Curriculum Intent Statement

The Curriculum

The curriculum has been developed by using and widening the National Curriculum in order to produce a broad and balanced progressive, sequential long term plan with consideration of the local area and resource. All aspects of which comply with legislation and national guidance, this includes the teaching of Relationship and Sex Education (RSE) with Health and Careers Education, Information, Advice and Guidance (CEIAG) across school.

The aim of this curriculum is to ensure that the skills and knowledge gained in phase 1-3 prepares students for subject specific qualification based learning in phase 4 and 5.

<table>
<tr><th colspan="4">Science</th></tr>
<tr><td>INTENT</td><td colspan="3">To develop happy, confident and independent learners who are prepared for adulthood by:
Understand their own bodies and how to maintain good physical and sexual health
Develop their knowledge of the plant world: how they grow, are cared for, and propagated
Develop their knowledge of the animal world: how they are nourished, grow, are cared for and reproduce
Examine, use and create with the material world around them: how materials are used, the seasons change; and how light, sound and forces affect and can help us
Understand the evidence of environment change and of how humans can have positive and negative effects on the environment
Develop their understanding of how lifestyle choices may affect a person's health and well being, including smoking, alcohol, medicines, drugs and sexual health
Develop their use of the scientific method of predicting, observing, measuring, recording and drawing inferences about observations</td></tr>
<tr><td></td><td>Phase 1</td><td>Phases 2 and 3</td><td>Phase 4</td></tr>
<tr><td>Working termly to build on skills: non-negotiables</td><td>Literacy, mathematics, understanding the world</td><td>Making predictions, observing real-world phenomena, recording and tabulating data, drawing conclusions from data, revising predictions, evaluating experiments</td><td>Apply skills to appropriate accreditation routes.</td></tr>
<tr><td colspan="4">Exploring our Bodies

Why This - The North-East of England has the highest level of drug and alcohol misuse in Britain, where 48% of men and 20% of women have reported drug and alcohol use above the national average (Balance North-East, 2002), and the North-East also has a widening gap of heart disease above the national average (Public Health England, 2019), and an increasingly large proportion of overweight and obese people (Government Office for Science, 2014). The North-East has above-average rates of teenage pregnancy, drug and alcohol misuse during pregnancy, and of sexually transmitted infections (Public Health England, 2022). Children with special education needs are recognised as being susceptible to misuse and abuse of the above health factors (NSPCC, 2022). This unit of learning aims to minimise these risks to children, and their adulthood, by developing knowledge about bodies, lifestyles and care.

Why Now - Knowledge of one's body, safety and longer-term care is important enough to focus upon straight away, possibly overcoming any misconceptions or bad habits experienced during the summer holidays. Students who are healthy and care for themselves more roundly will be students who attend more often and with more energy, attention and diligence.</td></tr>
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Builds On - This knowledge builds on skills and techniques developed during prior learning, including observations of the real world, making predictions and conclusions about the real world. The science curriculum is a complement to knowledge and skills gained in other subjects such as mathematics, PSHE and PE.

Prepares For - This prepares students for life as healthy adults, informed about the world around them, their bodies and new medicines and technologies. Most students, then, proceed to Key Stage 4 science accreditation.

Key knowledge, golden thread, non-negotiables for Exploring Our Bodies	PHASE 1	PHASES 2 AND 3	PHASE 4
	Students learn to name their body parts, their senses and how to use them.	To develop knowledge of one's body, health, fitness and medicine.	Apply skills to biology units in Key Stage 4 accreditation.

Materials and Forces

Why This - The North-East of England has the lowest employment rate in the country (ONS, 2020), and higher than average levels of unemployment due to temporary or long-term sickness (ONS, 2020). The population of North-East England are also disproportionately employed in careers focussed on care, trades, and machinery-related skills (ONS, 2020). Our destination data also shows that the vast majority of our students go on to work in these areas. Students develop their understanding of the world around them, the materials of their daily lives and construction.

Why Now - Knowledge of materials and forces further develops students' understanding of the world around them, how to use these materials and forces, and to prepare for potential employment in careers which manipulate these materials and forces. Careers fairs and exposure to destination planning predominantly starts in the autumn term; this give students theoretical knowledge to complement this exposure.

Builds On - Students take a sequential journey through the science scheme of work, building on knowledge about the world around them, materials; and progressing to understanding forces, their effects, and how to manipulate them.

Prepares For - As students develop their knowledge of materials and forces, they will become better prepared to understand and to use objects around them in their homes and workplaces. The knowledge here may also be used in technical careers, such as gardening, care, carpentry and construction, including related qualifications.

Key knowledge, golden thread, non-negotiables for Materials and Forces	PHASE 1	PHASES 2 AND 3	PHASE 4
	Students learn about the materials around them, their names and how to describe how they feel.	Students develop their understanding of materials, their best uses, forces and how to manipulate the world around us using materials and forces.	Apply skills to chemistry and physics units in Key Stage 4 accreditation.

Animals and Growth

Why This - As the north of England has a relatively higher proportion of animal abuse (BBC, 2012), students would benefit from learning about the animal world, and as a potential career path in jobs such as animal carer, farm worker, etc. A better understanding of human and animal reproduction and development is beneficial to the students as the local level of teenage pregnancy (Statista, 2021) and sexually transmitted infections are relatively high (Public Health England, 2022).

Why Now - Spring term affords the right time to learn about animals, reproduction and classification as the weather allows students to access outside learning more fully: trips to farms, observations in the garden or handling of animals are all more convenient in the spring term.

Builds On - Learning builds on students' understanding of their own bodies, senses and the plants around them. A fuller understanding of how their bodies fit into the social and animal habitats around them, and how to look out for other living things.

Prepares For - Biology in the Key Stage 4 accreditation would directly benefit from this learning. Preparation for adulthood in the world of work - careers in care, farming, animal husbandry.

	PHASE 1	PHASES 2 AND 3	PHASE 4

Key knowledge, golden thread, non-negotiables for Animals and Growth	Students learn about the world around them: plant parts and how to grow them.	Students develop their knowledge of plants, animals and their habitats, including reproduction and caring for animals.	Apply skills to biology units in Key Stage 4 accreditation.

Our Environment

Why This - To allow students to grow into more responsible adults, and possibly to allow for careers concerning the environment, gardening or construction. Polluting emissions in South Tyneside have been falling significantly for some years, so our students should be prepared to continue that trend (National Atmospheric Emissions Laboratory, 2019). The North-East of England has relatively few solar panels (The Eco Experts, 2011) and an overall low uptake on environmental control measures for the home (DfBEIS, 2021). Being positive and informed adults will allow our students to fulfil their roles in a more environmentally aware world.

Why Now - The spring term allows students the possibility of learning outside, of going on trips or visits, and allows finding of, for example, mini-beasts and more varied plant types than in other terms.

Builds On- Students build on their knowledge of their bodies, of animals and plants, to study the world at large: how these plants and animals may be affected by pollution and energy production types.

Prepares For - Learning prepares the students for the Key Stage 4 qualification about energy types, pollution, and the environment and possibly phase 5 placements.

	PHASE 1	PHASES 2 AND 3	PHASE 4
Key knowledge, golden thread, non-negotiables for Our Environment	Students learn about the world around them using their senses, and how to describe materials and their uses.	Students learn about the environment, habitats around them, pollution, and how to minimise it.	Apply skills to chemistry and biology units in Key Stage 4 accreditation.

Plants and Horticulture

Why This - Plants and horticulture are a major strand of career opportunity for our students. In the last South Tyneside census figures demonstrated 12.6% of jobs were in the skilled trades, 9.4% in plant and machine operation and 10.6% in the care, catering and leisure industries. Our destination data also show that the majority of our students go on to work in these areas. The proportion of adults eating healthy is decreasing in recent years (UK Government, 2019).

Why Now - The summer term allows outside learning for a large part of the time. Seeds and plants will grow relatively easily in the warmer weather. Knowledge builds on previous learning about plants, animals and the environment.

Builds On- Students build on their knowledge of their bodies, of animals and plants, and materials (and the tools) required for such activities.

Prepares For - Learning here prepares the students for possible employment in the horticulture or gardening industries, but also prepares the students for the Key Stage 4 qualifications, which includes plants, food and growth.

	PHASE 1	PHASES 2 AND 3	PHASE 4
Key knowledge, golden thread, non-negotiables for Plants and Horticulture	Students learn about plants, their parts and very basically about the function of each plant part.	Students develop their understanding of plants, the conditions required for growth and what is made by plants (fruit and vegetables), and so their role in a healthy diet.	Apply skills to biology units in Key Stage 4 accreditation.

Light, Sound and Electricity

Why This - Children, and especially children with additional special needs, are more prone to accidents (Am. J. Pub. Health, 2008). The learning allows students to develop their learning for careers related to these knowledge areas, e.g. electrician, sound technician and teaches students how to be safe within the home and outside environment (e.g. danger on rail, electricity pylons, water)

Why Now - The last term before the summer holidays is a good time to teach students about the need to be safe around light, sound and electricity, as the learning may provide a reminder before a long period out of school.

Builds On - The learning builds on previous units about observing and measuring the world around us, and about materials and how to describe and use them.

Prepares For - Learning prepares the students for the Key Stage 4 qualification about light, sound and electricity. The learning may also provide a stepping stone to further qualifications at phase 5 or apprenticeships/work placements in technical or construction industries.

Key knowledge, golden thread, non-negotiables for Light, Sound and Electricity	PHASE 1	PHASES 2 AND 3	PHASE 4
	Students learn to describe the world around them, the materials and words used to describe them.	Students learn about light, sound and electricity; and how to be safe around each of these.	Apply skills to physics units in Key Stage 4 accreditation.

From the long-term plan, a scheme of work has been produced and implemented which has high and equal aspirations for all learners and incorporates:

- PFA links
- Cultural Capital links
- Reading opportunities
- Key Vocabulary

Curriculum Intent Statement

Science Pathway

PHASE 1
Completion of EYFS set objectives

PHASE 2
Study of 3 key questions per year. Complete skills and knowledge objectives.

PHASE 3
Study of 3 key questions per year. Complete skills and knowledge objectives. Start to consider option choices and career pathways.

PHASE 4
Pathway will reflect cohort and individual students

- Entry Level Qualification **In Science**
- Vocational placement
- GCSE Qualification

PHASE 5
Pathway will reflect cohort/ individual students

- Voluntary work e.g stables, pet sanctuaries, vet or kennel hand
- Apprenticeship e.g construction, research
- College to study higher level qualification, e.g Animal Nursing Assistant or Veterinary Care Assistant qualifications
- Work placement: dispensary assistant, kennel hand, pharmacy dispensary assistant

DESTINATION

Paid employment (construction, research etc.), voluntary/charity sector or further training