SHERINGHAM HIGH SCHOOL SMSC AUDIT - 2021

SCIENCE					
Key Stage 3					
	Spiritual Examples: sense of self, unique potential, understanding strengths and weaknesses, curiosity about themselves and their place in the world increases, fundamental questions. Students develop the knowledge and skills to foster their own inner lives, non-material wellbeing and creativity.	**Moral** Examples: right and wrong, moral conflict, a concern for others, will to do what is right, reflect on the consequences of their actions and learn how to forgive themselves and others. Students develop the knowledge/skills necessary to make responsible moral decisions.	**Social** Examples: the responsibilities, rights of being members of families and communities (local, national and global), ability to relate to others and to work with others for the common good, belonging and participating, active contribution to the democratic process, sense of community and pro-social action.	**Cultural** Examples: cultural traditions, respect for their own culture and that of others, an interest in differences. Ability to understand, appreciate and contribute to culture.	**Personal development** **Examples specifically related to:** Healthy relationships/ friendships Health Education / mental health / physical health / internet safety/drugs and alcohol/ healthy eating/ preventing poor health (personal hygiene)/ basic first aid/ adolescence
Year 7	Organisms 1 – Developing knowledge and curiosity of cell life, cell specialisation. Students will learn the similarities and differences between the kingdoms and how all life on Earth is inter-related yet very different. Students can then create their own cells, using their knowledge. Genes 1 – Variation and human reproduction. Students to learn why humans can look different from one-another and question how and why this occurred. Students then will go on to learn about adolescence and puberty, menstruation, sexual reproduction, fertilisation and pregnancy.	Organisms 1 – students to consider how we research on animals and humans and think of the considerations needed before starting an investigation on a living being. Students to consider whether there is a hierarchy of ethical issues. Students to consider consent prior to experimentation and that not consenting is a choice that can be made during a class practical about their body. Ecosystems 1 – students to learn about food chains and webs. Students to consider the impact of a species being removed from the food chain due to the actions of humans and evaluate the impact that has on the ecosystem as a whole. Students can consider how their habits can influence this.	Genes 1 - Students to learn how to ask an appropriate question, with the Scientific language and be tolerant of others' questions, regardless of content of the answer. Discussions about if there is a right time to start a family and what that may look like in a more traditional sense. What does a child need to hopefully allow for as stable an upbringing as possible? Reproduction. Contraception. What is it and how does it work at a basic level. Ecosystems 1 – students to learn how communities rely on each other in the wild and question the human race's place in this. Reaction 1 – Acids and alkalis. Students to recognise what behaviours can be risky to others and how it is their	Genes 1 - Using students in experiments. Students to recognise that it is the right of each individual to take part or observe during experiments involving them (measuring heights of students). This opens up the discussion about differences between people and how this may change from country-to-country and why these differences are beneficial. Genes 1 – Students to learn about adolescence and the respect needed to learn about human bodies, even of a gender they do not identify with. Students to respect the differences between biological sex and learn to respectfully ask questions to sensitive topics.	Genes 1 – students to learn how stereotypes, in particular stereotypes based on sex, gender, race, religion, sexual orientation or disability, can cause damage (e.g. how they might normalise non-consensual behaviour or encourage prejudice). Students to learn how to recognise the characteristics and positive aspects of healthy one-to-one intimate relationships, which include mutual respect, consent, loyalty, trust, sex. That they have a choice to delay sex or to enjoy intimacy without sex. The facts about the full range of contraceptive choices, efficacy and options available. The facts around pregnancy, including miscarriage. That there are choices in relation to pregnancy (with medically and legally accurate, impartial

	Earth 1 – Students to learn about Earth Structure and the Earth's place in the Solar System, Galaxy and Universe and think about their place in each of these scenarios. Energy 1 – Students to learn about what energy is, and how it influences every aspect of life, yet is something intangible. Students can question why natural phenomena happen and predict consequences of actions, i.e. what goes up, must come down. Students to also learn about food as a fuel for the human body and how good nutrition can influence health	Genes 1 – students to learn about contraceptives and their multiple uses. Students to consider that this is a choice for consenting people over 16 to make and that they will do what is right for them at that point in time. Students to recognise that not having contraceptives or the wrong contraceptives for you, may have serious consequences, from illness to pregnancy. Reaction 1 - acids and alkalis – considering whether the evidence the students have at hand is sufficient to making a conclusion and the potential implications this may have. Energy 1 – Students to learn about renewable and non-renewable energy sources and question how responsible we are with our energy use. Students to learn "green practices", i.e. turning off the light when it's not needed, as a moral decision that improves the World. Waves 1 – students to learn about how waves can be dangerous to others, i.e. high amplitude sounds, and reflect on how they may change their habits to keep others safe i.e. turn down the music at home if it's too loud	responsibility to minimise risk in Science. Earth 1 – Students to learn about how the theory of the Moon and the Solar System has changed, and how Scientists build upon each other's ideas to make a new theory that fits the evidence, either alone or collaboratively. Energy 1 – Energy Resources. Uses of renewable and non-renewable resources, pollution, deforestation and how we can do our part in recycling. Energy 1 – students to learn about placement of renewable energy stations (wind farms, tidal power stations, etc.) and the how others and other organisms may be affected by their presence. All units – students to work collaboratively to complete various practical tasks, taking on a variety of roles, from leader, to data, to being the equipment manager. All units – students are encouraged to join in with citizen science surveys (mainly biologically focused) to improve our understanding of our environment and helping scientists gather high-quality data, regardless of qualifications.	Genes 1 – Students to discuss why couples may have issues with getting pregnant and understand the rhetoric used with sensitive subjects in Science. Earth 1 – Students to learn about various models of the universe and can enter a discourse about how opinions can change with new information and with healthy debate on new and potentially inflammatory topics, such as evolution and the heliocentric model of the Solar System Earth 1 – Students to learn of our place in the Solar System and how we view objects. They will learn that different places in the world view the constellations differently, but that they are the same constellation, to learn to respect different viewpoints which could be all correct. Matter 1 – Students to learn about the uses of evaporation in society, both naturally with the Maltese Salt Pans and with solvents, such as glue. Matter 1 – Students to learn about the various uses of filters in society, from fuel filters to coffee filters, how	information on all options, including keeping the baby, adoption, abortion and where to get further help). Key facts about puberty, the changing adolescent body and menstrual wellbeing. The main changes which take place in males and females, and the implications for emotional and physical health. About personal hygiene, germs (including bacteria and viruses), how they are spread, treatment and prevention of infection, and about antibiotics. About dental health and the benefits of good oral hygiene and dental flossing, including healthy eating and regular check-ups at the dentist

				they work and differences between them. Waves 1 – students to learn how film studios use filters to achieve the desired lighting and why objects are different colours. Waves 1 – students to learn about how sounds can affect hearing, with a focus on loud places, such as concerts and how to listen to music safely. Energy 1 – Students to learn why the design of vehicles has changed so vastly, to help increase the safety of people in a collision. Energy 1 – Students to learn about where renewable energy sources are based, using the geography of the surrounding area. All units – students to explore the use of other languages that make up English, such as the word "planet" originating from the Greek word meaning Wander.	
Year 8	Ecosystems 2 – Students to learn about respiration and being fit and healthy – exploring ways in which lifestyle can affect health Genes 2 – Students to learn about evolution and how theories are made and	Organisms 2 – Students to learn about the impact of drug and alcohol misuse and why pregnant people should not drink. Ecosystems 2 – Students to learn about the factors that affect photosynthesis and how	Organisms 2 – Students to learn about the impact of recreational drugs and their legality and the impact of addiction and withdrawal on those surrounding the addicted person Organisms 2 – Students to learn about the impact of alcohol on	Genes 2 – Students to learn about genetic variation and respect the diversity within a species. Genes 2 – Students to learn about extinction and the impact that the loss of a species can have on a	Organisms 2 – students to learn how the use of alcohol and drugs can lead to risky sexual behaviour. The benefits and importance of physical exercise, time outdoors, community participation and voluntary and service-based activities

	how humans fit into the natural world. Matter 2 – Students to learn about the Periodic Table and its structure and how to use predications of data to mould a theory. Matter 2 – Students to learn about atoms and are encouraged to think of the vast scale of atoms in the structure of various items (i.e. diamonds) Earth 2 – Students to learn about the Carbon Cycle and how all carbon is cycled throughout the world, for millennia, and how life and death contribute to this cycle. Reactions 2 – Students to consider how they can use their experiences of reactions can define the type of reaction (endothermic/exothermic) Reactions 2 – students to learn about thermal decomposition and consider why different compounds have different levels of reaction. Waves 2 – Students to learn about the impact of sea waves on electricity generation and the	this impacts farming practices, to maximise yield, to feed the world. Students to recognise the usage of fertilisers and the potential impact on the surrounding ecosystems. Organisms 2 – Students to learn about biotechnology and recognising the rights and wrongs of its use. Genes 2 – Students to learn about genetic modification of plants, why they are modified and explore why people are for and against genetic modification. Earth 2 – Students to learn about Global warming, the causes and mitigations we can make to prevent further temperature increase. Earth 2 – Students to learn about Climate Change, linking with global warming and use data to make arguments to prevent further climate change Earth 2 – Students to learn about recycling, why we do it and the benefits to the natural and human environments to recycle, using examples of the advantages and disadvantages of recycling. Electromagnets 2 – students to learn about switches and the impact of switching off	the human body and the knock-on effects to the NHS, should treatment be needed, and the responsibility of citizens to not waste NHS funds. Students to also learn about the responsibilities of pregnant people abstaining from all alcohol consumption to protect their unborn child. Students to also learn about the social fallout from excess alcohol (violence, depression etc.) Organisms 2 – Students to learn about the impact of smoking on peoples' health. They will explore the effects of passive smoking and how this effects people who do not smoke. Students to explore the effects to the NHS and the effects of smoking to unborn children and why pregnant people should not smoke. Organisms 2 – students to explore the idea of a healthy diet and extrapolate why it is important that all people worldwide should have access to healthy (and enough) food. Genes 2 – Students to learn about Natural Selection and the impact of clear discourse in Science and how healthy debates can answer big questions with considered responses.	culture, for example, with the Giant Panda and Dodo. Genes 2 – Students to learn about how genetic diversity occurs and learn to respect that it is spontaneous and often, advantageous, i.e. the difference in melanin levels and vitamin D levels. Genes 2 – Students to learn about the Human Genome project and the impact on medical science now we know the genetic make-up of humans and other species. Ecosystems 2 – Students to explore the use of NPK fertilisers and how farming communities are using these to increase yields to feed more people as communities grow. Earth 2 – Students to learn about the intergovernmental Panel on Climate Change (IPCC) and how countries are coming together to form a unified front to climate change and how, using the legal system, positive changes are enforced to tackle global issues. Earth 2 – Students to learn about why cutting down large trees, that can be famous in an area, can have multiple effects on the environment and local outrage.	on mental wellbeing and happiness. The positive associations between physical activity and promotion of mental wellbeing, including as an approach to combat stress. The characteristics and evidence of what constitutes a healthy lifestyle and maintaining a healthy weight (including the links between an inactive lifestyle and ill health, such as cancer and cardio-vascular ill health). How to maintain healthy eating and the links between a poor diet and health risks, including tooth decay and cancer. The facts about legal and illegal drugs and their associated risks, including the link to serious mental health conditions. The law relating to the supply and possession of illegal substances. The physical and psychological risks associated with alcohol consumption and what constitutes low risk alcohol consumption in adulthood. The physical and psychological consequences of addiction, including alcohol dependency. Awareness of the dangers of drugs which are prescribed but still present serious health risks. The facts about the harms from smoking tobacco (particularly the risk to lung cancer), the benefits of

	harnessing of nature for human benefit. Electromagnets 2 – Students to learn about the Earth's magnetic field and think about how the world depends on magnetism for uses like compasses. Students to think about the implication of the poles flipping at any time.	electronics on our carbon emissions, with links to climate change. Energy 2 – Students to learn about thermal energy transfer and the ways that we could be limiting out impact on the environment with various insulation methods in homes.	Earth 2 – Students to learn about global warming and the responsibilities of communities, countries and the global community to prevent further increases where possible. Earth 2 – Students to learn about the impact of quarrying materials, both negative and positive. Earth 2 – Students to learn about the importance of recycling and why we should all recycle, both globally and as citizens of a seaside town, where out pollution may enter the marine ecosystem. Throughout – students to learn social skills and teamwork through practical work. Throughout – students to be aware of safety advice for keeping themselves and others safe in the lab.	Reactions 2 – students to learn about how we use combustion engines in society as a way to mobilise people for education/work. Reactions 2 - Students to learn about the various countries that have embraced biofuel as a cultural norm as a renewable energy source. Matter 2 – Students to learn about the impact of Poly(ethane) and why we use it in society, as a convenience product and as a medical product. Matter 2 – Students to learn about the uses of atoms in elements such as silicon and gold and the impacts these have had on society (economics or the components of common electrical items) Waves 2 – Students to learn about the uses of waves in socity from ultrasound to visible light. Students to also analyse the effect of ionising radiation of citizens, who is the most at risk of UV radiation and ways to prevent malignancy. Waves 2 – Students to learn about how we use sound and	quitting and how to access support to do so

				ultrasound in entertainment and in medicine. Energy 2 – Students to relate thermal imaging and measurement to sports such as Formula 1. Students to learn about how various scientists have impacted on our culture and society, e.g. Charles Darwin.	

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Science					
Key Stage 4					
	Spiritual Examples: sense of self, unique potential, understanding strengths and weaknesses, curiosity about themselves and their place in the world increases, fundamental questions. They develop the knowledge and skills to foster their own inner lives, non-material wellbeing and creativity.	**Moral** Examples: right and wrong, moral conflict, a concern for others, will to do what is right, reflect on the consequences of their actions and learn how to forgive themselves and others. They develop the knowledge/skills necessary to make responsible moral decisions.	**Social** Examples: the responsibilities, rights of being members of families and communities (local, national and global), ability to relate to others and to work with others for the common good, belonging and participating, active contribution to the democratic process, sense of community and pro-social action.	**Cultural** Examples: cultural traditions, respect for their own culture and that of others, an interest in differences. Ability to understand, appreciate and contribute to culture.	**Personal development** **Examples specifically related to:** Healthy relationships/ friendships Health Education / mental health / physical health / internet safety/drugs and alcohol/ healthy eating/ preventing poor health (personal hygiene)/ basic first aid/ adolescence
Year 9	P7 Radioactivity (and C1 Atomic Structure) – History of the Structure of the Atom and how our ideas have changed over time. How new ideas are created and proved in science and how they could go about doing the same. All Subjects: Students can work collaboratively during practical work to overcome problems and amend their methods, collect valid results and analyse data.	B2 – stem cell therapy and the ethical arguments over the use of stem cells. P7 Radioactivity – Nuclear Power Stations and whether it is right or wrong to use them. History of the structure of the atom P3 Energy Resources – the advantages and disadvantages of different renewable and non-renewable sources, including their effects on the environment. This may lead to them making informed decisions later / discussing with parents when choosing energy providers.	B6 – preventing and treating disease – students to examine the ethical implications of medical research on animals and why this is both a good thing and a bad one. B6 – students to understand the implications of a double-blind trial where a sick person is not receiving potentially life-saving drugs despite being ill as scientists need to ascertain if any positive effect of the drug is down to the active ingredient or not. B6 (BIO only) – students to examine the ethical implications of using mice and human cells in the production of monoclonal antibodies. P7 Radioactivity – Hazards and uses of radiation on the body	B6 Preventing and treating disease – students understand the implications of not being vaccinated to not just to themselves but to other members of the community they are in. B6 – Preventing and treating disease – students to understand the implications of overuse of antibiotics and how it is their duty to not demand antibiotics when they have a viral infection as this may allow antibiotic resistance to spread without a new form of antibiotic in production. B6 – students to understand that they are contagious when they have	Unit 2 – Organisation - The characteristics and evidence of what constitutes a healthy lifestyle and maintaining a healthy weight (including the links between an inactive lifestyle and ill health, such as cancer and cardio-vascular ill health) About the science relating to blood, organ and stem cell donation How to maintain healthy eating and the links between a poor diet and health risks, including tooth decay and cancer The purpose of defibrillators and when one might be needed. This will be

			and how to use sources safely, opportunities for discussion of the effects of radiation e.g. from Chernobyl or the atomic bomb and their effects on societies. C13 – The Earth's Atmosphere – Greenhouse gases and climate change. What is causing these changes and discussions of how this can be combatted. C14 & C15 The Earth's Resources – the Earth has limited resources and we are responsible for using these wisely, 'reduce, reuse, recycle', how waste water is treated etc.	an infection and the various methods by which infections are spread and how to minimise the risk to those around them.	delivered via a trained professional.
Year 10	B14 – variation – exploring differences between individuals, variation and evolution P7 – History of the Structure of the Atom and how our ideas have changed over time. How new ideas are created and proved in science and how they could go about doing the same. All Subjects: Students can work collaboratively during practical work to overcome problems and amend their methods, collect valid results and analyse data.	**Use of monoclonal antibodies – ethical decisions over allocation of funds in drug development** B14 – ethical arguments surrounding selective breeding P7 Radioactivity – Nuclear Power Stations and whether it is right or wrong to use them. History of the structure of the atom	B2 Cell Division - Stem cells and the ethics surrounding them. Ethical debates on stem cell research, applications, Religious views and future developments. B6 – preventing and treating disease – students to examine the ethical implications of medical research on animals and why this is both a good thing and a bad one. B6 – students to understand the implications of a double-blind trial where a sick person is not receiving potentially life-saving drugs despite being ill as scientists need to ascertain if any positive effect of the drug is down to the active ingredient or not.	B6 Preventing and treating disease – students to understand the implications of not being vaccinated to not just themselves but to other members of the community they are in. B6 – Preventing and treating disease – students to understand the implications of overuse of antibiotics and how it is their duty to not demand antibiotics when they have a viral infection as this may allow antibiotic resistance to spread without a new form of antibiotic in production.	Unit 3 – Infection and responses - How the different sexually transmitted infections (STIs), including HIV/AIDS, are transmitted, how risk can be reduced through safer sex (including through condom use) and the importance of and facts about testing About the prevalence of some STIs, the impact they can have on those who contract them and key facts about treatment How to get further advice, including how and where to access confidential sexual

			B6 (BIO only) – students to examine the ethical implications of using mice and human cells in the production of monoclonal antibodies. **B8 – Photosynthesis – students to examine the implications of farmers using carbon dioxide made in the burning of fossil fuels to increase yields of crops and what effect this may have on the environment.** P7 Radioactivity – Hazards and uses of radiation on the body and how to use sources safely, opportunities for discussion of the effects of radiation e.g. from Chernobyl or the atomic bomb and their effects on societies	B6 – students to understand that they are contagious when they have an infection and the various methods by which infections are spread and how to minimise the risk to those around them.	and reproductive health advice and treatment How to recognise the early signs of mental wellbeing concerns Common types of mental ill health (e.g. anxiety and depression) The positive associations between physical activity and promotion of mental wellbeing, including as an approach to combat stress The importance of sufficient good quality sleep for good health and how a lack of sleep can affect weight, mood and ability to learn How to recognise the early signs of mental wellbeing concerns and list some common types of mental ill health (e.g. anxiety and depression) How stereotypes, in particular stereotypes based on sex, gender, race, religion, sexual orientation or disability, can cause damage from a viewpoint of medical trials. How to maintain healthy eating and the links between

					a poor diet and health risks, including cancer The facts about the harms from smoking tobacco (particularly the risk to lung cancer), the benefits of quitting and how to access support to do so About personal hygiene, germs (including bacteria and viruses), how they are spread, treatment and prevention of infection, and about antibiotics The facts and science relating to immunisation and vaccination
Year 11	All Subjects: Students can work collaboratively during practical work to overcome problems and amend their methods, collect valid results and analyse data.	Chemistry – sustainable use of Earths resources	B5 Reproduction – Screening for inherited disorders. B6 Variation and Evolution – Genetic Engineering and selective breeding. Ethical debates on screening for inherited disorders, terminations, selective breeding and genetic engineering. Unit 5 – Homeostasis – students to evaluate information around the relationship between obesity and diabetes, and make recommendations taking into account social and ethical issues. Unit 7 – ecology – students to understand the conflict between the need for cheap available	Unit 7 – Ecology – students to explain how waste, deforestation and global warming have an impact on biodiversity. Unit 7 – ecology – students to explain and evaluate the conflicting societal pressures on maintaining biodiversity P16 Space – looking at how exoplanets are discovered and the implications for us. Commonality between all life on Earth – we are all made from stardust! (the elements produced when a star dies). Opportunities for	Unit 5 –Reproduction- The facts about reproductive health, including fertility and the potential impact of lifestyle on fertility for men and women Unit 5 – Reproduction - That they have a choice to delay sex or to enjoy intimacy without sex as a method of not becoming pregnant. The facts about the full range of contraceptive choices, efficacy and options available The benefits of regular self-examination and screening

			compost to increase food production and the need to conserve peat bogs and peatlands as habitats for biodiversity and to reduce carbon dioxide emissions. Chemistry – the earth's atmosphere, use of resources – social responsibilities in reducing, reusing and recylcing P13 Electromagnetic Waves – their hazards and uses, including their use in medicine and the risks and benefits of using e.g. X-rays or gamma rays in radiotherapy.	discussion of responsible space travel, including the environmental and economic consequences of launching.	Key facts about puberty, the changing adolescent body and menstrual wellbeing The main changes which take place in males and females, and the implications for emotional and physical health

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SCIENCE					
Key Stage 5					
	Spiritual Examples: sense of self, unique potential, understanding strengths and weaknesses, curiosity about themselves and their place in the world increases, fundamental questions. They develop the knowledge and skills to foster their own inner lives, non-material wellbeing and creativity.	**Moral** Examples: right and wrong, moral conflict, a concern for others, will to do what is right, reflect on the consequences of their actions and learn how to forgive themselves and others. They develop the knowledge/skills necessary to make responsible moral decisions.	**Social** Examples: the responsibilities, rights of being members of families and communities (local, national and global), ability to relate to others and to work with others for the common good, belonging and participating, active contribution to the democratic process, sense of community and pro-social action.	**Cultural** Examples: cultural traditions, respect for their own culture and that of others, an interest in differences. Ability to understand, appreciate and contribute to culture.	**Personal development** **Examples specifically related to:** Healthy relationships/ friendships Health Education / mental health / physical health / internet safety/drugs and alcohol/ healthy eating/ preventing poor health (personal hygiene)/ basic first aid/ adolescence
Year 12	Bio – Eukaryotic cell structure & meiosis, students consider the biological reasons for their uniqueness. Exchange and transport, students learn about how their body functions. Phlyogeny and evolution, students consider how they relate to other species genetically. Physics – Quantum – new and developing ideas about the quantum world and how they are accepted etc. This is an area of physics that is still new and students could potentially go on to study this field and make new discoveries.	Bio – Stem cells, ethics and implications of use. Chemistry – Developing Fuels – looking at the different fuels and the problems with emissions, hopefully leading to informed choices about energy resources.	Bio – biodiversity, students learn about how a rich biodiversity is beneficial for our planet, reasons for maintaining it and methods to accomplish this. Communicable disease, students learn about infectious diease and consider how to reduce transmission of pathogens and prevent epidemics. Chemistry – The Ozone Story – the Ozone hole and its state now, what caused it etc. Responsibilities of individuals and government to the environment.	Physics – Particle Physics and discussions / research of CERN being a truly international collaboration of scientists and how common terminology allows them to work together. Chemistry – Elements of life – what are we made of? Commonality between all human life (and other organisms).	Module 4 – Communicable diseases - Pathogens (including bacteria and viruses), how they are spread, treatment and prevention of infection, and about antibiotics Links to The benefits and importance of physical exercise, time outdoors, community participation and voluntary as citizen science projects in biodiversity identification. How the different sexually transmitted infections (STIs), including HIV/AIDS, are transmitted, how risk can be reduced through safer sex (including through condom use) and the

	All Subjects: Research as required on how to design and carry out practical experiments. This requires independent design, but students can work collaboratively during practical work to overcome problems and amend their methods.				importance of and facts about testing About the prevalence of some STIs, the impact they can have on those who contract them and key facts about treatment General Biology - How to determine whether sources of information are trustworthy. Chemistry – What's in medicine? Looking at how medicines are developed, particularly identifying active chemicals in drugs.
Year 13	Bio – Communication and homeostasis, awe and wonder at how our body is able to respond to stimuli and maintain a constant internal environment despite external changes. Control of gene expression – we are not just the sum of our genes, our gene expression can be moderated by our life experiences. Patterns of inheritance – understanding how we inherit characteristics and why populations characteristics may change over time.	Bio – Selective breeding, what are the risks of inbreeding? Gene technology and ethics associated with creating genetically modified organisms that might be microbes, plants, animals or even human. Cloning, what is legal and what is right? Includes discussion on animal welfare and the possibility of 'resurrecting' extinct species.	Bio – Bioremediation, treating pollution using microbes and plants. Ecosystem management, discussing the conflict between local tribes, the natural ecosystem and modern agricultural or industrial or tourism practises. Environmentally sensitive ecosystems, how these ecosystems are in decline and how we can intervene to reverse this trend. Sustainability, making our resources last for future generations. Physics - Nuclear Physics – opportunities for discussion of the effects of radiation e.g. from Chernobyl or the atomic bomb and their effects on societies	Bio – Masai mara(Kenya) and Terai (Nepal) traditional farming practices and how these are changing. Physics – Stars and Cosmology – looking at how exoplanets are discovered and the implications for us. Commonality between all life on Earth – we are all made from stardust! (the elements produced when a star dies). Opportunities for discussion of responsible space travel, including the environmental and economic consequences of launching.	Physics - Medical imaging – how X-rays, CAT scans, PET scans, ultrasound and medical imaging work and when they are used to improve physical health, diagnose and cure diseases.

			Chemistry – The role of the ocean in climate control, and therefore the need to protect our oceans.		