Year 9 Biology

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| TOPIC: Genetics and Evolution |

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| Theme: Identify and explain genetics and evolution | Level: Year 9 |
| Objectives: To develop an understanding of genetics and evolution |

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| Focussing Statements | Key Words Practical |
| **9Aa: Monsters and myths*** Identify and give examples of environmental variation.
* Explain how environmental variation is caused.
* Tell the difference between continuous and discontinuous variation.
* Explain why environmental variation can make classification and identification difficult.

**9Ab: Inherited variation*** Identify and give examples of inherited variation.
* Explain how inherited variation is caused.
* Describe where genetic information is stored and what it does.
* Identify normal distribution.

**9Ac: DNA*** State what chromosomes are made of.
* State the number of pairs of chromosomes in most human cells.
* Describe where genes are found and what they do.
* Describe the roles played by Watson, Crick, Franklin and Wilkins in the discovery of the structure of DNA.
* Use a model to illustrate the relationship between cells, cell nuclei, DNA, chromosomes, genetic information and genes.

**9Ad: Genes and extinction*** Explain how changes in an ecosystem can cause endangerment and extinction.
* Suggest methods of conservation.

**9Ae: Natural selection*** Explain how natural selection determines the survival of certain variations of adaptations within a population.

**9ba Reactions in plants*** Model aerobic respiration using a word equation.

**9b Plant growth*** Describe how gas exchange (including water) occurs in plants.
 | genusjournalscientific paperspeciesvariationcharacteristicclassificationcontinuous continuous variationdiscontinuous discontinuous variationenvironmentenvironmental factorenvironmental variationphysical environmental factorresourceadaptedbiodiversitycompetitionecosystemendangeredextinctfood webgene banknative | **Exploring science 9A and 9B practical works sheets**  |