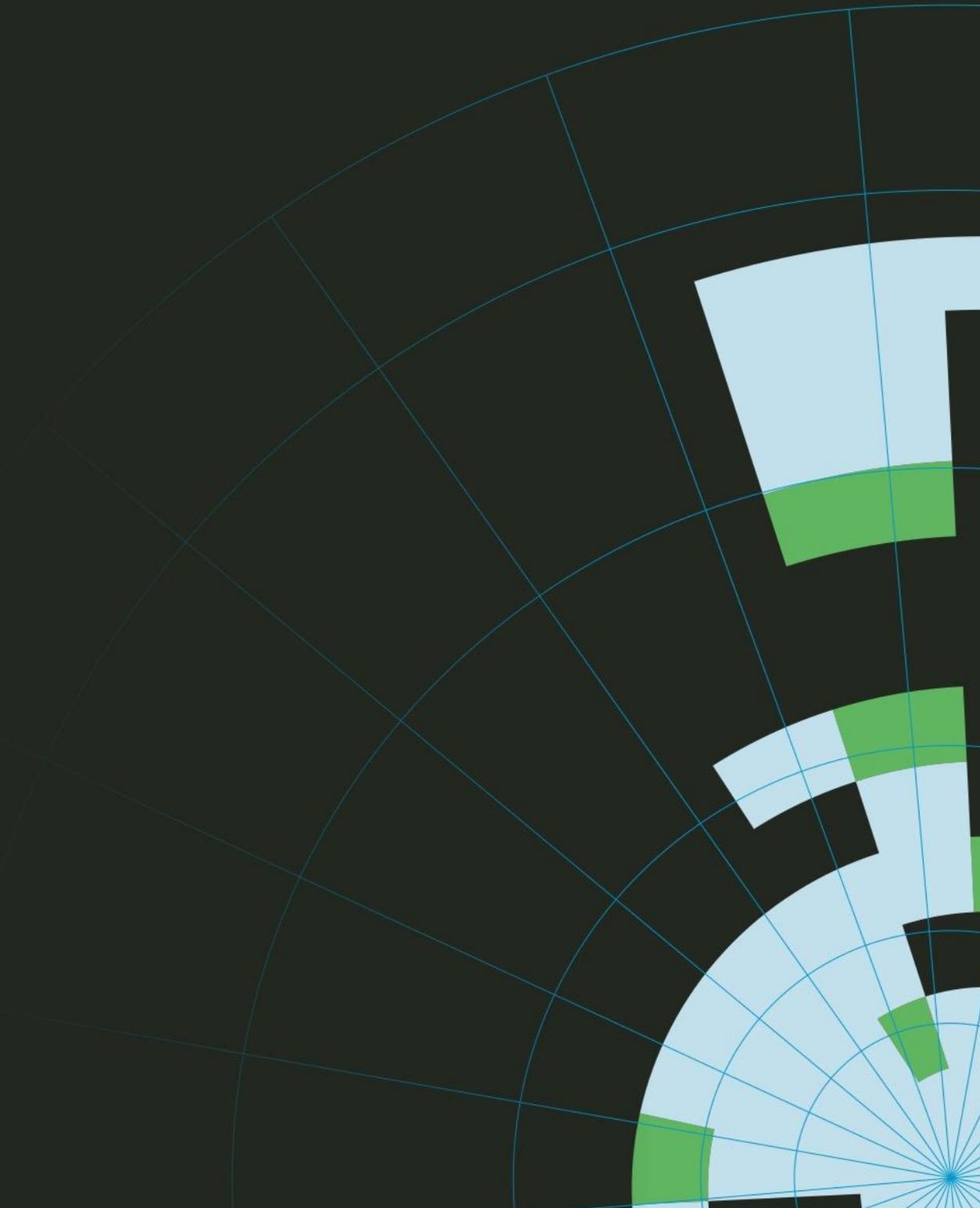


# STATWARS<sup>®</sup> CLIMATE CHANGE CHALLENGE



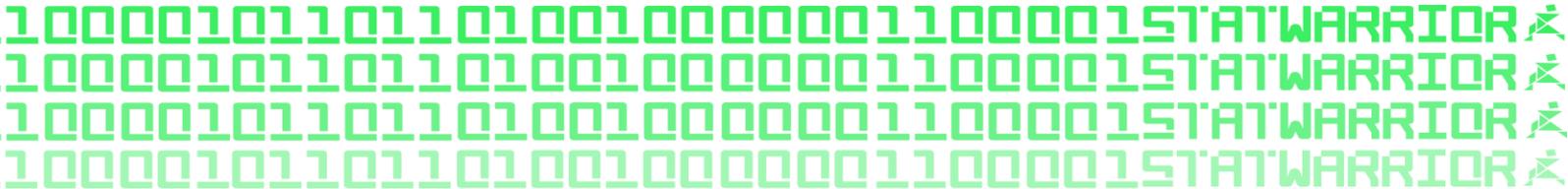


# STATWARS®: Climate Change Challenge

## Curriculum for Excellence Mapping Document

STATWARS® is an annual competition that has been developed by Primary Engineer Programmes.

For full terms and conditions of the STATWARS® competition please visit [www.statwarscompetition.com](http://www.statwarscompetition.com) for the current competition rules and regulations, as they will be subject to change.



## STATWARS® : Climate Change Challenge

When we collect, analyse and contextualise data and information, we gain insight, understanding and the ability to make a difference.

The **STATWARS®: Climate Change Challenge** vision is to empower and educate pupils to tackle climate change, by providing a project that delivers meaningful and engaging mathematics, numeracy and data literacy to pupils!

We believe the data we collect can inform meaningful research and decision making, with its careful application revolutionising our understanding of how to manage the Climate Change Challenge ahead of us! We need young people to be a part of that journey...

### How does STATWARS®: Climate Change Challenge work?

The STATWARS®: Climate Change Challenge asks pupils to use big and small datasets to identify 3 changes they can personally commit to in their daily lives that will lower their individual carbon footprint. Pupils work in small teams and will use their data skills to communicate their commitment to these changes, in the form of a manifesto!

### The Challenge asks pupils to:

- Design and create a data driven infographic poster, which provides key information for how they came to their decision
- Design and create an advertisement poster/manifesto pledge, which is a creative element where pupils can explore ways of drawing attention to their ideas for change and encourage others to join them on their journey,
- Produce a 60-sec pitch to support their manifesto and encourage others to join them

In addition, the 3 commitments to change will each be submitted to a national database in order to support climate change research.

The beauty of this project is pupils are given the task of enacting legitimate change to their own actions, whilst encouraging the wider community with a data driven argument to follow their lead!

The competition's structure encourages pupils to apply mathematics not just creatively, but logically, to research, collect, analyse and present data, whilst drawing on their own personal experiences to support their climate change manifesto. The nature of the project encourages and develops meta-skills related to teamwork, leadership, curiosity, empathy, critical thinking and resilience, as teams are asked to consider indeterminate problems and develop data driven hypothesis. Teachers are provided with whole class differentiated resources, such as lesson plans and curriculum links to support delivery of this 6 week project.

Shortlisted teams will be invited to an awards and exhibition day to talk through their project with the judges.

### So, get involved and help your pupils make a difference to the world we live in!

STATWARS® is an annual competition that has been developed by Primary Engineer Programmes.

For more information and how to enter, please visit <https://www.statwarscompetition.com/>



## Developing Pupils Across the Curriculum

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STATWARS<sup>®</sup> has clear links to the Curriculum for Excellence, such as **Numeracy & Mathematics** and **Science Second, Third and Forth Level, thus preparing pupils for Senior Phase studies** and further education in these areas. These links draw on the need to offer a meaningful and engaging problem solving platform, which allows the cross curricular application of subject skills, knowledge and understanding. A main aim of STATWARS<sup>®</sup> is to promote an understanding of real world use of mathematics and science, allowing pupils to follow simple or complex lines of enquiry from start to finish. They will seek out patterns and relationships in order to present coherent, justified arguments that are based on thorough data collection and analysis. STATWARS<sup>®</sup> provides the foundations for understanding the world through the specific science disciplines, helping pupils develop essential aspects of knowledge and concepts, so that they can explain what is occurring in the world around them.

Mathematics and science are highly creative and interconnected disciplines, providing solutions to the most intriguing problems. STATWARS<sup>®</sup> allows pupils to make rich connections between different subjects, the world of work and their own learning, as they work through a topic that is meaningful, relevant and contemporary. This creates a sense of curiosity and enjoyment of these subjects, as pupils are required to consider the importance of statistical measurements in the past, present and future. Pupils can begin to see mathematics and science as wholly relevant skillsets, which can be applied throughout their whole life, thus potentially leading to multiple industry and societal benefits.

Pupils are also challenged to apply their mathematics imaginatively and logically to solve the problem, which involves breaking it down into a series of steps, each of which offer themselves to an increasing level of sophistication. The nature of the project encourages curiosity, criticality and resilience, as pupils are asked to consider indeterminate problems and develop data driven hypothesis. The competition is differentiated to allow pupils to work in groups, or independently as part of a team to solve those problems, through the support of a scaffolded project, as well as their peers.

STATWARS<sup>®</sup> challenges pupils to reason mathematically throughout their analysis and presentation of data and information collected, so that they can justify their 3 manifesto pledge choices. Pupils then deliver this information via a pitch, using two posters: one for advertisement, and one as an infographic. These creative elements of the competition allow pupils to present their data in numerous ways, with the goal of providing justification of decision. This use of scientific, mathematic and data focused spoken language develops pupils across the whole curriculum, cognitively, socially and linguistically. This contextualised development and application of mathematics and science leads to the increase in ability to apply those skills to other subjects and the wider world.

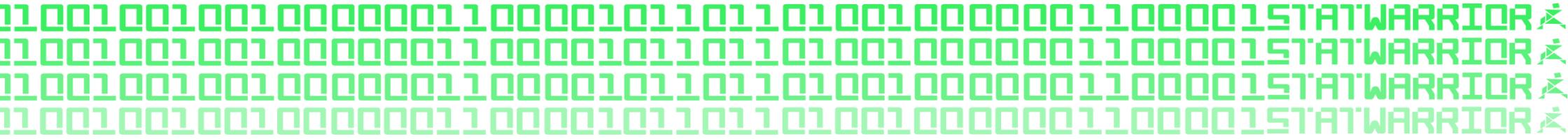
**Many other Curriculum for Excellence areas are developed through STATWARS<sup>®</sup>, such as expressive arts; creating and expressing themselves through presenting to audiences and Languages; reading, writing, and spoken language, discussion, making formal presentations and participating in debate**



## Contents

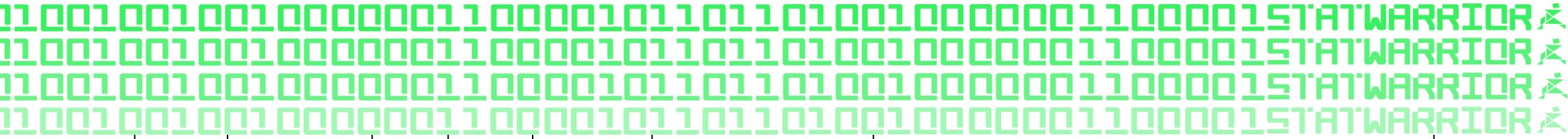
*The following tables shows how STATWARS® can be mapped to the Curriculum for Excellence Numeracy & Mathematics and Science across levels 2, 3 and 4.*

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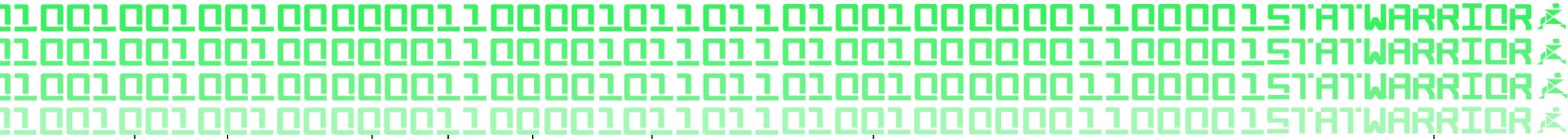


## Level 2 Numeracy & Mathematics

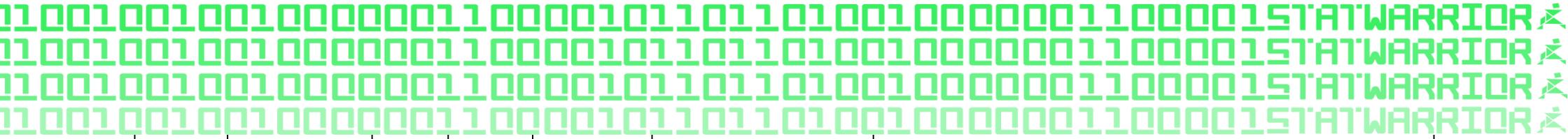
Lesson	Description	Level	Name	Category	Subcategory	Description
1	Understanding the Problem and Your Own Carbon Footprint	2	MNU 2-01a	Number, money and measure	Estimation and rounding	I can use my knowledge of rounding to routinely estimate the answer to a problem then, after calculating, decide if my answer is reasonable, sharing my solution with others.
		2	MNU 2-07a	Number, money and measure	Fractions, decimal fractions and percentages including ratio and proportion	I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems.
		2	MNU 2-10b	Number, money and measure	Time	I can carry out practical tasks and investigations involving timed events and can explain which unit of time would be most appropriate to use.
		2	MNU 2-11b	Number, money and measure	Measurement	I can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems.
		2	MNU 2-20b	Information handling	Data and analysis	I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way.
2	Planning and Collecting Data	2	MNU 2-01a	Number, money and measure	Estimation and rounding	I can use my knowledge of rounding to routinely estimate the answer to a problem then, after calculating, decide if my answer is reasonable, sharing my solution with others.
		2	MNU 2-03a	Number, money and measure	Number and number processes	Having determined which calculations are needed, I can solve problems involving whole numbers using a range of methods, sharing my approaches and solutions with others.
		2	MTH 2-05a	Number, money and measure	Multiples, factors and primes	Having explored the patterns and relationships in multiplication and division, I can investigate and identify the multiples and factors of numbers.



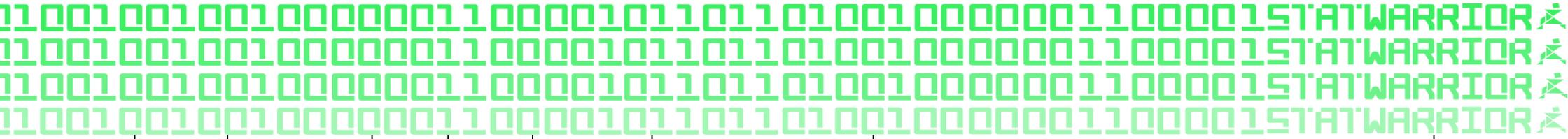
			2	MNU 2-07a	Number, money and measure	Fractions, decimal fractions and percentages including ratio and proportion	I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems.
			2	MNU 2-07b	Number, money and measure	Fractions, decimal fractions and percentages including ratio and proportion	I can show the equivalent forms of simple fractions, decimal fractions and percentages and can choose my preferred form when solving a problem, explaining my choice of method.
			2	MNU 2-10b	Number, money and measure	Time	I can carry out practical tasks and investigations involving timed events and can explain which unit of time would be most appropriate to use.
			2	MNU 2-11b	Number, money and measure	Measurement	I can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems.
			2	MNU 2-20b	Information handling	Data and analysis	I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way.
			2	MTH 2-21a	Information handling	Data and analysis	I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology.
3	Preparing Data & Descriptive Analysis		2	MNU 2-01a	Number, money and measure	Estimation and rounding	I can use my knowledge of rounding to routinely estimate the answer to a problem then, after calculating, decide if my answer is reasonable, sharing my solution with others.
			2	MNU 2-03a	Number, money and measure	Number and number processes	Having determined which calculations are needed, I can solve problems involving whole numbers using a range of methods, sharing my approaches and solutions with others.
			2	MNU 2-03b	Number, money and measure	Number and number processes	I have explored the contexts in which problems involving decimal fractions occur and can solve related problems using a variety of methods.
			2	MTH 2-03c	Number, money and measure	Number and number processes	Having explored the need for rules for the order of operations in number calculations, I can apply them correctly when solving simple problems.



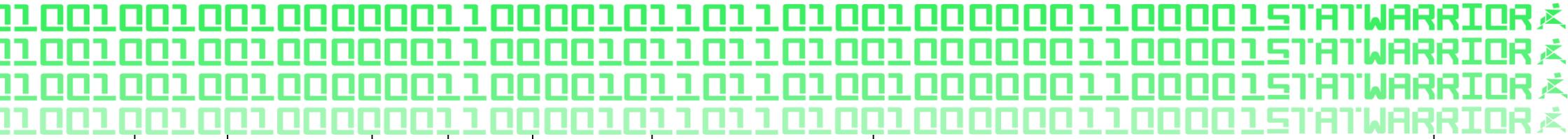
			2	MTH 2-05a	Number, money and measure	Multiples, factors and primes	Having explored the patterns and relationships in multiplication and division, I can investigate and identify the multiples and factors of numbers.
			2	MNU 2-07a	Number, money and measure	Fractions, decimal fractions and percentages including ratio and proportion	I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems.
			2	MNU 2-07b	Number, money and measure	Fractions, decimal fractions and percentages including ratio and proportion	I can show the equivalent forms of simple fractions, decimal fractions and percentages and can choose my preferred form when solving a problem, explaining my choice of method.
			2	MNU 2-10b	Number, money and measure	Time	I can carry out practical tasks and investigations involving timed events and can explain which unit of time would be most appropriate to use.
			2	MNU 2-11b	Number, money and measure	Measurement	I can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems.
			2	MTH 2-12a	Number, money and measure	Mathematics – its impact on the world, past, present and future	I have worked with others to explore, and present our findings on, how mathematics impacts on the world and the important part it has played in advances and inventions.
			2	MNU 2-20a	Information handling	Data and analysis	Having discussed the variety of ways and range of media used to present data, I can interpret and draw conclusions from the information displayed, recognising that the presentation may be misleading.
			2	MNU 2-20b	Information handling	Data and analysis	I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way.
			2	MTH 2-21a	Information handling	Data and analysis	I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology.



		2	MNU 2-22a	Information handling	Ideas of chance and uncertainty	I can conduct simple experiments involving chance and communicate my predictions and findings using the vocabulary of probability.
4	Predictive Analysis and Creating Your Infographic	2	MNU 2-01a	Number, money and measure	Estimation and rounding	I can use my knowledge of rounding to routinely estimate the answer to a problem then, after calculating, decide if my answer is reasonable, sharing my solution with others.
		2	MNU 2-03a	Number, money and measure	Number and number processes	Having determined which calculations are needed, I can solve problems involving whole numbers using a range of methods, sharing my approaches and solutions with others.
		2	MNU 2-03b	Number, money and measure	Number and number processes	I have explored the contexts in which problems involving decimal fractions occur and can solve related problems using a variety of methods.
		2	MTH 2-03c	Number, money and measure	Number and number processes	Having explored the need for rules for the order of operations in number calculations, I can apply them correctly when solving simple problems.
		2	MTH 2-05a	Number, money and measure	Multiples, factors and primes	Having explored the patterns and relationships in multiplication and division, I can investigate and identify the multiples and factors of numbers.
		2	MNU 2-07a	Number, money and measure	Fractions, decimal fractions and percentages including ratio and proportion	I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems.
		2	MNU 2-07b	Number, money and measure	Fractions, decimal fractions and percentages including ratio and proportion	I can show the equivalent forms of simple fractions, decimal fractions and percentages and can choose my preferred form when solving a problem, explaining my choice of method.
		2	MNU 2-10b	Number, money and measure	Time	I can carry out practical tasks and investigations involving timed events and can explain which unit of time would be most appropriate to use.
		2	MNU 2-11b	Number, money and measure	Measurement	I can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems.



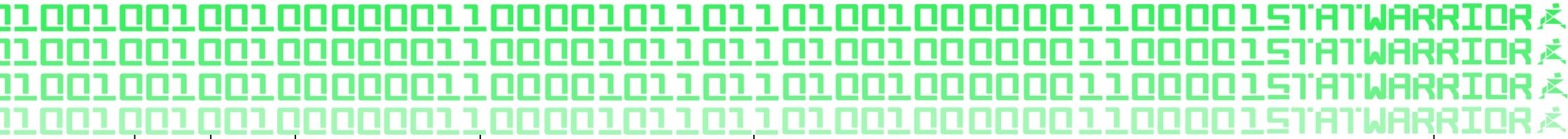
		2	MTH 2-12a	Number, money and measure	Mathematics – its impact on the world, past, present and future	I have worked with others to explore, and present our findings on, how mathematics impacts on the world and the important part it has played in advances and inventions.
		2	MTH 2-13a	Number, money and measure	Patterns and relationships	Having explored more complex number sequences, including well-known named number patterns, I can explain the rule used to generate the sequence, and apply it to extend the pattern.
		2	MNU 2-20a	Information handling	Data and analysis	Having discussed the variety of ways and range of media used to present data, I can interpret and draw conclusions from the information displayed, recognising that the presentation may be misleading.
		2	MNU 2-20b	Information handling	Data and analysis	I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way.
		2	MTH 2-21a	Information handling	Data and analysis	I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology.
		2	MNU 2-22a	Information handling	Ideas of chance and uncertainty	I can conduct simple experiments involving chance and communicate my predictions and findings using the vocabulary of probability.
6	Presenting and Implementing	2	MNU 2-01a	Number, money and measure	Estimation and rounding	I can use my knowledge of rounding to routinely estimate the answer to a problem then, after calculating, decide if my answer is reasonable, sharing my solution with others.
		2	MNU 2-03a	Number, money and measure	Number and number processes	Having determined which calculations are needed, I can solve problems involving whole numbers using a range of methods, sharing my approaches and solutions with others.
		2	MNU 2-07a	Number, money and measure	Fractions, decimal fractions and percentages including ratio and proportion	I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems.



			2	MNU 2-20a	Information handling	Data and analysis	Having discussed the variety of ways and range of media used to present data, I can interpret and draw conclusions from the information displayed, recognising that the presentation may be misleading.
			2	MNU 2-20b	Information handling	Data and analysis	I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way.
			2	MTH 2-21a	Information handling	Data and analysis	I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology.
			2	MNU 2-22a	Information handling	Ideas of chance and uncertainty	I can conduct simple experiments involving chance and communicate my predictions and findings using the vocabulary of probability.

## Summaries of Level 2 Numeracy & Mathematics developed through STATWARS®

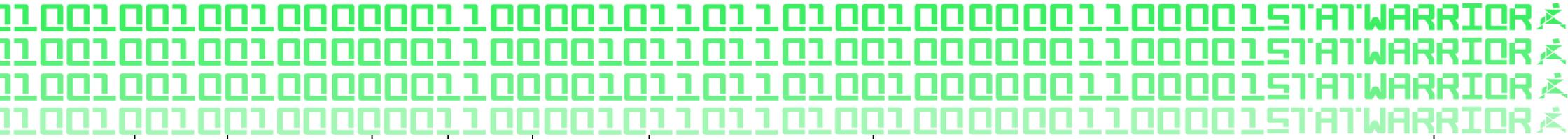
Level	Name	Category	Subcategory	Description
2	MNU 2-20a	Information handling	Data and analysis	Having discussed the variety of ways and range of media used to present data, I can interpret and draw conclusions from the information displayed, recognising that the presentation may be misleading.
2	MNU 2-20b	Information handling	Data and analysis	I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way.
2	MNU 2-22a	Information handling	Ideas of chance and uncertainty	I can conduct simple experiments involving chance and communicate my predictions and findings using the vocabulary of probability.
2	MTH 2-21a	Information handling	Data and analysis	I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology.
2	MNU 2-01a	Number, money and measure	Estimation and rounding	I can use my knowledge of rounding to routinely estimate the answer to a problem then, after calculating, decide if my answer is reasonable, sharing my solution with others.
2	MNU 2-03a	Number, money and measure	Number and number processes	Having determined which calculations are needed, I can solve problems involving whole numbers using a range of methods, sharing my approaches and solutions with others.
2	MNU 2-03b	Number, money and measure	Number and number processes	I have explored the contexts in which problems involving decimal fractions occur and can solve related problems using a variety of methods.
2	MNU 2-07a	Number, money and measure	Fractions, decimal fractions and percentages including ratio and proportion	I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems.
2	MNU 2-07b	Number, money and measure	Fractions, decimal fractions and percentages including ratio and proportion	I can show the equivalent forms of simple fractions, decimal fractions and percentages and can choose my preferred form when solving a problem, explaining my choice of method.



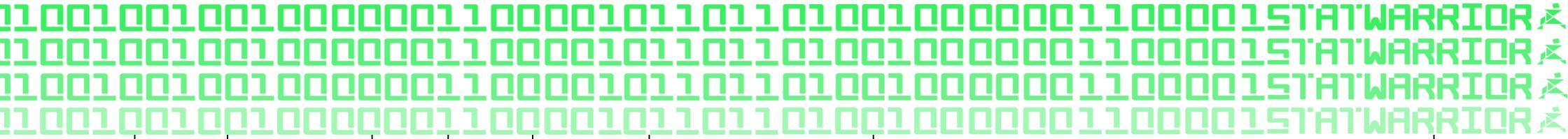
2	MNU 2-10b	Number, money and measure	Time	I can carry out practical tasks and investigations involving timed events and can explain which unit of time would be most appropriate to use.
2	MNU 2-11b	Number, money and measure	Measurement	I can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems.
2	MTH 2-03c	Number, money and measure	Number and number processes	Having explored the need for rules for the order of operations in number calculations, I can apply them correctly when solving simple problems.
2	MTH 2-05a	Number, money and measure	Multiples, factors and primes	Having explored the patterns and relationships in multiplication and division, I can investigate and identify the multiples and factors of numbers.
2	MTH 2-12a	Number, money and measure	Mathematics – its impact on the world, past, present and future	I have worked with others to explore, and present our findings on, how mathematics impacts on the world and the important part it has played in advances and inventions.
2	MTH 2-13a	Number, money and measure	Patterns and relationships	Having explored more complex number sequences, including well-known named number patterns, I can explain the rule used to generate the sequence, and apply it to extend the pattern.

## Level 2 Science

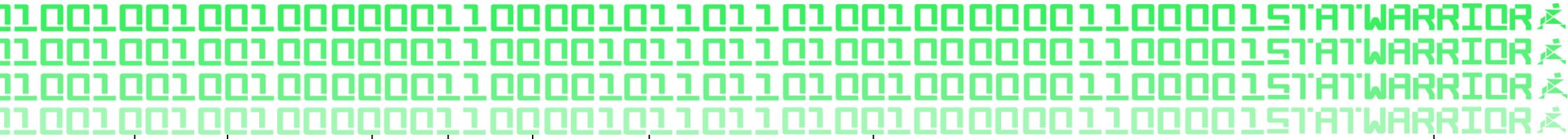
Lesson	Description	Level	Name	Category	Subcategory	Description
1	Understanding the Problem and Your Own Carbon Footprint	2	SCN 2-01a	Planet Earth	Biodiversity and interdependence	I can identify and classify examples of living things, past and present, to help me appreciate their diversity. I can relate physical and behavioural characteristics to their survival or extinction.
		2	SCN 2-02a	Planet Earth	Biodiversity and interdependence	I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design or conservation of a wildlife area.
		2	SCN 2-04a	Planet Earth	Energy sources and sustainability	By considering examples where energy is conserved, I can identify the energy source, how it is transferred and ways of reducing wasted energy.
		2	SCN 2-12a	Biological systems	Body systems and cells	By investigating some body systems and potential problems which they may develop, I can make informed decisions to help me to maintain my health and wellbeing.
		2	SCN 2-12b	Biological systems	Body systems and cells	I have explored the structure and function of sensory organs to develop my understanding of body actions in response to outside conditions.
		2	SCN 2-14a	Biological systems	Inheritance	By investigating the lifecycles of plants and animals, I can recognise the different stages of their development.
		2	SCN 2-17a	Materials	Earth's materials	Having explored the substances that make up Earth's surface, I can compare some of their characteristics and uses.
		2	SCN 2-20a	Topical science	Topical science	Through research and discussion I have an appreciation of the contribution that individuals are making to scientific discovery and invention and the impact this has made on society.
		2	SCN 2-20b	Topical science	Topical science	I can report and comment on current scientific news items to develop my knowledge and understanding of topical science.



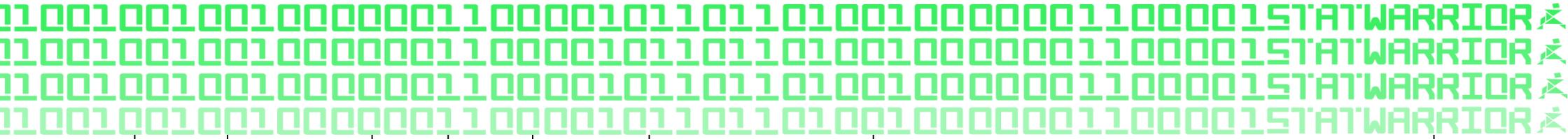
2	Planning and Collecting Data	2	SCN 2-01a	Planet Earth	Biodiversity and interdependence	I can identify and classify examples of living things, past and present, to help me appreciate their diversity. I can relate physical and behavioural characteristics to their survival or extinction.
		2	SCN 2-02a	Planet Earth	Biodiversity and interdependence	I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design or conservation of a wildlife area.
		2	SCN 2-02b	Planet Earth	Biodiversity and interdependence	Through carrying out practical activities and investigations, I can show how plants have benefited society.
		2	SCN 2-04a	Planet Earth	Energy sources and sustainability	By considering examples where energy is conserved, I can identify the energy source, how it is transferred and ways of reducing wasted energy.
		2	SCN 2-04b	Planet Earth	Energy sources and sustainability	Through exploring non-renewable energy sources, I can describe how they are used in Scotland today and express an informed view on the implications for their future use.
		2	SCN 2-10a	Forces, electricity and waves	Electricity	To begin to understand how batteries work, I can help to build simple chemical cells using readily-available materials which can be used to make an appliance work.
		2	SCN 2-12a	Biological systems	Body systems and cells	By investigating some body systems and potential problems which they may develop, I can make informed decisions to help me to maintain my health and wellbeing.
		2	SCN 2-12b	Biological systems	Body systems and cells	I have explored the structure and function of sensory organs to develop my understanding of body actions in response to outside conditions.
		2	SCN 2-14a	Biological systems	Inheritance	By investigating the lifecycles of plants and animals, I can recognise the different stages of their development.
		2	SCN 2-17a	Materials	Earth's materials	Having explored the substances that make up Earth's surface, I can compare some of their characteristics and uses.
2	SCN 2-20a	Topical science	Topical science	Through research and discussion I have an appreciation of the contribution that individuals are making to scientific discovery and invention and the impact this has made on society.		



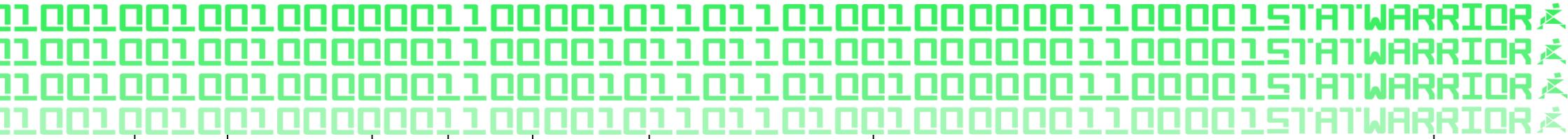
		2	SCN 2-20b	Topical science	Topical science	I can report and comment on current scientific news items to develop my knowledge and understanding of topical science.
3	Preparing Data & Descriptive Analysis	2	SCN 2-01a	Planet Earth	Biodiversity and interdependence	I can identify and classify examples of living things, past and present, to help me appreciate their diversity. I can relate physical and behavioural characteristics to their survival or extinction.
		2	SCN 2-02a	Planet Earth	Biodiversity and interdependence	I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design or conservation of a wildlife area.
		2	SCN 2-02b	Planet Earth	Biodiversity and interdependence	Through carrying out practical activities and investigations, I can show how plants have benefited society.
		2	SCN 2-04a	Planet Earth	Energy sources and sustainability	By considering examples where energy is conserved, I can identify the energy source, how it is transferred and ways of reducing wasted energy.
		2	SCN 2-04b	Planet Earth	Energy sources and sustainability	Through exploring non-renewable energy sources, I can describe how they are used in Scotland today and express an informed view on the implications for their future use.
		2	SCN 2-10a	Forces, electricity and waves	Electricity	To begin to understand how batteries work, I can help to build simple chemical cells using readily-available materials which can be used to make an appliance work.
		2	SCN 2-12a	Biological systems	Body systems and cells	By investigating some body systems and potential problems which they may develop, I can make informed decisions to help me to maintain my health and wellbeing.
		2	SCN 2-12b	Biological systems	Body systems and cells	I have explored the structure and function of sensory organs to develop my understanding of body actions in response to outside conditions.
		2	SCN 2-14a	Biological systems	Inheritance	By investigating the lifecycles of plants and animals, I can recognise the different stages of their development.
		2	SCN 2-17a	Materials	Earth's materials	Having explored the substances that make up Earth's surface, I can compare some of their characteristics and uses.



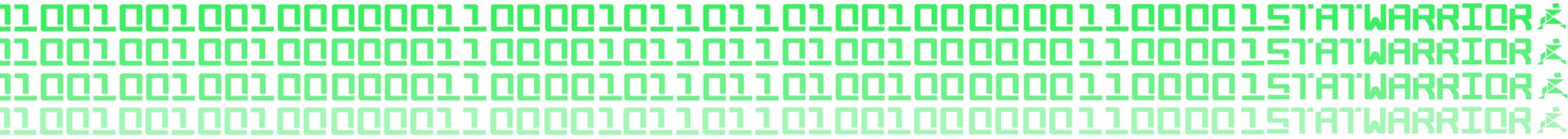
		2	SCN 2-20a	Topical science	Topical science	Through research and discussion I have an appreciation of the contribution that individuals are making to scientific discovery and invention and the impact this has made on society.
		2	SCN 2-20b	Topical science	Topical science	I can report and comment on current scientific news items to develop my knowledge and understanding of topical science.
4	Predictive Analysis and Creating Your Infographic	2	SCN 2-01a	Planet Earth	Biodiversity and interdependence	I can identify and classify examples of living things, past and present, to help me appreciate their diversity. I can relate physical and behavioural characteristics to their survival or extinction.
		2	SCN 2-02a	Planet Earth	Biodiversity and interdependence	I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design or conservation of a wildlife area.
		2	SCN 2-02b	Planet Earth	Biodiversity and interdependence	Through carrying out practical activities and investigations, I can show how plants have benefited society.
		2	SCN 2-04a	Planet Earth	Energy sources and sustainability	By considering examples where energy is conserved, I can identify the energy source, how it is transferred and ways of reducing wasted energy.
		2	SCN 2-04b	Planet Earth	Energy sources and sustainability	Through exploring non-renewable energy sources, I can describe how they are used in Scotland today and express an informed view on the implications for their future use.
		2	SCN 2-10a	Forces, electricity and waves	Electricity	To begin to understand how batteries work, I can help to build simple chemical cells using readily-available materials which can be used to make an appliance work.
		2	SCN 2-12a	Biological systems	Body systems and cells	By investigating some body systems and potential problems which they may develop, I can make informed decisions to help me to maintain my health and wellbeing.
		2	SCN 2-12b	Biological systems	Body systems and cells	I have explored the structure and function of sensory organs to develop my understanding of body actions in response to outside conditions.
		2	SCN 2-14a	Biological systems	Inheritance	By investigating the lifecycles of plants and animals, I can recognise the different stages of their development.



		2	SCN 2-17a	Materials	Earth's materials	Having explored the substances that make up Earth's surface, I can compare some of their characteristics and uses.
		2	SCN 2-20a	Topical science	Topical science	Through research and discussion I have an appreciation of the contribution that individuals are making to scientific discovery and invention and the impact this has made on society.
		2	SCN 2-20b	Topical science	Topical science	I can report and comment on current scientific news items to develop my knowledge and understanding of topical science.
5	Creating Your Advertising Poster	2	SCN 2-01a	Planet Earth	Biodiversity and interdependence	I can identify and classify examples of living things, past and present, to help me appreciate their diversity. I can relate physical and behavioural characteristics to their survival or extinction.
		2	SCN 2-02b	Planet Earth	Biodiversity and interdependence	Through carrying out practical activities and investigations, I can show how plants have benefited society.
		2	SCN 2-04a	Planet Earth	Energy sources and sustainability	By considering examples where energy is conserved, I can identify the energy source, how it is transferred and ways of reducing wasted energy.
		2	SCN 2-04b	Planet Earth	Energy sources and sustainability	Through exploring non-renewable energy sources, I can describe how they are used in Scotland today and express an informed view on the implications for their future use.
		2	SCN 2-12a	Biological systems	Body systems and cells	By investigating some body systems and potential problems which they may develop, I can make informed decisions to help me to maintain my health and wellbeing.
		2	SCN 2-12b	Biological systems	Body systems and cells	I have explored the structure and function of sensory organs to develop my understanding of body actions in response to outside conditions.
		2	SCN 2-14a	Biological systems	Inheritance	By investigating the lifecycles of plants and animals, I can recognise the different stages of their development.
		2	SCN 2-17a	Materials	Earth's materials	Having explored the substances that make up Earth's surface, I can compare some of their characteristics and uses.
		2	SCN 2-20a	Topical science	Topical science	Through research and discussion I have an appreciation of the contribution that individuals are making to scientific discovery and invention and the impact this has made on society.

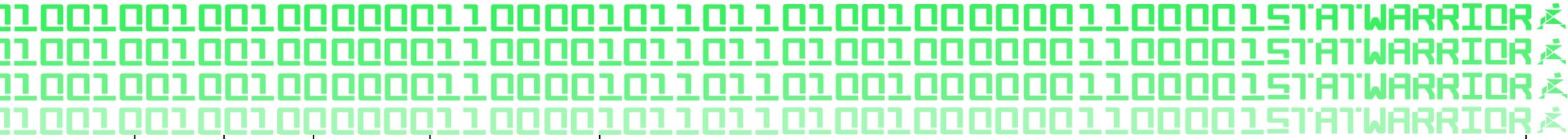


		2	SCN 2-20b	Topical science	Topical science	I can report and comment on current scientific news items to develop my knowledge and understanding of topical science.
6	Presenting and Implementing	2	SCN 2-01a	Planet Earth	Biodiversity and interdependence	I can identify and classify examples of living things, past and present, to help me appreciate their diversity. I can relate physical and behavioural characteristics to their survival or extinction.
		2	SCN 2-02b	Planet Earth	Biodiversity and interdependence	Through carrying out practical activities and investigations, I can show how plants have benefited society.
		2	SCN 2-04a	Planet Earth	Energy sources and sustainability	By considering examples where energy is conserved, I can identify the energy source, how it is transferred and ways of reducing wasted energy.
		2	SCN 2-04b	Planet Earth	Energy sources and sustainability	Through exploring non-renewable energy sources, I can describe how they are used in Scotland today and express an informed view on the implications for their future use.
		2	SCN 2-12a	Biological systems	Body systems and cells	By investigating some body systems and potential problems which they may develop, I can make informed decisions to help me to maintain my health and wellbeing.
		2	SCN 2-12b	Biological systems	Body systems and cells	I have explored the structure and function of sensory organs to develop my understanding of body actions in response to outside conditions.
		2	SCN 2-14a	Biological systems	Inheritance	By investigating the lifecycles of plants and animals, I can recognise the different stages of their development.
		2	SCN 2-17a	Materials	Earth's materials	Having explored the substances that make up Earth's surface, I can compare some of their characteristics and uses.
		2	SCN 2-20a	Topical science	Topical science	Through research and discussion I have an appreciation of the contribution that individuals are making to scientific discovery and invention and the impact this has made on society.
		2	SCN 2-20b	Topical science	Topical science	I can report and comment on current scientific news items to develop my knowledge and understanding of topical science.

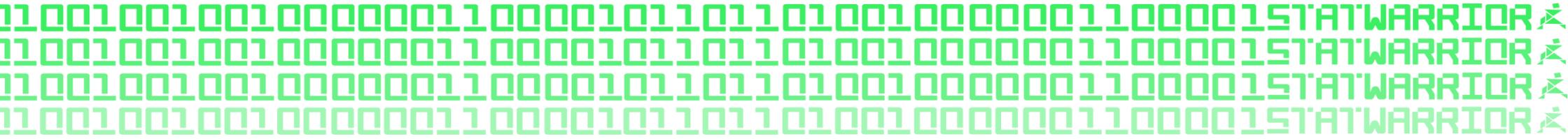


## Summaries of Level 2 Science developed through STATWARS®

Level	Name	Category	Subcategory	Description
2	SCN 2-01a	Planet Earth	Biodiversity and interdependence	I can identify and classify examples of living things, past and present, to help me appreciate their diversity. I can relate physical and behavioural characteristics to their survival or extinction.
2	SCN 2-12a	Biological systems	Body systems and cells	By investigating some body systems and potential problems which they may develop, I can make informed decisions to help me to maintain my health and wellbeing.
2	SCN 2-12b	Biological systems	Body systems and cells	I have explored the structure and function of sensory organs to develop my understanding of body actions in response to outside conditions.
2	SCN 2-14a	Biological systems	Inheritance	By investigating the lifecycles of plants and animals, I can recognise the different stages of their development.
2	SCN 2-10a	Forces, electricity and waves	Electricity	To begin to understand how batteries work, I can help to build simple chemical cells using readily-available materials which can be used to make an appliance work.
2	SCN 2-17a	Materials	Earth's materials	Having explored the substances that make up Earth's surface, I can compare some of their characteristics and uses.
2	SCN 2-02a	Planet Earth	Biodiversity and interdependence	I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design or conservation of a wildlife area.
2	SCN 2-02b	Planet Earth	Biodiversity and interdependence	Through carrying out practical activities and investigations, I can show how plants have benefited society.
2	SCN 2-04a	Planet Earth	Energy sources and sustainability	By considering examples where energy is conserved, I can identify the energy source, how it is transferred and ways of reducing wasted energy.

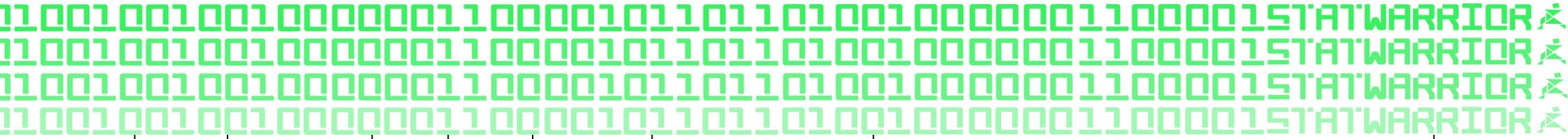


2	SCN 2-04b	Planet Earth	Energy sources and sustainability	Through exploring non-renewable energy sources, I can describe how they are used in Scotland today and express an informed view on the implications for their future use.
2	SCN 2-20a	Topical science	Topical science	Through research and discussion I have an appreciation of the contribution that individuals are making to scientific discovery and invention and the impact this has made on society.
2	SCN 2-20b	Topical science	Topical science	I can report and comment on current scientific news items to develop my knowledge and understanding of topical science.

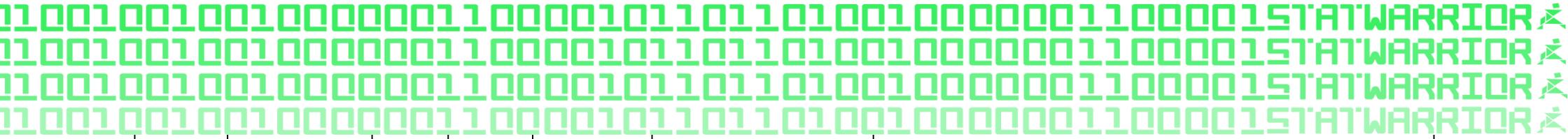


### Level 3 Numeracy & Mathematics

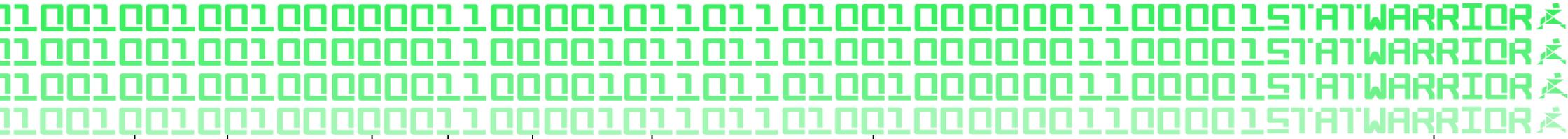
Lesson	Description	Level	Name	Category	Subcategory	Description
1	Understanding the Problem and Your Own Carbon Footprint	3	MNU 3-01a	Number, money and measure	Estimation and rounding	I can round a number using an appropriate degree of accuracy, having taken into account the context of the problem.
		3	MNU 3-03b	Number, money and measure	Number and number processes	I can continue to recall number facts quickly and use them accurately when making calculations.
		3	MNU 3-11a	Number, money and measure	Measurement	I can solve practical problems by applying my knowledge of measure, choosing the appropriate units and degree of accuracy for the task and using a formula to calculate area or volume when required.
		3	MTH 3-20b	Information handling	Data and analysis	When analysing information or collecting data of my own, I can use my understanding of how bias may arise and how sample size can affect precision, to ensure that the data allows for fair conclusions to be drawn.
2	Planning and Collecting Data	3	MNU 3-01a	Number, money and measure	Estimation and rounding	I can round a number using an appropriate degree of accuracy, having taken into account the context of the problem.
		3	MNU 3-03b	Number, money and measure	Number and number processes	I can continue to recall number facts quickly and use them accurately when making calculations.
		3	MNU 3-08a	Number, money and measure	Fractions, decimal fractions and percentages	I can show how quantities that are related can be increased or decreased proportionally and apply this to solve problems in everyday contexts.
		3	MNU 3-11a	Number, money and measure	Measurement	I can solve practical problems by applying my knowledge of measure, choosing the appropriate units and degree of accuracy for the task and using a formula to calculate area or volume when required.



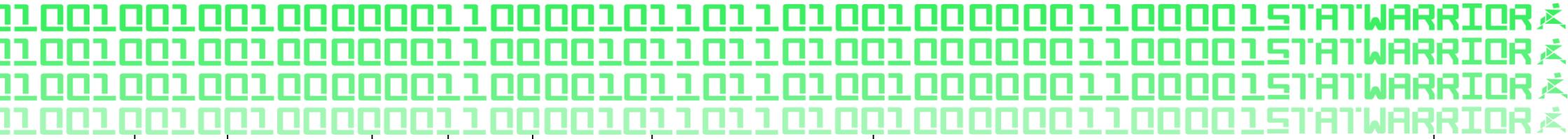
		3	MNU 3-20a	Information handling	Data and analysis	I can work collaboratively, making appropriate use of technology, to source information presented in a range of ways, interpret what it conveys and discuss whether I believe the information to be robust, vague or misleading.
		3	MTH 3-20b	Information handling	Data and analysis	When analysing information or collecting data of my own, I can use my understanding of how bias may arise and how sample size can affect precision, to ensure that the data allows for fair conclusions to be drawn.
		3	MTH 3-21a	Information handling	Data and analysis	I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology.
3	Preparing Data & Descriptive Analysis	3	MNU 3-01a	Number, money and measure	Estimation and rounding	I can round a number using an appropriate degree of accuracy, having taken into account the context of the problem.
		3	MNU 3-03a	Number, money and measure	Number and number processes	I can use a variety of methods to solve number problems in familiar contexts, clearly communicating my processes and solutions.
		3	MNU 3-03b	Number, money and measure	Number and number processes	I can continue to recall number facts quickly and use them accurately when making calculations.
		3	MNU 3-07a	Number, money and measure	Fractions, decimal fractions and percentages	I can solve problems by carrying out calculations with a wide range of fractions, decimal fractions and percentages, using my answers to make comparisons and informed choices for real-life situations.
		3	MTH 3-07c	Number, money and measure	Fractions, decimal fractions and percentages	Having used practical, pictorial and written methods to develop my understanding, I can convert between whole or mixed numbers and fractions.
		3	MNU 3-08a	Number, money and measure	Fractions, decimal fractions and percentages	I can show how quantities that are related can be increased or decreased proportionally and apply this to solve problems in everyday contexts.
		3	MNU 3-11a	Number, money and measure	Measurement	I can solve practical problems by applying my knowledge of measure, choosing the appropriate units and degree of accuracy



						for the task and using a formula to calculate area or volume when required.
		3	MNU 3-20a	Information handling	Data and analysis	I can work collaboratively, making appropriate use of technology, to source information presented in a range of ways, interpret what it conveys and discuss whether I believe the information to be robust, vague or misleading.
		3	MTH 3-20b	Information handling	Data and analysis	When analysing information or collecting data of my own, I can use my understanding of how bias may arise and how sample size can affect precision, to ensure that the data allows for fair conclusions to be drawn.
		3	MTH 3-21a	Information handling	Data and analysis	I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology.
		3	MNU 3-22a	Information handling	Ideas of chance and uncertainty	I can find the probability of a simple event happening and explain why the consequences of the event, as well as its probability, should be considered when making choices.
4	Predictive Analysis and Creating Your Infographic	3	MNU 3-01a	Number, money and measure	Estimation and rounding	I can round a number using an appropriate degree of accuracy, having taken into account the context of the problem.
		3	MNU 3-03a	Number, money and measure	Number and number processes	I can use a variety of methods to solve number problems in familiar contexts, clearly communicating my processes and solutions.
		3	MNU 3-03b	Number, money and measure	Number and number processes	I can continue to recall number facts quickly and use them accurately when making calculations.
		3	MTH 3-05a	Number, money and measure	Multiples, factors and primes	I have investigated strategies for identifying common multiples and common factors, explaining my ideas to others, and can apply my understanding to solve related problems.
		3	MNU 3-07a	Number, money and measure	Fractions, decimal fractions and percentages	I can solve problems by carrying out calculations with a wide range of fractions, decimal fractions and percentages, using my answers to make comparisons and informed choices for real-life situations.



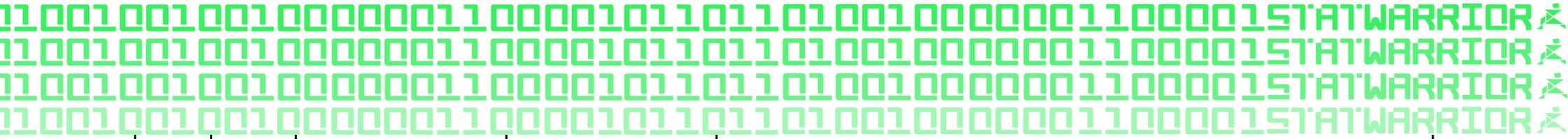
		3	MTH 3-07c	Number, money and measure	Fractions, decimal fractions and percentages	Having used practical, pictorial and written methods to develop my understanding, I can convert between whole or mixed numbers and fractions.
		3	MNU 3-08a	Number, money and measure	Fractions, decimal fractions and percentages	I can show how quantities that are related can be increased or decreased proportionally and apply this to solve problems in everyday contexts.
		3	MNU 3-11a	Number, money and measure	Measurement	I can solve practical problems by applying my knowledge of measure, choosing the appropriate units and degree of accuracy for the task and using a formula to calculate area or volume when required.
		3	MNU 3-20a	Information handling	Data and analysis	I can work collaboratively, making appropriate use of technology, to source information presented in a range of ways, interpret what it conveys and discuss whether I believe the information to be robust, vague or misleading.
		3	MTH 3-20b	Information handling	Data and analysis	When analysing information or collecting data of my own, I can use my understanding of how bias may arise and how sample size can affect precision, to ensure that the data allows for fair conclusions to be drawn.
		3	MTH 3-21a	Information handling	Data and analysis	I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology.
		3	MNU 3-22a	Information handling	Ideas of chance and uncertainty	I can find the probability of a simple event happening and explain why the consequences of the event, as well as its probability, should be considered when making choices.
6	Presenting and Implementing	3	MNU 3-03a	Number, money and measure	Number and number processes	I can use a variety of methods to solve number problems in familiar contexts, clearly communicating my processes and solutions.
		3	MNU 3-03b	Number, money and measure	Number and number processes	I can continue to recall number facts quickly and use them accurately when making calculations.



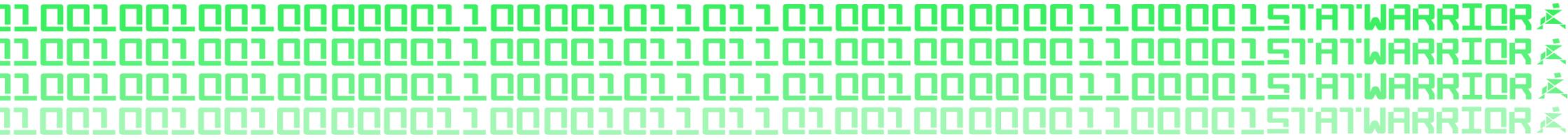
		3	MNU 3-20a	Information handling	Data and analysis	I can work collaboratively, making appropriate use of technology, to source information presented in a range of ways, interpret what it conveys and discuss whether I believe the information to be robust, vague or misleading.
		3	MTH 3-21a	Information handling	Data and analysis	I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology.

### Summaries of Level 3 Numeracy & Mathematics developed through STATWARS®

Level	Name	Category	Subcategory	Description
3	MTH 3-20b	Information handling	Data and analysis	When analysing information or collecting data of my own, I can use my understanding of how bias may arise and how sample size can affect precision, to ensure that the data allows for fair conclusions to be drawn.
3	MNU 3-20a	Information handling	Data and analysis	I can work collaboratively, making appropriate use of technology, to source information presented in a range of ways, interpret what it conveys and discuss whether I believe the information to be robust, vague or misleading.
3	MTH 3-21a	Information handling	Data and analysis	I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology.
3	MNU 3-22a	Information handling	Ideas of chance and uncertainty	I can find the probability of a simple event happening and explain why the consequences of the event, as well as its probability, should be considered when making choices.
3	MNU 3-01a	Number, money and measure	Estimation and rounding	I can round a number using an appropriate degree of accuracy, having taken into account the context of the problem.

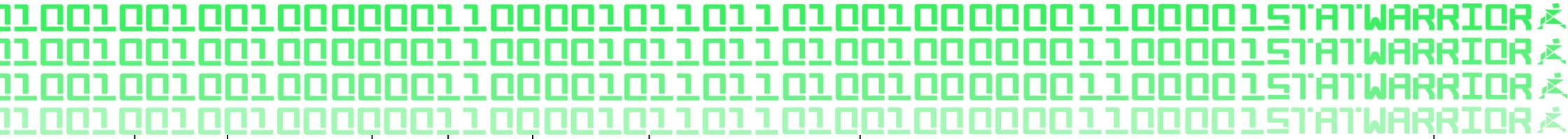


3	MNU 3-03b	Number, money and measure	Number and number processes	I can continue to recall number facts quickly and use them accurately when making calculations.
3	MNU 3-11a	Number, money and measure	Measurement	I can solve practical problems by applying my knowledge of measure, choosing the appropriate units and degree of accuracy for the task and using a formula to calculate area or volume when required.
3	MNU 3-08a	Number, money and measure	Fractions, decimal fractions and percentages	I can show how quantities that are related can be increased or decreased proportionally and apply this to solve problems in everyday contexts.
3	MNU 3-03a	Number, money and measure	Number and number processes	I can use a variety of methods to solve number problems in familiar contexts, clearly communicating my processes and solutions.
3	MNU 3-07a	Number, money and measure	Fractions, decimal fractions and percentages	I can solve problems by carrying out calculations with a wide range of fractions, decimal fractions and percentages, using my answers to make comparisons and informed choices for real-life situations.
3	MTH 3-07c	Number, money and measure	Fractions, decimal fractions and percentages	Having used practical, pictorial and written methods to develop my understanding, I can convert between whole or mixed numbers and fractions.
3	MTH 3-05a	Number, money and measure	Multiples, factors and primes	I have investigated strategies for identifying common multiples and common factors, explaining my ideas to others, and can apply my understanding to solve related problems.

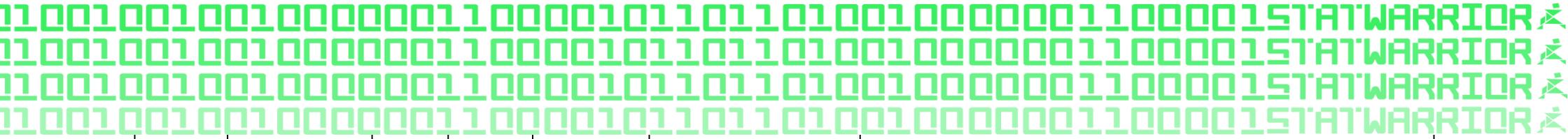


### Level 3 Science

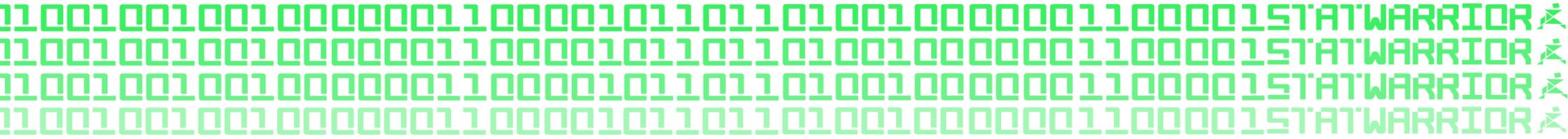
Lesson	Description	Level	Name	Category	Subcategory	Description
1	Understanding the Problem and Your Own Carbon Footprint	3	SCN 3-01a	Planet Earth	Biodiversity and interdependence	I can sample and identify living things from different habitats to compare their biodiversity and can suggest reasons for their distribution.
		3	SCN 3-05b	Planet Earth	Processes of the planet	I can explain some of the processes which contribute to climate change and discuss the possible impact of atmospheric change on the survival of living things.
		3	SCN 3-12a	Biological systems	Body systems and cells	I have explored the structure and function of organs and organ systems and can relate this to the basic biological processes required to sustain life.
2	Planning and Collecting Data	3	SCN 3-01a	Planet Earth	Biodiversity and interdependence	I can sample and identify living things from different habitats to compare their biodiversity and can suggest reasons for their distribution.
		3	SCN 3-04b	Planet Earth	Energy sources and sustainability	By investigating renewable energy sources and taking part in practical activities to harness them, I can discuss their benefits and potential problems.
		3	SCN 3-05b	Planet Earth	Processes of the planet	I can explain some of the processes which contribute to climate change and discuss the possible impact of atmospheric change on the survival of living things.
		3	SCN 3-12a	Biological systems	Body systems and cells	I have explored the structure and function of organs and organ systems and can relate this to the basic biological processes required to sustain life.
		3	SCN 3-20a	Topical science	Topical science	I have collaborated with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development.
		3	SCN 3-20b	Topical science	Topical science	Through research and discussion, I have contributed to evaluations of media items with regard to scientific content and ethical implications.



3	Preparing Data & Descriptive Analysis	3	SCN 3-01a	Planet Earth	Biodiversity and interdependence	I can sample and identify living things from different habitats to compare their biodiversity and can suggest reasons for their distribution.
		3	SCN 3-04b	Planet Earth	Energy sources and sustainability	By investigating renewable energy sources and taking part in practical activities to harness them, I can discuss their benefits and potential problems.
		3	SCN 3-05b	Planet Earth	Processes of the planet	I can explain some of the processes which contribute to climate change and discuss the possible impact of atmospheric change on the survival of living things.
		3	SCN 3-12a	Biological systems	Body systems and cells	I have explored the structure and function of organs and organ systems and can relate this to the basic biological processes required to sustain life.
		3	SCN 3-20a	Topical science	Topical science	I have collaborated with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development.
		3	SCN 3-20b	Topical science	Topical science	Through research and discussion, I have contributed to evaluations of media items with regard to scientific content and ethical implications.
4	Predictive Analysis and Creating Your Infographic	3	SCN 3-01a	Planet Earth	Biodiversity and interdependence	I can sample and identify living things from different habitats to compare their biodiversity and can suggest reasons for their distribution.
		3	SCN 3-04b	Planet Earth	Energy sources and sustainability	By investigating renewable energy sources and taking part in practical activities to harness them, I can discuss their benefits and potential problems.
		3	SCN 3-05b	Planet Earth	Processes of the planet	I can explain some of the processes which contribute to climate change and discuss the possible impact of atmospheric change on the survival of living things.
		3	SCN 3-12a	Biological systems	Body systems and cells	I have explored the structure and function of organs and organ systems and can relate this to the basic biological processes required to sustain life.
		3	SCN 3-20a	Topical science	Topical science	I have collaborated with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development.

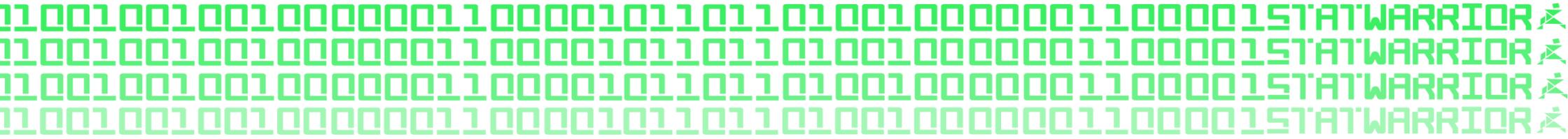


		3	SCN 3-20b	Topical science	Topical science	Through research and discussion, I have contributed to evaluations of media items with regard to scientific content and ethical implications.
5	Creating Your Advertising Poster	3	SCN 3-05b	Planet Earth	Processes of the planet	I can explain some of the processes which contribute to climate change and discuss the possible impact of atmospheric change on the survival of living things.
		3	SCN 3-12a	Biological systems	Body systems and cells	I have explored the structure and function of organs and organ systems and can relate this to the basic biological processes required to sustain life.
		3	SCN 3-20a	Topical science	Topical science	I have collaborated with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development.
		3	SCN 3-20b	Topical science	Topical science	Through research and discussion, I have contributed to evaluations of media items with regard to scientific content and ethical implications.
6	Presenting and Implementing	3	SCN 3-05b	Planet Earth	Processes of the planet	I can explain some of the processes which contribute to climate change and discuss the possible impact of atmospheric change on the survival of living things.
		3	SCN 3-12a	Biological systems	Body systems and cells	I have explored the structure and function of organs and organ systems and can relate this to the basic biological processes required to sustain life.
		3	SCN 3-20a	Topical science	Topical science	I have collaborated with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development.
		3	SCN 3-20b	Topical science	Topical science	Through research and discussion, I have contributed to evaluations of media items with regard to scientific content and ethical implications.



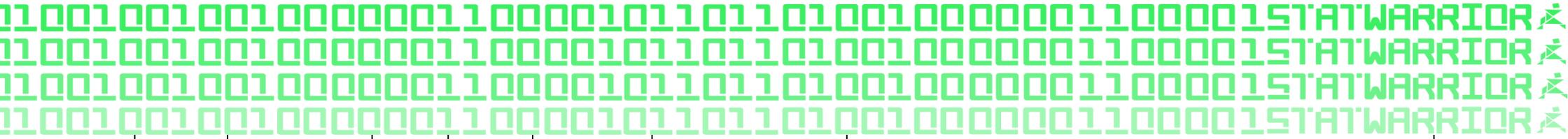
### Summaries of Level 3 Science developed through STATWARS®

Level	Name	Category	Subcategory	Description
3	SCN 3-12a	Biological systems	Body systems and cells	I have explored the structure and function of organs and organ systems and can relate this to the basic biological processes required to sustain life.
3	SCN 3-01a	Planet Earth	Biodiversity and interdependence	I can sample and identify living things from different habitats to compare their biodiversity and can suggest reasons for their distribution.
3	SCN 3-04b	Planet Earth	Energy sources and sustainability	By investigating renewable energy sources and taking part in practical activities to harness them, I can discuss their benefits and potential problems.
3	SCN 3-05b	Planet Earth	Processes of the planet	I can explain some of the processes which contribute to climate change and discuss the possible impact of atmospheric change on the survival of living things.
3	SCN 3-20a	Topical science	Topical science	I have collaborated with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development.
3	SCN 3-20b	Topical science	Topical science	Through research and discussion, I have contributed to evaluations of media items with regard to scientific content and ethical implications.

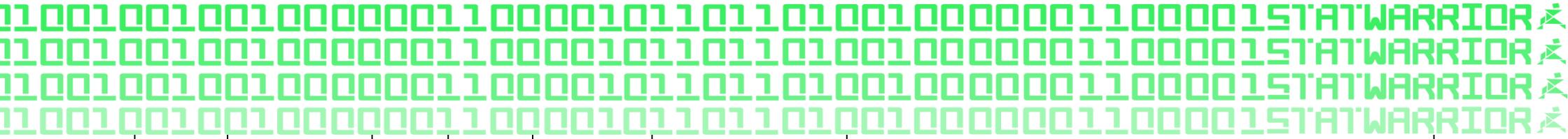


### Level 4 Numeracy & Mathematics

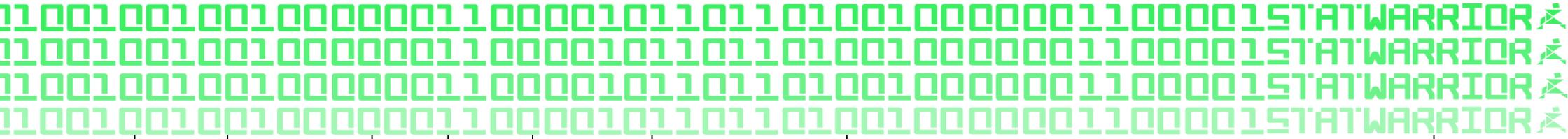
Lesson	Description	Level	Name	Category	Subcategory	Description
1	Understanding the Problem and Your Own Carbon Footprint	4	MNU 4-01a	Number, money and measure	Estimation and rounding	Having investigated the practical impact of inaccuracy and error, I can use my knowledge of tolerance when choosing the required degree of accuracy to make real-life calculations.
		4	MNU 4-03a	Number, money and measure	Number and number processes	Having recognised similarities between new problems and problems I have solved before, I can carry out the necessary calculations to solve problems set in unfamiliar contexts.
		4	MNU 4-11a	Number, money and measure	Measurement	I can apply my knowledge and understanding of measure to everyday problems and tasks and appreciate the practical importance of accuracy when making calculations.
		4	MTH 4-12a	Number, money and measure	Mathematics – its impact on the world, past, present and future	I have discussed the importance of mathematics in the real world, investigated the mathematical skills required for different career paths and delivered, with others, a presentation on how mathematics can be applied in the workplace.
		4	MNU 4-20a	Information handling	Data and analysis	I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others.
		4	MTH 4-20b	Information handling	Data and analysis	In order to compare numerical information in reallife contexts, I can find the mean, median, mode and range of sets of numbers, decide which type of average is most appropriate to use and discuss how using an alternative type of average could be misleading.
		4	MTH 4-21a	Information handling	Data and analysis	I can select appropriately from a wide range of tables, charts, diagrams and graphs when displaying discrete, continuous or grouped data, clearly communicating the significant features of the data.
		4	MNU 4-22a	Information handling	Ideas of chance and uncertainty	By applying my understanding of probability, I can determine how many times I expect an event to occur, and use this information to make predictions, risk assessment, informed choices and decisions.



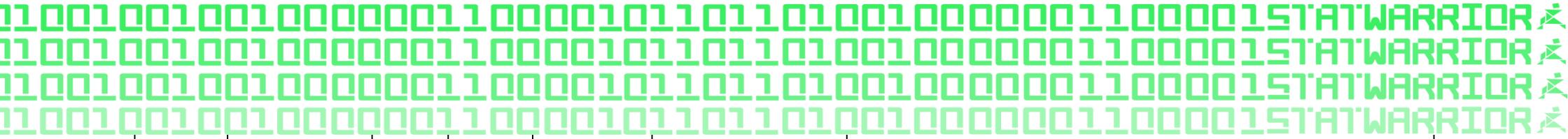
2	Planning and Collecting Data	4	MNU 4-01a	Number, money and measure	Estimation and rounding	Having investigated the practical impact of inaccuracy and error, I can use my knowledge of tolerance when choosing the required degree of accuracy to make real-life calculations.
		4	MNU 4-03a	Number, money and measure	Number and number processes	Having recognised similarities between new problems and problems I have solved before, I can carry out the necessary calculations to solve problems set in unfamiliar contexts.
		4	MNU 4-07a	Number, money and measure	Fractions, decimal fractions and percentages	I can choose the most appropriate form of fractions, decimal fractions and percentages to use when making calculations mentally, in written form or using technology, then use my solutions to make comparisons, decisions and choices.
		4	MNU 4-08a	Number, money and measure	Fractions, decimal fractions and percentages	Using proportion, I can calculate the change in one quantity caused by a change in a related quantity and solve real-life problems.
		4	MNU 4-11a	Number, money and measure	Measurement	I can apply my knowledge and understanding of measure to everyday problems and tasks and appreciate the practical importance of accuracy when making calculations.
		4	MTH 4-12a	Number, money and measure	Mathematics – its impact on the world, past, present and future	I have discussed the importance of mathematics in the real world, investigated the mathematical skills required for different career paths and delivered, with others, a presentation on how mathematics can be applied in the workplace.
		4	MTH 4-13b	Number, money and measure	Patterns and relationships	I have discussed ways to describe the slope of a line, can interpret the definition of gradient and can use it to make relevant calculations, interpreting my answer for the context of the problem.
		4	MTH 4-13d	Number, money and measure	Patterns and relationships	I can use a given formula to generate points lying on a straight line, plot them to create a graphical representation then use this to answer related questions.
		4	MNU 4-20a	Information handling	Data and analysis	I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others.



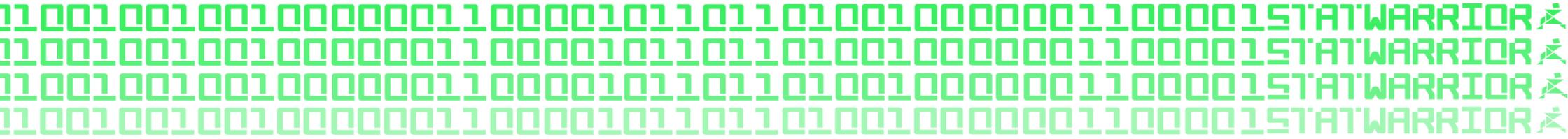
		4	MTH 4-20b	Information handling	Data and analysis	In order to compare numerical information in real life contexts, I can find the mean, median, mode and range of sets of numbers, decide which type of average is most appropriate to use and discuss how using an alternative type of average could be misleading.
		4	MTH 4-21a	Information handling	Data and analysis	I can select appropriately from a wide range of tables, charts, diagrams and graphs when displaying discrete, continuous or grouped data, clearly communicating the significant features of the data.
		4	MNU 4-22a	Information handling	Ideas of chance and uncertainty	By applying my understanding of probability, I can determine how many times I expect an event to occur, and use this information to make predictions, risk assessment, informed choices and decisions.
3	Preparing Data & Descriptive Analysis	4	MNU 4-01a	Number, money and measure	Estimation and rounding	Having investigated the practical impact of inaccuracy and error, I can use my knowledge of tolerance when choosing the required degree of accuracy to make real-life calculations.
		4	MNU 4-03a	Number, money and measure	Number and number processes	Having recognised similarities between new problems and problems I have solved before, I can carry out the necessary calculations to solve problems set in unfamiliar contexts.
		4	MTH 4-06b	Number, money and measure	Powers and roots	Within real-life contexts, I can use scientific notation to express large or small numbers in a more efficient way and can understand and work with numbers written in this form.
		4	MNU 4-07a	Number, money and measure	Fractions, decimal fractions and percentages	I can choose the most appropriate form of fractions, decimal fractions and percentages to use when making calculations mentally, in written form or using technology, then use my solutions to make comparisons, decisions and choices.
		4	MTH 4-07b	Number, money and measure	Fractions, decimal fractions and percentages	I can solve problems involving fractions and mixed numbers in context, using addition, subtraction or multiplication.
		4	MNU 4-08a	Number, money and measure	Fractions, decimal fractions and percentages	Using proportion, I can calculate the change in one quantity caused by a change in a related quantity and solve real-life problems.
		4	MNU 4-11a	Number, money and measure	Measurement	I can apply my knowledge and understanding of measure to everyday problems and tasks and appreciate the practical importance of accuracy when making calculations.



			4	MTH 4-12a	Number, money and measure	Mathematics – its impact on the world, past, present and future	I have discussed the importance of mathematics in the real world, investigated the mathematical skills required for different career paths and delivered, with others, a presentation on how mathematics can be applied in the workplace.
			4	MTH 4-13a	Number, money and measure	Patterns and relationships	Having explored how real-life situations can be modelled by number patterns, I can establish a number sequence to represent a physical or pictorial pattern, determine a general formula to describe the sequence, then use it to make evaluations and solve related problems.
			4	MTH 4-13b	Number, money and measure	Patterns and relationships	I have discussed ways to describe the slope of a line, can interpret the definition of gradient and can use it to make relevant calculations, interpreting my answer for the context of the problem.
			4	MTH 4-13d	Number, money and measure	Patterns and relationships	I can use a given formula to generate points lying on a straight line, plot them to create a graphical representation then use this to answer related questions.
			4	MTH 4-15a	Number, money and measure	Expressions and equations	Having discussed the benefits of using mathematics to model real-life situations, I can construct and solve inequalities and an extended range of equations.
			4	MTH 4-19a	Shape, position and movement	Angle, symmetry and transformation	Having investigated patterns in the environment, I can use appropriate mathematical vocabulary to discuss the rotational properties of shapes, pictures and patterns and can apply my understanding when completing or creating designs.
			4	MNU 4-20a	Information handling	Data and analysis	I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others.
			4	MTH 4-20b	Information handling	Data and analysis	In order to compare numerical information in real life contexts, I can find the mean, median, mode and range of sets of numbers, decide which type of average is most appropriate to use and discuss how using an alternative type of average could be misleading.
			4	MTH 4-21a	Information handling	Data and analysis	I can select appropriately from a wide range of tables, charts, diagrams and graphs when displaying discrete, continuous or

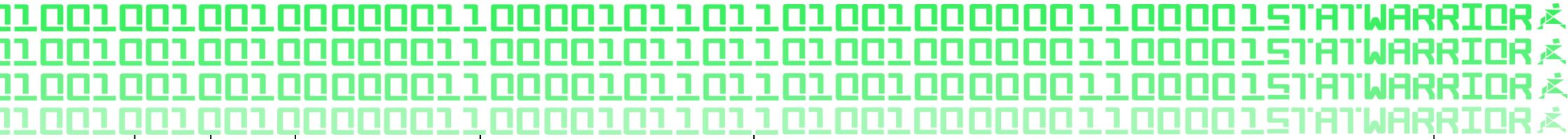


						grouped data, clearly communicating the significant features of the data.
		4	MNU 4-22a	Information handling	Ideas of chance and uncertainty	By applying my understanding of probability, I can determine how many times I expect an event to occur, and use this information to make predictions, risk assessment, informed choices and decisions.
5	Creating Your Advertising Poster	4	MNU 4-20a	Information handling	Data and analysis	I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others.
		4	MTH 4-21a	Information handling	Data and analysis	I can select appropriately from a wide range of tables, charts, diagrams and graphs when displaying discrete, continuous or grouped data, clearly communicating the significant features of the data.
		4	MNU 4-22a	Information handling	Ideas of chance and uncertainty	By applying my understanding of probability, I can determine how many times I expect an event to occur, and use this information to make predictions, risk assessment, informed choices and decisions.
6	Presenting and Implementing	4	MNU 4-20a	Information handling	Data and analysis	I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others.
		4	MTH 4-20b	Information handling	Data and analysis	In order to compare numerical information in real life contexts, I can find the mean, median, mode and range of sets of numbers, decide which type of average is most appropriate to use and discuss how using an alternative type of average could be misleading.
		4	MTH 4-21a	Information handling	Data and analysis	I can select appropriately from a wide range of tables, charts, diagrams and graphs when displaying discrete, continuous or grouped data, clearly communicating the significant features of the data.
		4	MNU 4-22a	Information handling	Ideas of chance and uncertainty	By applying my understanding of probability, I can determine how many times I expect an event to occur, and use this information to make predictions, risk assessment, informed choices and decisions.



**Summaries of Level 4 Numeracy & Mathematics developed through STATWARS®**

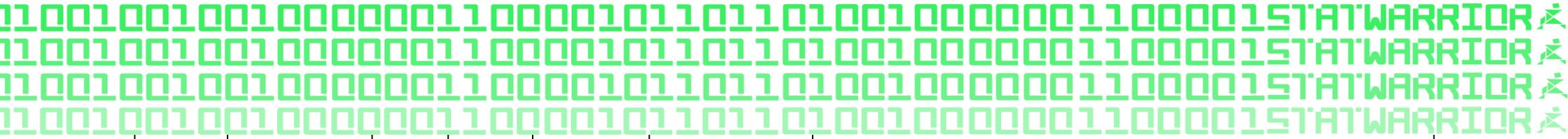
Level	Name	Category	Subcategory	Description
4	MNU 4-20a	Information handling	Data and analysis	I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others.
4	MTH 4-20b	Information handling	Data and analysis	In order to compare numerical information in real life contexts, I can find the mean, median, mode and range of sets of numbers, decide which type of average is most appropriate to use and discuss how using an alternative type of average could be misleading.
4	MTH 4-21a	Information handling	Data and analysis	I can select appropriately from a wide range of tables, charts, diagrams and graphs when displaying discrete, continuous or grouped data, clearly communicating the significant features of the data.
4	MNU 4-22a	Information handling	Ideas of chance and uncertainty	By applying my understanding of probability, I can determine how many times I expect an event to occur, and use this information to make predictions, risk assessment, informed choices and decisions.
4	MTH 4-20b	Information handling	Data and analysis	In order to compare numerical information in real life contexts, I can find the mean, median, mode and range of sets of numbers, decide which type of average is most appropriate to use and discuss how using an alternative type of average could be misleading.
4	MNU 4-01a	Number, money and measure	Estimation and rounding	Having investigated the practical impact of inaccuracy and error, I can use my knowledge of tolerance when choosing the required degree of accuracy to make real-life calculations.
4	MNU 4-03a	Number, money and measure	Number and number processes	Having recognised similarities between new problems and problems I have solved before, I can carry out the necessary calculations to solve problems set in unfamiliar contexts.
4	MNU 4-11a	Number, money and measure	Measurement	I can apply my knowledge and understanding of measure to everyday problems and tasks and appreciate the practical importance of accuracy when making calculations.
4	MTH 4-12a	Number, money and measure	Mathematics – its impact on the world, past, present and future	I have discussed the importance of mathematics in the real world, investigated the mathematical skills required for different career paths and delivered, with others, a presentation on how mathematics can be applied in the workplace.



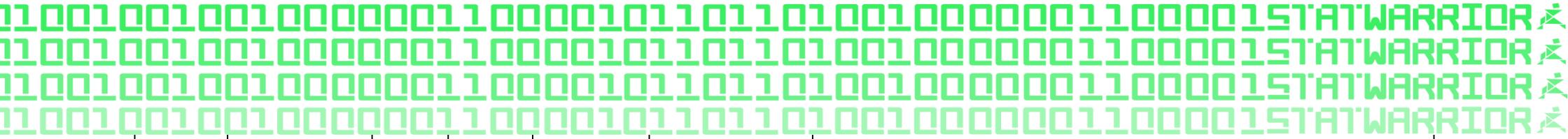
4	MNU 4-07a	Number, money and measure	Fractions, decimal fractions and percentages	I can choose the most appropriate form of fractions, decimal fractions and percentages to use when making calculations mentally, in written form or using technology, then use my solutions to make comparisons, decisions and choices.
4	MNU 4-08a	Number, money and measure	Fractions, decimal fractions and percentages	Using proportion, I can calculate the change in one quantity caused by a change in a related quantity and solve real-life problems.
4	MTH 4-13b	Number, money and measure	Patterns and relationships	I have discussed ways to describe the slope of a line, can interpret the definition of gradient and can use it to make relevant calculations, interpreting my answer for the context of the problem.
4	MTH 4-13d	Number, money and measure	Patterns and relationships	I can use a given formula to generate points lying on a straight line, plot them to create a graphical representation then use this to answer related questions.
4	MTH 4-06b	Number, money and measure	Powers and roots	Within real-life contexts, I can use scientific notation to express large or small numbers in a more efficient way and can understand and work with numbers written in this form.
4	MTH 4-07b	Number, money and measure	Fractions, decimal fractions and percentages	I can solve problems involving fractions and mixed numbers in context, using addition, subtraction or multiplication.
4	MTH 4-13a	Number, money and measure	Patterns and relationships	Having explored how real-life situations can be modelled by number patterns, I can establish a number sequence to represent a physical or pictorial pattern, determine a general formula to describe the sequence, then use it to make evaluations and solve related problems.
4	MTH 4-15a	Number, money and measure	Expressions and equations	Having discussed the benefits of using mathematics to model real-life situations, I can construct and solve inequalities and an extended range of equations.
4	MTH 4-19a	Shape, position and movement	Angle, symmetry and transformation	Having investigated patterns in the environment, I can use appropriate mathematical vocabulary to discuss the rotational properties of shapes, pictures and patterns and can apply my understanding when completing or creating designs.

## Level 4 Science

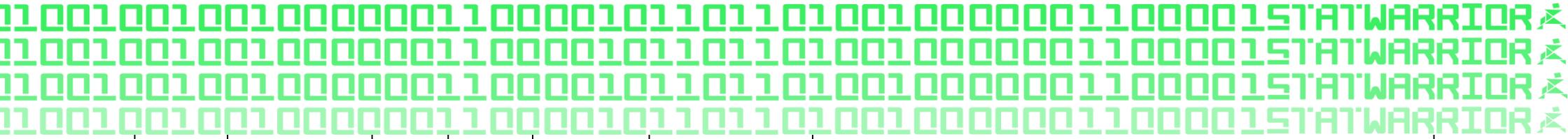
Lesson	Description	Level	Name	Category	Subcategory	Description
1	Understanding the Problem and Your Own Carbon Footprint	4	SCN 4-01a	Planet Earth	Biodiversity and interdependence	I understand how animal and plant species depend on each other and how living things are adapted for survival. I can predict the impact of population growth and natural hazards on biodiversity.
		4	SCN 4-05b	Planet Earth	Processes of the planet	Through exploring the carbon cycle, I can describe the processes involved in maintaining the balance of gases in the air, considering causes and implications of changes in the balance.
		4	SCN 4-17a	Materials	Earth's materials	I have explored how different materials can be derived from crude oil and their uses. I can explain the importance of carbon compounds in our lives.
		4	SCN 4-20b	Topical science	Topical science	Having selected scientific themes of topical interest, I can critically analyse the issues, and use relevant information to develop an informed argument.
2	Planning and Collecting Data	4	SCN 4-01a	Planet Earth	Biodiversity and interdependence	I understand how animal and plant species depend on each other and how living things are adapted for survival. I can predict the impact of population growth and natural hazards on biodiversity.
		4	SCN 4-04b	Planet Earth	Energy sources and sustainability	Through investigation, I can explain the formation and use of fossil fuels and contribute to discussions on the responsible use and conservation of finite resources.
		4	SCN 4-05b	Planet Earth	Processes of the planet	Through exploring the carbon cycle, I can describe the processes involved in maintaining the balance of gases in the air, considering causes and implications of changes in the balance.
		4	SCN 4-12a	Biological systems	Body systems and cells	I can explain how biological actions which take place in response to external and internal changes work to maintain stable body conditions.
		4	SCN 4-17a	Materials	Earth's materials	I have explored how different materials can be derived from crude oil and their uses. I can explain the importance of carbon compounds in our lives.



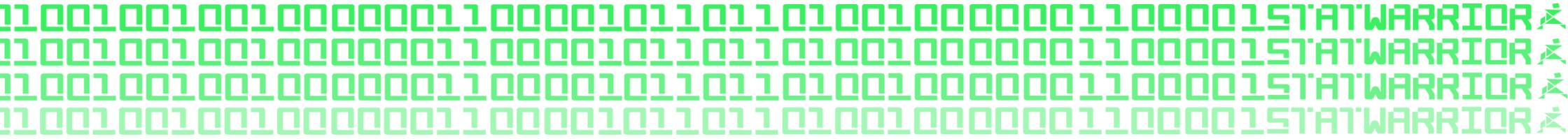
		4	SCN 4-20a	Topical science	Topical science	I have researched new developments in science and can explain how their current or future applications might impact on modern life.
		4	SCN 4-20b	Topical science	Topical science	Having selected scientific themes of topical interest, I can critically analyse the issues, and use relevant information to develop an informed argument.
3	Preparing Data & Descriptive Analysis	4	SCN 4-01a	Planet Earth	Biodiversity and interdependence	I understand how animal and plant species depend on each other and how living things are adapted for survival. I can predict the impact of population growth and natural hazards on biodiversity.
		4	SCN 4-04b	Planet Earth	Energy sources and sustainability	Through investigation, I can explain the formation and use of fossil fuels and contribute to discussions on the responsible use and conservation of finite resources.
		4	SCN 4-05b	Planet Earth	Processes of the planet	Through exploring the carbon cycle, I can describe the processes involved in maintaining the balance of gases in the air, considering causes and implications of changes in the balance.
		4	SCN 4-12a	Biological systems	Body systems and cells	I can explain how biological actions which take place in response to external and internal changes work to maintain stable body conditions.
		4	SCN 4-17a	Materials	Earth's materials	I have explored how different materials can be derived from crude oil and their uses. I can explain the importance of carbon compounds in our lives.
		4	SCN 4-20a	Topical science	Topical science	I have researched new developments in science and can explain how their current or future applications might impact on modern life.
		4	SCN 4-20b	Topical science	Topical science	Having selected scientific themes of topical interest, I can critically analyse the issues, and use relevant information to develop an informed argument.
4	Predictive Analysis and Creating Your Infographic	4	SCN 4-01a	Planet Earth	Biodiversity and interdependence	I understand how animal and plant species depend on each other and how living things are adapted for survival. I can predict the impact of population growth and natural hazards on biodiversity.
		4	SCN 4-04b	Planet Earth	Energy sources and sustainability	Through investigation, I can explain the formation and use of fossil fuels and contribute to discussions on the responsible use and conservation of finite resources.



		4	SCN 4-05b	Planet Earth	Processes of the planet	Through exploring the carbon cycle, I can describe the processes involved in maintaining the balance of gases in the air, considering causes and implications of changes in the balance.
		4	SCN 4-12a	Biological systems	Body systems and cells	I can explain how biological actions which take place in response to external and internal changes work to maintain stable body conditions.
		4	SCN 4-17a	Materials	Earth's materials	I have explored how different materials can be derived from crude oil and their uses. I can explain the importance of carbon compounds in our lives.
		4	SCN 4-20a	Topical science	Topical science	I have researched new developments in science and can explain how their current or future applications might impact on modern life.
		4	SCN 4-20b	Topical science	Topical science	Having selected scientific themes of topical interest, I can critically analyse the issues, and use relevant information to develop an informed argument.
5	Creating Your Advertising Poster	4	SCN 4-01a	Planet Earth	Biodiversity and interdependence	I understand how animal and plant species depend on each other and how living things are adapted for survival. I can predict the impact of population growth and natural hazards on biodiversity.
		4	SCN 4-04b	Planet Earth	Energy sources and sustainability	Through investigation, I can explain the formation and use of fossil fuels and contribute to discussions on the responsible use and conservation of finite resources.
		4	SCN 4-05b	Planet Earth	Processes of the planet	Through exploring the carbon cycle, I can describe the processes involved in maintaining the balance of gases in the air, considering causes and implications of changes in the balance.
		4	SCN 4-12a	Biological systems	Body systems and cells	I can explain how biological actions which take place in response to external and internal changes work to maintain stable body conditions.
		4	SCN 4-20a	Topical science	Topical science	I have researched new developments in science and can explain how their current or future applications might impact on modern life.
		4	SCN 4-20b	Topical science	Topical science	Having selected scientific themes of topical interest, I can critically analyse the issues, and use relevant information to develop an informed argument.
6	Presenting and Implementing	4	SCN 4-01a	Planet Earth	Biodiversity and interdependence	I understand how animal and plant species depend on each other and how living things are adapted for survival. I can predict the impact of population growth and natural hazards on biodiversity.



			4	SCN 4-04b	Planet Earth	Energy sources and sustainability	Through investigation, I can explain the formation and use of fossil fuels and contribute to discussions on the responsible use and conservation of finite resources.
			4	SCN 4-05b	Planet Earth	Processes of the planet	Through exploring the carbon cycle, I can describe the processes involved in maintaining the balance of gases in the air, considering causes and implications of changes in the balance.
			4	SCN 4-12a	Biological systems	Body systems and cells	I can explain how biological actions which take place in response to external and internal changes work to maintain stable body conditions.
			4	SCN 4-20a	Topical science	Topical science	I have researched new developments in science and can explain how their current or future applications might impact on modern life.
			4	SCN 4-20b	Topical science	Topical science	Having selected scientific themes of topical interest, I can critically analyse the issues, and use relevant information to develop an informed argument.



### Summaries of Level 4 Science developed through STATWARS®

Level	Name	Category	Subcategory	Description
4	SCN 4-12a	Biological systems	Body systems and cells	I can explain how biological actions which take place in response to external and internal changes work to maintain stable body conditions.
4	SCN 4-17a	Materials	Earth's materials	I have explored how different materials can be derived from crude oil and their uses. I can explain the importance of carbon compounds in our lives.
4	SCN 4-01a	Planet Earth	Biodiversity and interdependence	I understand how animal and plant species depend on each other and how living things are adapted for survival. I can predict the impact of population growth and natural hazards on biodiversity.
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4	SCN 4-05b	Planet Earth	Processes of the planet	Through exploring the carbon cycle, I can describe the processes involved in maintaining the balance of gases in the air, considering causes and implications of changes in the balance.
4	SCN 4-20b	Topical science	Topical science	Having selected scientific themes of topical interest, I can critically analyse the issues, and use relevant information to develop an informed argument.
4	SCN 4-20a	Topical science	Topical science	I have researched new developments in science and can explain how their current or future applications might impact on modern life.