

## Grading

Assessment Objective	Pass	Merit	Distinction
<b>AO1</b> Describe the long-term changes that have occurred in the universe, to our solar system and to the Earth	Candidates describe in <b>basic terms</b> the formation of the Universe, the predicted life of the Sun, the dynamic geological events that occur on Earth and the electromagnetic spectrum. They also make <b>basic</b> a comparison between the planets within the Solar System and give a <b>brief</b> account of whether life could exist on them. Candidates use ICT sources or tools to either gather or present their data.	Candidates will give a <b>good</b> description of the formation of the Universe, the predicted life of the Sun, the dynamic geological events that occur on Earth and the electromagnetic spectrum. They will also make a <b>detailed</b> comparison between the planets within the Solar System and give a <b>sound</b> account of whether life could exist on them. Candidates use ICT sources or tools to either gather or present their data.	Candidates will give an <b>excellent</b> description of the formation of the Universe, the predicted life of the Sun, the dynamic geological events that occur on Earth and the electromagnetic spectrum. They also make a <b>detailed</b> comparison between the planets within the Solar System and give a <b>comprehensive</b> judgement as to whether life could exist on them. Candidates use ICT sources or tools to either gather or present their data.
<b>AO2</b> Describe how astronomers use electromagnetic radiation in the study of the universe	Candidates describe in <b>basic terms</b> the properties, sources and detection of the electromagnetic spectrum with <b>some reference</b> to space objects. They also describe in <b>basic terms</b> how the detection of electromagnetic radiation can be improved upon.	Candidates describe in <b>basic terms</b> the properties, sources and detection of the electromagnetic spectrum linking in <b>detail</b> to space objects. They also describe in <b>detail</b> how the detection of electromagnetic radiation can be improved upon.	Candidates describe in <b>basic terms</b> the properties, sources and detection of the electromagnetic spectrum linking in <b>great detail</b> to space objects. They also describe in <b>great detail</b> how the detection of electromagnetic radiation can be improved upon.
Assessment Objective	Pass	Merit	Distinction
<b>AO3</b> Examine the weathering and erosion of the Earth's surface by carrying out <b>THREE</b> experiments	Candidates demonstrate a <b>basic competence</b> when carrying out three investigations into the effect of climatic conditions on the Earth's surface. They report their findings using <b>qualitative</b> data and comment on them in <b>basic terms</b> .	Candidates demonstrate <b>competence</b> when carrying out three investigations into the effect of climatic conditions on the Earth's surface. They report their findings using both <b>qualitative and quantitative</b> data and comment on their findings using scientific terminology.	Candidates demonstrate a <b>high level of competence</b> when carrying out three investigations into the effect of climatic conditions on the Earth's surface. They report their findings using both <b>qualitative and quantitative data</b> and comment on their findings in <b>detail</b> using scientific terminology.
<b>AO4</b> Describe how the human body responds to the environment to safeguard itself	Candidates describe in <b>basic terms</b> how <b>one</b> environmental condition affects organs and mechanisms in the human body.	Candidates describe in <b>detail</b> how <b>one</b> environmental condition affects organs and mechanisms in the human body.	Candidates give a <b>full description</b> of how <b>one</b> environmental condition affects organs and mechanisms in the human body. Their evidence is <b>well structured</b> .
<b>AO5</b> Describe how variation and selection within species can lead to evolutionary change	Candidates produce a <b>basic</b> spreadsheet containing variation data and comment on the reliability of the data collection method that they used. They also produce an <b>explanation</b> , using scientific terminology, of how an organism such as humans have and are evolving.	Candidates produce a spreadsheet containing variation data and <b>comment in detail</b> on the reliability and validity of the data collection method that they used. They also produce a <b>detailed explanation</b> using scientific terminology of how humans have and are evolving.	Candidates produce a spreadsheet containing variation data. They <b>evaluate</b> the data collection method that they used, in terms of validity and reliability. Candidates produce a <b>very detailed</b> explanation using scientific terminology of how humans have and are evolving.
<b>AO6</b> Carry out a practical investigation into the variation caused by inheritance	Candidates demonstrate a <b>basic competence</b> when carrying out an investigation that demonstrates a variation in an organism caused by a gene and give a <b>basic comment</b> using qualitative data on the outcome of the investigation. They will comment in <b>basic terms</b> on the reliability of the data that they have collected.	Candidates demonstrate <b>competence</b> when carrying out an investigation that demonstrates a variation in an organism caused by a gene and gives a <b>detailed account</b> using quantitative data on the outcome of the investigation. They will comment in <b>detail</b> on the reliability of the data that they have collected.	Candidates demonstrate a <b>high level of competence</b> when carrying out an investigation that demonstrates a variation in an organism caused by a gene. They give a <b>very detailed account</b> , using a range of quantitative data, on the outcome of the investigation. They will comment in <b>great detail</b> on the reliability of the data that they have collected.
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<b>AO7</b> Describe modern environmental reasons for variation between humans and consider the impact of these differences	Candidates make a <b>brief</b> comparison, based on a <b>few</b> links to environmental differences and their impact, between the lifestyle of people from two different parts of the world.	Candidates make a <b>detailed</b> comparison, based on a <b>range</b> of links to environmental differences and their impact, between the lifestyle of people from two different parts of the world.	Candidates make a <b>very detailed</b> comparison, based on a <b>wide range</b> of links to environmental differences and their impact, between the lifestyle of people from two different parts of the world.
<b>AO8</b> Discuss the need for developing devices that do not rely on electrical energy generated from fossil fuels and carry out investigations into <b>TWO</b> devices producing useable electrical energy	Candidates demonstrate a <b>basic competence</b> when carrying out investigations into two devices that produce electrical energy. They give a <b>basic</b> explanation, using scientific terminology, of the energy transfers within the devices and comment briefly on their economic costs and efficiency. Candidates also list, in <b>basic terms</b> , the advantages and disadvantages of the devices, when compared to the production of electricity using non-renewable sources.	Candidates demonstrate <b>competence</b> when carrying out investigations into two devices that produce electrical energy. They give a <b>detailed</b> explanation, using scientific terminology, of the energy transfers within the devices and a <b>quantitative</b> comment on their economic costs and efficiency. Candidates also <b>explain</b> the advantages and disadvantages of the devices when compared to the production of electricity using non-renewable sources.	Candidates demonstrate a <b>high level of competence</b> when carrying out investigations into two devices that produce electrical energy. They give a <b>very detailed</b> explanation, using scientific terminology, of the energy transfers within the devices and an <b>excellent quantitative</b> comment on their economic costs and efficiency. Candidates also <b>explain, in detail</b> , the advantages and disadvantages of the devices, when compared to the production of electricity using non-renewable sources.
<b>AO9</b> Examine the effects of human activity on the environment, in relation to the production of energy, by carrying out <b>TWO</b> investigations	Candidates demonstrate a <b>basic competence</b> when carrying out two investigations into the effects of human activity, one measured by a living indicator and one by a non-living indicator. They give a <b>basic</b> report on both of the investigations.	Candidates demonstrate <b>competence</b> when carrying out two investigations into the effects of human activity, one measured by a living indicator and one by a non-living indicator. They give a <b>detailed</b> report using scientific terminology on both of the investigations.	Candidates demonstrate a <b>high level of competence</b> when carrying out two investigations into the effects of human activity, one measured by a living indicator and one by a non-living indicator giving a <b>very detailed</b> report using scientific terminology on both of the investigations.