AQA Biology GCSE Student Checklist

B14 Genetics and evolution

Name Date Date

| Lesson | Aiming for 4 | Aiming for 6 | Aiming for 8 | |
|--------------------------------|--|--|---|--|
| B14.1 Evidence for | I can describe what a fossil is and give an example. | I can describe how fossils are formed. | I can evaluate the use of fossils as evidence for evolution by natural selection and how life first formed. | |
| evolution | I can recognise that fossils are evidence for evolution by natural selection. | I can describe how fossils are evidence for evolution by natural selection. | I can use standard form to discuss the large time scales that we use when considering the evolution of life. | |
| | I can order geological events. | I can explain why the fossil record is not complete. | I can create a geological timeline to scale. | |
| B14.2 Fossils and extinction | I can state what is meant by extinction. | I can describe how other organisms can cause an animal or plant to become extinct. | I can suggest alternative hypotheses for why an organism became extinct. | |
| | I can describe one way that an animal could become extinct. | I can suggest a hypothesis for why an organism became extinct. | I can evaluate in detail the need to conserve endangered plants. | |
| | I can order fossil diagrams to show the evolution of the horse. | I can explain how fossil diagrams show how the horse has evolved. | I can apply knowledge of speciation to explain why dodos were only found on one island. | |
| | I can describe what a mass extinction is. | I can suggest the effects of an asteroid, comet or meteorite strike on Earth. | I can link ideas to give a scientific explanation why an asteroid could have caused the dinosaurs to become extinct. | |
| B14.3 More about extinction | I can state that environmental change and a catastrophic event are two possible causes of mass extinction. | I can explain how environmental change can cause mass extinctions. | I can suggest why mass extinctions are important for the evolution of life on Earth. | |
| | I can describe one theory that explains why the dinosaurs became extinct. | I can identify strengths and weaknesses in two different theories of mass extinction. | I can evaluate two theories to come to a conclusion about which is more believable and explain why scientists are not sure what caused the extinction of dinosaurs or mammoths. | |

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| B14.4 Antibiotic | I can state what is meant by an antibiotic resistant bacteria. | I can describe how antibiotic resistant bacteria evolve. | I can explain how a fast reproduction rate is linked to the development of antibiotic resistance strains. | |
| resistant bacteria | I can describe why scientists want to slow down the rate of development of new strains of antibiotic resistant bacteria. | I can explain why scientists need to develop new antibiotics. | I can explain how antibiotic resistant bacteria are evidence for evolution. | |
| | I can list some ways scientists can slow down the development of new strains of antibiotic resistant bacteria. | I can create an information sheet outlining important facts about antibiotic resistant bacteria to the public. | I can summarise the reasons why the development of new antibiotics is unlikely to keep up with the emergence of new strains of antibiotic resistant bacteria. | |
| B14.5 Classification | I can state what classification is. | I can describe the classification system developed by Carl Linnaeus, to include the order of the taxonomic groups. | I can use the Linnaean system to name the groups that given organisms belong to. | |
| | I can classify animals into groups based on their shared characteristics. | I can identify genus and species from a scientific name. | I can suggest why hybrids are not assigned scientific names using the binomial system. | |
| | I can write an organism's name correctly using the binomial system. | I can explain why a binomial naming system is useful. | | |
| B14.6 New systems | I can name the three domains. | I can describe how organisms are divided in the three domain system. | I can compare and contrast the Linnaean system with the three domain system. | |
| of classification | I cab state that ideas about classification have changed over time. | I can describe why the three domain system was proposed. | I can outline how ideas about classification have developed over time. | |
| | I can draw a conclusion from a simple evolutionary tree. | I can draw several conclusions from a simple evolutionary tree. | I can draw conclusions from a more complex evolutionary tree. | |

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