

SCIENCE CURRICULUM WALES

GRADE KS2 - KS3



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Module Name	Grade	Standard	Description
Balanced and Unbalanced Forces	KS2	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.
		HTW-2	They should be given opportunities to study:
		HTW.2(c)	the ways in which forces can affect movement and how forces can be compared
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(b)	communicate clearly by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos, and ICT packages, using relevant scientific vocabulary
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(e)	the observations or measurements that need to be made
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(d)	make comparisons and identify and describe trends or patterns in data and information
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(c)	describing any amendments made to the planned approach/method

Earth's Rotation	KS2	SE	The sustainable Earth
		SE-1	Pupils should use and develop their skills, knowledge and understanding by comparing the Earth with other planets, investigating materials around them and considering the importance of recycling.
		SE-2	They should be given opportunities to study:
		SE.2(a)	the daily and annual movements of the Earth and their effect on day and year length
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(b)	communicate clearly by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos, and ICT packages, using relevant scientific vocabulary
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(b)	predictions using some previous knowledge and understanding
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(e)	use some prior knowledge to explain links between cause and effect when concluding
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(e)	describing how they have learned and identifying the ways that worked the best

The Solar System	KS2	SE	The sustainable Earth
		SE-1	Pupils should use and develop their skills, knowledge and understanding by comparing the Earth with other planets, investigating materials around them and considering the importance of recycling.
		SE-2	They should be given opportunities to study:
		SE.2(b)	the relative positions and key features of the Sun and planets in the solar system
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(b)	communicate clearly by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos, and ICT packages, using relevant scientific vocabulary
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(b)	predictions using some previous knowledge and understanding
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(e)	use some prior knowledge to explain links between cause and effect when concluding
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(e)	describing how they have learned and identifying the ways that worked the best

Organism Interactions in Ecosystems	KS2	IO	Interdependence of organisms
		IO-1	Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.
		IO-2	They should be given opportunities to study:
		IO.2(c)	the effect on the human body of some drugs, e.g. alcohol, solvents, tobacco
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(b)	predictions using some previous knowledge and understanding
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(b)	deciding whether the approach/method was successful
		REF.1(d)	suggesting how the approach/method could have been improved
Human Health and Hygiene	KS2	IO	Interdependence of organisms
		IO-1	Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.

		IO-2	They should be given opportunities to study:
		IO.2(b)	the need for a variety of foods and exercise for human good health
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(b)	communicate clearly by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos, and ICT packages, using relevant scientific vocabulary
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(c)	where and how to find relevant information and ideas
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(d)	make comparisons and identify and describe trends or patterns in data and information
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(e)	describing how they have learned and identifying the ways that worked the best
Pollution and Conservation	KS2	SE	The sustainable Earth
		SE-1	Pupils should use and develop their skills, knowledge and understanding by comparing the Earth with other planets, investigating materials around them and considering the importance of recycling.
		SE-2	They should be given opportunities to study:
		SE.2(f)	a consideration of what waste is and what happens to local waste that can be recycled and that which cannot be recycled.

		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(b)	predictions using some previous knowledge and understanding
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(e)	use some prior knowledge to explain links between cause and effect when concluding
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(f)	linking the learning to similar situations, within and outside school.
Sound and Vibration	KS2	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.
		HTW-2	They should be given opportunities to study:
		HTW.2(d)	how different sounds are produced and the way that sound travels
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(b)	communicate clearly by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos, and ICT packages, using relevant scientific vocabulary

		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(c)	where and how to find relevant information and ideas
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(d)	make comparisons and identify and describe trends or patterns in data and information
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(f)	linking the learning to similar situations, within and outside school.
Classifying Matter	KS2	SE	The sustainable Earth
		SE-1	Pupils should use and develop their skills, knowledge and understanding by comparing the Earth with other planets, investigating materials around them and considering the importance of recycling.
		SE-2	They should be given opportunities to study:
		SE.2(c)	a comparison of the features and properties of some natural and made materials
		SE.2(d)	the properties of materials relating to their uses
		SE.2(e)	how some materials are formed or produced
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(b)	communicate clearly by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos, and ICT packages, using relevant scientific vocabulary

Human Organs	KS2	IO	Interdependence of organisms
		IO-1	Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.
		IO-2	They should be given opportunities to study:
		IO.2(a)	the names, positions, functions and relative sizes of a human's main organs
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(b)	predictions using some previous knowledge and understanding
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(g)	form considered opinions and make informed decisions.
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(e)	describing how they have learned and identifying the ways that worked the best
Electric Circuits	KS2	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.
		HTW-2	They should be given opportunities to study:

		HTW.2(a)	the uses of electricity and its control in simple circuits
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(d)	when carrying out a fair test, the key variables that need to be controlled and how to change the independent variable whilst keeping other key variables the same
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(c)	check observations and measurements by repeating them in order to collect reliable data
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(e)	describing how they have learned and identifying the ways that worked the best
Experimenting with Forces	KS2	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.
		HTW-2	They should be given opportunities to study:
		IO.2(b)	the need for a variety of foods and exercise for human good health
		COM	Communication

		COM-1	Pupils should be given opportunities to:
		COM.1(c)	use standard measures and S.I. units, e.g. kg, s, N, m.
		ENQ	Enquiry
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(g)	any hazards and risks to themselves and others.
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(c)	check observations and measurements by repeating them in order to collect reliable data
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(b)	deciding whether the approach/method was successful
		REF.1(a)	beginning to evaluate outcomes against success criteria
Drug Use	KS2	IO	Interdependence of organisms
		IO-1	Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.
		IO-2	They should be given opportunities to study:
		IO.2(c)	the effect on the human body of some drugs, e.g. alcohol, solvents, tobacco
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning

		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(b)	predictions using some previous knowledge and understanding
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(e)	use some prior knowledge to explain links between cause and effect when concluding
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(f)	linking the learning to similar situations, within and outside school.
Behaviour of Light	KS2	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.
		HTW-2	They should be given opportunities to study:
		IO.2(e)	the interdependence of living organisms in those two environments and their representation as food chains
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:

		PLN.1(e)	the observations or measurements that need to be made
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(e)	use some prior knowledge to explain links between cause and effect when concluding
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(f)	linking the learning to similar situations, within and outside school.
Human Footprint	KS2	IO	Interdependence of organisms
		IO-1	Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.
		IO-2	They should be given opportunities to study:
		IO.2(g)	how humans affect the local environment, e.g. litter, water pollution, noise pollution.
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(c)	where and how to find relevant information and ideas
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(d)	make comparisons and identify and describe trends or patterns in data and information

		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(f)	linking the learning to similar situations, within and outside school.

Module Name	Grade	Standard	Description
Chemical Reactions	KS3	SE	The sustainable Earth
		SE-1	Pupils should use and develop their skills, knowledge and understanding by comparing the Earth with other planets, investigating materials around them and considering the importance of recycling.
		SE-2	They should be given opportunities to study:
		SE.2(d)	the properties of materials relating to their uses
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(d)	when carrying out a fair test, the key variables that need to be controlled and how to change the independent variable whilst keeping other key variables the same
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(a)	use apparatus and equipment correctly and safely
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(b)	deciding whether the approach/method was successful

Materials and Sustainability	KS3	SE	The sustainable Earth
		SE-1	Pupils should use and develop their skills, knowledge and understanding by comparing the Earth with other planets, investigating materials around them and considering the importance of recycling.
		SE-2	They should be given opportunities to study:
		SE.2(e)	how some materials are formed or produced
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(c)	where and how to find relevant information and ideas
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(e)	use some prior knowledge to explain links between cause and effect when concluding
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(c)	describing any amendments made to the planned approach/method
Simple Machines	KS3	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.

		HTW-2	They should be given opportunities to study:
		HTW.2(d)	how different sounds are produced and the way that sound travels
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(c)	use standard measures and S.I. units, e.g. kg, s, N, m.
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(e)	the observations or measurements that need to be made
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(a)	use apparatus and equipment correctly and safely
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(a)	beginning to evaluate outcomes against success criteria
Changes in Energy on the Molecular Level	KS3	SE	The sustainable Earth
		SE-1	Pupils should use and develop their skills, knowledge and understanding by comparing the Earth with other planets, investigating materials around them and considering the importance of recycling.
		SE-2	They should be given opportunities to study:
		SE.2(a)	the daily and annual movements of the Earth and their effect on day and year length
		COM	Communication
		COM-1	Pupils should be given opportunities to:

		COM.1(c)	use standard measures and S.I. units, e.g. kg, s, N, m.
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(a)	use apparatus and equipment correctly and safely
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(b)	deciding whether the approach/method was successful
Electrical Circuits	KS3	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.
		HTW-2	They should be given opportunities to study:
		HTW.2(a)	the uses of electricity and its control in simple circuits
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(c)	use standard measures and S.I. units, e.g. kg, s, N, m.
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning

		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(g)	any hazards and risks to themselves and others.
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(c)	check observations and measurements by repeating them in order to collect reliable data
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(d)	suggesting how the approach/method could have been improved
Modeling Conservation of Energy	KS3	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.
		HTW-2	They should be given opportunities to study:
		HTW.2(b)	forces of different kinds, e.g. gravity magnetic and friction, including air resistance
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:

		PLN.1(b)	predictions using some previous knowledge and understanding
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(b)	make careful observations and accurate measurements, using digital and ICT equipment at times
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(a)	beginning to evaluate outcomes against success criteria
Physical and Chemical Changes	KS3	SE	The sustainable Earth
		SE-1	Pupils should use and develop their skills, knowledge and understanding by comparing the Earth with other planets, investigating materials around them and considering the importance of recycling.
		SE-2	They should be given opportunities to study:
		SE.2(c)	a comparison of the features and properties of some natural and made materials
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(c)	use standard measures and S.I. units, e.g. kg, s, N, m.
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(d)	when carrying out a fair test, the key variables that need to be controlled and how to change the independent variable whilst keeping other key variables the same
		DEV	Developing

		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(a)	use apparatus and equipment correctly and safely
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(b)	deciding whether the approach/method was successful
Pure Substances and Mixtures	KS3	SE	The sustainable Earth
		SE-1	Pupils should use and develop their skills, knowledge and understanding by comparing the Earth with other planets, investigating materials around them and considering the importance of recycling.
		SE-2	They should be given opportunities to study:
		SE.2(b)	the relative positions and key features of the Sun and planets in the solar system
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(c)	use standard measures and S.I. units, e.g. kg, s, N, m.
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(b)	predictions using some previous knowledge and understanding
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(c)	check observations and measurements by repeating them in order to collect reliable data
		REF	Reflecting

		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(a)	beginning to evaluate outcomes against success criteria
Food Chains and Food Webs	KS3	IO	Interdependence of organisms
		IO-1	Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.
		IO-2	They should be given opportunities to study:
		IO.2(d)	through fieldwork, the plants and animals found in two contrasting local environments, e.g. identification, nutrition, life cycles, place in environment
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(b)	communicate clearly by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos, and ICT packages, using relevant scientific vocabulary
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(e)	the observations or measurements that need to be made
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(c)	check observations and measurements by repeating them in order to collect reliable data
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:

		REF.1(d)	suggesting how the approach/method could have been improved
Human Impact on the Environment	KS3	IO	Interdependence of organisms
		IO-1	Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.
		IO-2	They should be given opportunities to study:
		IO.2(f)	the environmental factors that affect what grows and lives in those two environments, e.g. sunlight, water availability, temperature
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(c)	where and how to find relevant information and ideas
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(d)	make comparisons and identify and describe trends or patterns in data and information
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(c)	describing any amendments made to the planned approach/method
		REF.1(f)	linking the learning to similar situations, within and outside school.

Human Activities and Natural Systems	KS3	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.
		HTW-2	They should be given opportunities to study:
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(b)	communicate clearly by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos, and ICT packages, using relevant scientific vocabulary
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(b)	predictions using some previous knowledge and understanding
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(c)	check observations and measurements by repeating them in order to collect reliable data
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(d)	suggesting how the approach/method could have been improved

Forms and Uses of Energy	KS3	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.
		HTW-2	They should be given opportunities to study:
		HTW.2(c)	the ways in which forces can affect movement and how forces can be compared
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(b)	communicate clearly by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos, and ICT packages, using relevant scientific vocabulary
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(c)	where and how to find relevant information and ideas
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(c)	check observations and measurements by repeating them in order to collect reliable data
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(d)	suggesting how the approach/method could have been improved

Environmental Changes and Effects	KS3	IO	Interdependence of organisms
		IO-1	Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.
		IO-2	They should be given opportunities to study:
		IO.2(e)	the interdependence of living organisms in those two environments and their representation as food chains
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(d)	when carrying out a fair test, the key variables that need to be controlled and how to change the independent variable whilst keeping other key variables the same
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(d)	make comparisons and identify and describe trends or patterns in data and information
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(d)	suggesting how the approach/method could have been improved

Renewable and Non-Renewable Resources	KS3	HTW	How things work
		HTW-1	Pupils should use and develop their skills, knowledge and understanding by investigating the science behind everyday things, e.g. toys, musical instruments and electrical devices, the way they are constructed and work.
		HTW-2	They should be given opportunities to study:
		HTW.2(e)	how light travels and how this can be used.
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(c)	where and how to find relevant information and ideas
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(d)	make comparisons and identify and describe trends or patterns in data and information
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(c)	describing any amendments made to the planned approach/method
Artificial Selection	KS3	IO	Interdependence of organisms
		IO-1	Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.

		IO-2	They should be given opportunities to study:
		IO.2(g)	how humans affect the local environment, e.g. litter, water pollution, noise pollution.
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(a)	search for, access and select relevant scientific information, from a range of sources, including ICT
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(f)	the equipment and techniques required for the enquiry
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(b)	make careful observations and accurate measurements, using digital and ICT equipment at times
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(c)	describing any amendments made to the planned approach/method
Bodies and Systems	KS3	IO	Interdependence of organisms
		IO-1	Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.
		IO-2	They should be given opportunities to study:
		IO.2(a)	the names, positions, functions and relative sizes of a human's main organs
		IO.2(b)	the need for a variety of foods and exercise for human good health

		IO.2(c)	the effect on the human body of some drugs, e.g. alcohol, solvents, tobacco
		COM	Communication
		COM-1	Pupils should be given opportunities to:
		COM.1(b)	communicate clearly by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos, and ICT packages, using relevant scientific vocabulary
		ENQ	Enquiry
		ENQ-1	Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:
		PLN	Planning
		PLN-1	Pupils turn ideas suggested to them, and their own ideas, into a form that can be investigated. They outline the planned approach/method recognising, deciding upon and giving some justification for each of the following when appropriate:
		PLN.1(c)	where and how to find relevant information and ideas
		DEV	Developing
		DEV-1	Pupils follow the planned approach/method, revise it where necessary, and where appropriate:
		DEV.1(d)	make comparisons and identify and describe trends or patterns in data and information
		REF	Reflecting
		REF-1	Pupils think about what they have done in order to consolidate learning and transfer skills, knowledge and understanding to other contexts by:
		REF.1(c)	describing any amendments made to the planned approach/method

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