Lesson 1 – Classification and species.

Key points to learn:

1. Learn that living organisms have many differences (variations). Scientists classify organisms by examining their variations.

2. We have defined what is meant by a species – “a group of organisms that can reproduce with one another and produce fertile offspring”. We have discussed hybrid animals such as zebroids, mules. ligers etc.

3. We have learnt the name of the human species Homo sapiens.

4. We have covered the history behind the process of classification. This covers some of the history of the classification process – Carl Linneaus, use of latin names and why, five kingdom classification system.

Study and Question book page 86

Lesson 2 – Differences between species.

Key points to learn:

1. We have used the preserved specimens and models to classify organisms. We have been able to classify in terms of Invertebrate and Vertebrate.
2. We have been able to sort animals into different groups based on the features shown. You have been able to recognise that they are all vertebrates and are either: fish, amphibians, reptiles, birds or mammals.
3. From the preserved specimens/models of invertebrates you have Identified the 8 main groups of invertebrates.
4. We have focused on the arthropods –
5. We have discussed the classification of plant species: mosses, ferns, conifers and flowering plants. We can emphasise the main differences between animals and plants – ability to make own food and not able to move around by themselves.

Study and Question book page 82-83

Lesson 3 – Variation between species in a population

Key points to learn:

1. You have observed variation in your class and been able to measure : Heights of the class, right/left handedness, eye colour, shoe size.

2. You have used your data by making tally charts and graphs drawn of the findings.

3. You have been able to identify the types of variations measured:

Height/shoe size – example of continuous variation.

Eye colour/ handedness – discontinuous variation.

4. We have established that variation can be caused by our genes or by the environment.

Study and Question book page 82-83

Lesson 4 – Inheritance of genetic information

Key points to learn:

1. You are able to explain what genetic information is: Role of nucleus (contain genes) chromosomes (threads of genes), genes (section of DNA code), DNA(large chemical carrying code).
2. Know the role of genes in determining our features e.g. Eye colour, hair colour, blood group etc.
3. You have understood the idea that ½ genetic information comes from Mum and ½ from Dad. That this information comes from sexual reproduction.
4. Understood how many chromosomes humans have – 46 or 23 pairs.
5. The the sex chromosomes: XX female, XY male.
6. Understood that only identical twins have exactly the same genetic information.

Study and Question book page 73-74.

Lesson 5 – Demonstrating inheritance.

Key points to learn:

1. The work of Gregor Mendel in understanding inheritance. Used Punnett squares to show the possible combination of alleles (different types of the same gene)

2. Understood the inheritance of conditions such as cystic fibrosis which we have demonstrated using Punnet squares. This includes the idea of recessive alleles.

Study book pages 72 and 82

Lesson 6 – DNA

Key points to learn:

1. You have followed the instruction booklet which allows you to isolate your own DNA.
2. You have produced an A4 display on the molecule DNA – learning about the discovery, why its discovery is so important, what is the function of DNA.

Study book pages 73 and 74

Lesson 7 – The importance of variation. Part 1.

Key points to learn:

Our emphasise is that only features caused by genes can be passed onto offspring. We have also examined the effect of the environment on variations.

1. We have examined the features that animals have as predators or prey.
2. We have established whether these are genetic or environmental features.
3. We have learnt how good genetic variations help an organism survive and these can then be passed onto their offspring – process of natural selection.
4. We have made a summary of the adaptations of predators/prey and whether features are inherited or due to the environment.
5. We have studied how variation can be developed by looking at Darwin's finches.

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Lesson 8 – The importance of variation part 2

Key points to learn

We have been able to demonstrate the different beak shapes of birds. This has helped us to describe the shape and explain how these shaped have occurred.

1. We have looked at images of the Peppered moth as an example of natural selection over a short period of time.
2. We have been able to look at the adaptations of the polar bear and cacti.
3. We have discussed how global warming may be affecting the survival of the polar bear.

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Lesson 9 – Biodiveristy

Key points to learn:

1. We have learnt why organisms are becoming endangered or extinct. Establish that extinction means that the genes of the organism are lost which will affect natural selection.
2. We have learnt about the term biodiversity – the variety of organisms in an area. Remind pupils of the components of variation.
3. We have learnt how humans can increase biodiversity – stop hunting, stop deforestation, use sustainable fishing, support CITES, reduce global warming, reduce use of pesticides, stop pollution, conserve species in zoos or reserves, store seeds in seed banks.
4. We have discussed the role of zoos in conservation.

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