NC Science Unit 1

Level 1 Unit 1 - Science (How Science Works)

1. The learner will make simple observations in response to their environment.

1.1 I can describe or respond appropriately to simple features of objects [1]

1.2 I can describe or respond appropriately to simple features of living things [2]

1.3 I can describe or respond appropriately to simple events [3]

1.4 I can communicate my findings in simple ways [4]

Level 2 Unit 1 - Science (How Science Works)

1. The learner will follow instructions and make their own suggestions about how to find things out and collect data to answer questions.

1.1 I can identify relevant information simple texts [6]

1.2 I can make observations related to a task with simple equipment [7]

1.3 I can observe and compare objects, living things and events [8]

1.4 I can describe my observations using scientific words [9]

1.5 I can record observations using simple tables when appropriate [10]

1.6 I can identify whether or not what happened was what I expected [11]

Level 3 Unit 1 - Science (How Science Works)

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1. The learner will carry out scientific investigations to answer simple questions. They will communicate what they have found out in a scientific way.

1.1 I can put forward ideas about how to find the answer to a question [13]

1.2 I can recognise the importance of collecting data to answer questions [14]

1.3 I can use simple texts to find information [15]

1.4 I can make relevant observations and measure quantities [16]

1.5 I can follow instructions to carry out a fair test [17]

1.6 I can identify fair and unfair tests in simple cases [18]

1.7 I can record my observations in a variety of ways [19]

1.8 I can identify improvements that can be made in my work [20]

1.9 I can provide explanations for observations [21]

1.10 I can provide explanations for simple patterns in recorded measurements [22]

Level 4 Unit 1 - Science (How Science Works)

1. The learner will carry out investigations using scientific methods, basing scientific ideas on evidence resulting from their own investigations.

1.1 I can identify an appropriate investigative approach to answer a question [24]

1.2 I can control variables in a simple investigation in order to make a fair test [25]

1.3 I can make predictions and test predictions [26]

1.4 I can select information from sources provided for me [27]

1.5 I can select suitable equipment to make a series of observations and measurements that are adequate for the task [28]

1.6 I can follow instructions and take action to control obvious risks [29]

1.7 I can record my observations in tables idependently [30]

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1.8 I can present my data in simple charts and graphs [31]

1.9 I can use a graph to show a pattern in my results [32]

1.10 I can use patterns in results to draw conclusions [33]

1.11 I can communicate my findings using scientific language [34]

1.12 I can identify reasons for how my work could be improved [35]

1.13 I can interpret data containing positive and negative numbers [36]

Level 5 Unit 1 - Science (How Science Works)

1. The learner will decide scientific approaches to answering questions using evidence to present findings and draw scientific conclusions.

1.1 I can select relevant information from a range of sources [38]

1.2 I can select apparatus for practical tasks [39]

1.3 I can select and use methods to obtain data systematically [40]

1.4 I can identify hazard symbols related to practical work in science [41]

1.5 I can act on simple suggestions to control obvious risks to myself and others [42]

1.6 I can use line graphs to present data [43]

1.7 I can interpret numerical data and draw conclusions from them [44]

1.8 I can analyse findings to draw scientific conclusions that are consistent with the evidence [45]

1.9 I can communicate findings using scientific and mathematical conventions and terminology [46]

1.10 I can evaluate my working methods and make practical suggestions about how they could be improved [47]

Level 6 Unit 1 - Science (How Science Works)

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1. The learner will describe the relationship between evidence and accepted scientific ideas by carrying out practical investigations with a degree of scientific rigour and presenting findings from scientific investigations.

1.1 I can identify an appropriate approach to an investigation using scientific knowledge and understanding [49]

1.2 I can select and use sources of information effectively [50]

1.3 I can record data and features effectively including sufficient measurements and observations for the task [51]

1.4 I can measure a variety of quantities with precision, using instruments with fine-scale divisions [52]

1.5 I can identify measurements and observations that do not fit the main pattern [53]

1.6 I can repeat measurements and observations to be more certain that they are correct [54]

1.7 I can identify risks and take action to control them [55]

1.8 I can evaluate evidence objectively [56]

1.9 I can draw conclusions that are consistent with the evidence [57]

1.10 I can manipulate numerical data to make valid comparisons and draw valid conclusions [58]

1.11 I can choose scales for graphs and diagrams that show data and features effectively [59]

1.12 I can explain my findings and account for any inconsistencies in the evidence using appropriate scientific terms [60]

1.13 I can make reasoned suggestions about how my working methods could be improved [61]

1.14 I can select and use appropriate methods for communicating qualitative and quantitative data using scientific language and conventions [62]

Level 7 Unit 1 - Science (How Science Works)

1. The learner will understand how to plan safe scientific

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approaches to questions based upon scientific theories carrying out practical investigations to test them and present their findings.

1.1 I can plan an appropriate approach to answer a question or test a hypothesis in a complex context [64]

1.2 I can identify and make use of appropriate sources of information [65]

1.3 I can identify the key factors in complex contexts [66]

1.4 I can identify the key factors in contexts in which variables cannot readily be controlled [67]

1.5 I can synthesise information from a range of sources [68]

1.6 I can identify possible limitations in primary and secondary data [69]

1.7 I can recognise the need for a risk assessment [70]

1.8 I can make systematic measurements, comparisons and observations [71]

1.9 I can measure a variety of quantities with precision, using a range of apparatus [72]

1.10 I can identify when there is a need to repeat measurements, comparisons and observations in order to obtain reliable data [73]

1.11 I can draw conclusions that are consistent with the evidence [74]

1.12 I explain my findings scientifically [75]

1.13 I can make reasoned suggestions about how my working methods could be improved [76]

1.14 I can select and use appropriate methods for communicating qualitative and quantitative data using scientific language and conventions [77]

1.15 I can use quantitative relationships between variables [78]

1.16 I can present data in graphs, using lines of best fit [79]

Level 8 Unit 1 - Science (How Science Works)

1. The learner will incorporate searches of scientific work in plans for their investigations, carrying out practical investigations with scientific rigour and presenting findings with due regard to the existing body of scientific knowledge.

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1.1 I can select an appropriate strategy based on scientific knowledge and understanding [81]

1.2 I can evaluate and synthesise data from a range of sources, independently [82]

1.3 I can explain how investigating different kinds of scientific questions requires different strategies [83]

1.4 I can decide which observations are relevant in my qualitative work and include suitable detail in my records [84]

1.5 I can decide the level of precision needed in comparisons or measurements [85]

1.6 I can test relationships between variables using collected data [86]

1.7 I can identify and explain anomalous observations and measurements [87]

1.8 I can adapt my approach to practical work to control risk [88]

1.9 I can draw conclusions that are based on wider scientific knowledge and understanding of my evidence [89]

1.10 I can communicate findings and arguments showing awareness of a range of views [90]

1.11 I can analyse data and explain and allow for anomolies and inadequacies [91]

1.12 I can present results in graphs appropriately, allowing for anomolous results [92]

1.13 I can carry out multi-step calculations and use compound measures, appropriately [93]

Level 9 Exceptional Performance Unit 1 - Science (How Science Works)

1. The learner will independently plan and adopt a range of approaches to investigate different kinds of scientific questions. They will readily recognise issues related to safety and act upon them and they will present results and conclusions based on rational analysis.

1.1 I can identify hazards [95]

1.2 I can seek appropriate risk assessment information and advice [96]

1.3 I can select risk information that is relevant and check it with someone in authority

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[97]

1.4 I can adjust practice to mitigate against risk [98]

1.5 I can decide the level of precision needed for measurements [99]

1.6 I can collect data that satisfy requirements [100]

1.7 I can make records of relevant observations, comparisons and measurements [101]

1.8 I can identify points of particular significance setting priorities [102]

1.9 I can draw on wider high level scientific knowledge to support my investigations [103]

1.10 I can analyse findings to interpret trends and patterns drawing conclusions from evidence [104]

1.11 I can make effective use of a range of quantitative relationships between variables [105]

1.12 I can perform relevant calculations when using data to support conclusions [106]

1.13 I can communicate findings and arguments with awareness of the degree of uncertainty in results [107]

1.14 I can take account of a range of alternative views in my analysis [108]

1.15 I can evaluate evidence critically and give reasoned accounts of how to collect additional evidence [109]

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