys. The children will also learn about micro-organisms, including viruses, bacteria, fungi and yeast. They will be able to recognise examples of helpful and harmful microorganisms.

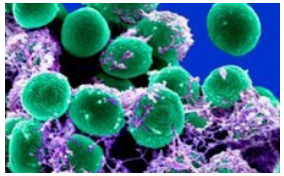
Key Knowledge

- Taxonomists classify living things into categories based on similarities and differences.
- Carl Linnaeus was a Swedish Scientist that first published a system for classification. We now use an adapted version, The Linnaeus System.
- The number of organisms in each group gets smaller until just one type of animal in the species group.
- Scientists are able to observe and understand characteristics of living things more clearly.
- Microorganisms can be found all around us. They can be found in almost every habitat on Earth.

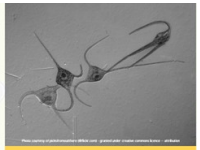
A virus:



A bacteria:



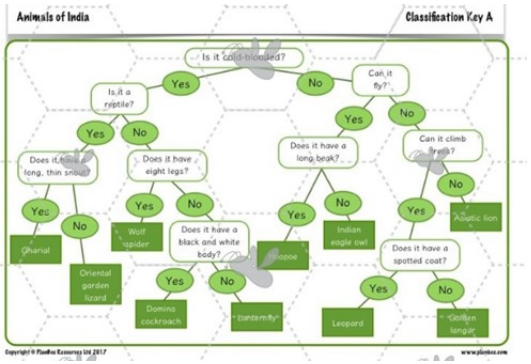
A magnified image of a household dust mite.



Plankton are microscopic organisms drifting in fresh or sea water, including plants and animals.

Yeast is a microscopic fungus that can be used to raise bread dough.

Mould is the common word for any fungus that grows on food or other materials.



Helpful microorganisms:

Bacteria used to ferment milk in cheese making.

Yeast ferments carbohydrates in grapes to make wine.

Microorganisms feed on leaves/plants to create compost.

Harmful microorganisms:

Food poisoning caused by bacteria on undercooked food.

The influenza virus causes flu symptoms.

Athlete's foot is caused by a fungus that grows between the toes.

Key Vocabulary

The Linnaeus System: Adapted version of a system for classifying all living things developed first by Carl Linnaeus.

Classification key: A series of questions used to identify a living thing or decide which group it belongs to.

Microorganisms: Tiny living things that are not visible to the naked eye.

Virus: Example of a microorganism.

Bacteria: Example of a microorganism.

Fungi: Example of a microorganism.

Yeast: Microscopic fungus used to raise bread.

Phytoplankton: Example of a microorganism in fresh or sea water.

Key Questions

What is a taxonomist?

What is the Linnaeus system? How does it work?

What is a classification key? How does it work? Explain an example of a classification key.

What are mircroorganisims? Can you give examples of micro-organisms?

How are microorganisms helpful?

How are microorganisms harmful?

Year 6 – Health and Wellbeing
Autumn 2 Knowledge Organiser

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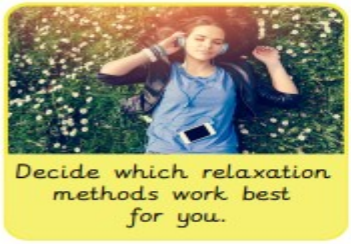
This PSHE unit builds on from the Year 5 health and wellbeing topic. The children focus on developing qualities and values that help them to create achievable goals. They discuss the importance of their physical well-being, and learn about resilience as well as useful resources to develop strong mental well-being. They will understand good and bad habits that contribute to the quality of health and wellbeing. The children will discuss changes in their bodies that could indicate an illness and know what to do if they notice them. Finally, they will wrap up the topic by linking it all to relaxation strategies and looking after their mental and physical health.

Key knowledge

- Understand the factors that contribute to mental and physical health such as diet, exercise, rest/ relaxation.
- Know that habit is a behaviour often done without thinking and that there are good and bad habits.
- Know that habits are not fixed and they can be changed.
- Know the effects of technology on mental health.
- Recognise the changes in the body that could be a possible sign of illness and react appropriately.
- Understand that vaccinations give protection against disease.


Decide which relaxation methods work best for you.


If you notice changes in your body or you feel unwell, talk to an adult you trust or the doctor.


Using a tracker might help to start a good habit.

Star Words– Key Vocabulary

- **Concerns - be worried or anxious**
- **Habit-**A repeated action.
- **Realistic -**Having or showing a sensible and practical idea of what can be achieved or expected.
- **Mindfulness -**The quality or state of being conscious or aware of something.
- **Hygiene-** Conditions or practices conducive to maintaining health and preventing disease, especially through cleanliness.
- Persevere—Continue in a course of action even in the face of difficulty, or with little or no indication of success.
- **Immunisation**—The action of making a person resistant to a particular infectious disease or pathogen, typically by vaccination. .

Key Questions

- Can I identify relaxation strategies when in a stressful situation?
- Can I identify ways to take action if I am worried about my own or a friend's wellbeing?
- Can I explore ways to maintain good habits?
- Can I set achievable goals for a healthy lifestyle?
- Can I identify resilience qualities and work to develop them in a challenging situation?
- Can I consider ways to prevent illness?


Meditation and mindfulness can help us to relax.


Lots of things contribute to keeping our bodies healthy including diet, exercise and sleep.

Science—Enquiry Approaches

Knowledge Organiser

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ambitious for the future

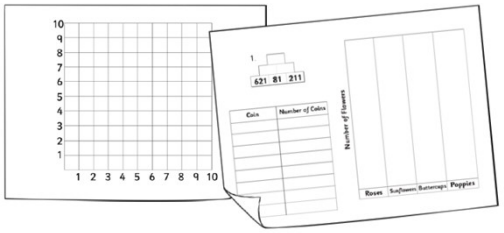
Scientific enquiry approaches are part of our science curriculum and are the different ways that we can carry out scientific investigations.

Observing over time

We measure events and changes in living things, processes or materials. These observations (using our senses) may take place over different periods of time; minutes, hours, weeks or months. several weeks or months.

How does the moon appear to change shape during a week?

Pattern Seeking



We conduct investigations where there are variables we cannot control (practically or ethically).

We don't look for cause and effect in Pattern Seeking, but possible relationships may be identified.

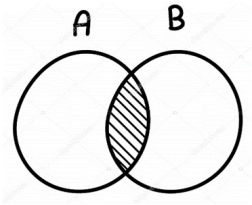
Do sounds get quieter the further away you are from the sound source?

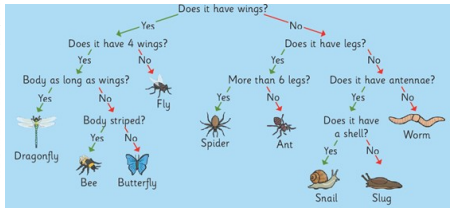
Researching using Secondary Sources

Sometimes we research when we ask questions that can not be answered practically. We can use secondary sources, such as books, the internet, or an expert.

What are the main parts of the circulatory system and what are their functions?

Identifying and Classifying





Identification: Naming things by looking at differences.

Classification: Organising things into group by making connections and looking at similarities or differences.

How can we classify animals using a classification key?

Fair testing

One variable (independent variable) is changed and all other variables must be controlled. The variable that is changed is quantitative (**numbered**).

How does the size of the parachute effect the time it takes to fall?

Comparative testing

One variable (independent variable) is changed and all other variables must be controlled. The variable that is changed is qualitative (**words**).

Which material is the best thermal insulator?