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| A picture containing clipart  Description automatically generated**YEAR 12 Medical Science**  **‘An ambitious curriculum that meets the needs of all’**  **Medium Term Planning - Topic: Unit 3** | |
| **Curriculum Intent** | **In addition to working further on objectives from Year 12, pupils will be taught, following National Curriculum guidelines, the following this term:**  This unit develops knowledge and understanding of planning, conducting and reporting of  research in medical sciences using a range of methodologies and techniques. It is  intended to enable the acquisition of the necessary knowledge and skills to carry out  research in order to obtain meaningful information. It also seeks to promote an  understanding of the processes involved in drawing meaningful inferences from research  data.  Learners will use their knowledge and understanding of research methods to conduct  their own research. They will process the data they have collected and make evidence  based conclusions.  How can we find out if lifestyle affects health? How has medical science research been  carried out to show that MMR is not connected to autism? Is there a meaningful  connection between alcohol consumption and life expectancy? How could research be  carried out to find if eating 'five-a-day' of fruit and vegetables is linked to good health?  How can we improve the way in which ulcers are managed in hospital? Are sedentary  children more likely to get ME? Why do people start smoking?  Medical research methods are intended to help answer questions like the ones outlined  above. Real-life studies can be complex because of the many variables that need to be  taken into account and controlled. This unit is designed to help you think through the  issues involved in research so that we can have confidence in the conclusions that have  been made.  In this unit, you will be introduced to the methods of scientific enquiry which are used to  answer questions such as those proposed above. The unit has been designed to develop  your knowledge and understanding of planning, conducting, analysing and reporting  research in medical sciences. It will do this by introducing you to a range of  methodologies and techniques that are used. It will also encourage the acquisition of a  range of evaluative concepts for reviewing and discussing the design and outcome of  research. All of this will be done through a hands-on approach where you will plan and  collect information to answer questions connected to medical science. |
| **Skills/National Curriculum Links** |
| **Cross Curricular Links** | **SMSC/PSHE:** The specification provides a framework and includes specific content through which individual courses may address spiritual, moral, ethical, social and cultural issues. It aims to show how science can be used to assist in understanding the underlying  causes of disease. Learners should consider how conditions are treated, and  balance the need for new treatments with cost to society.  Examples of issues which can be addressed through the specification are listed  below.  • How lifestyle may affect health (unit 1)  • How ethical issues affect research (unit 3)  • How factors are considered when prescribing medicines (unit 4)  **Literacy:** key words and terms linked to topics, command words when answering exam questions.  **Numeracy:** ability to read graphs, tables, plot data, values etc  **Skills Builder:** leadership, teamwork, listening to others, collaborating |
| **Becoming future ready** | The applications and implications of science are dealt with in meaningful medical  contexts, and encourage the development of a responsible attitude to citizenship. An  understanding that individuals have a collective responsibility is fostered in relation to  various ethical issues included in the specifications such as treatment regimens, side  effects of medicines, cost of medicines to society. The consequences of lifestyle on  health are also examined throughout the qualification in a number of different  contexts.  **Health and Safety Consideration**  Under UK law, health and safety is the responsibility of the employer. There are a  number of regulations (notably Management of Health and Safety at Work  Regulations 1999 and COSHH Regulations 2002 (as amended)) that require the  completion of a risk assessment before commencing a procedure or activity that uses  microorganisms or chemicals.  There are opportunities for learners to develop their own risk assessments when  carrying out laboratory work in almost all units. Throughout the qualification there are  also many opportunities to underscore the requirement to work in compliance with  risk assessments in order to safe guard the health and safety of workers and  members of the public.  **The European Dimension**  Medical issues can be rarely confined to a particular place since human actions in one  country can also impact another. Challenges faced by medicine also need to be dealt  with at national, European and global levels. This specification should make learners  aware that medical scientists need to cooperate with scientists from other countries.  The context led nature of the units will give centres the opportunity of examining  medical issues at a European level. Examples where a European dimension can be  underscored include international protocols and European legislation relating to  adverse drug reactions and licencing of medicinal products for human use. |
| **Adaptation** | Throughout this topic, quality first teaching will provide differentiation:  **By product:** written information on learning mats, some through practical setting.  **By resource:** textbooks, videos, learning mats, handouts to read through, graphs, tables and charts.  **By Intervention**: by providing different levels of supervision and support  **By Progressive Questioning:** exploring pupils’ understanding through interactive dialogue.  **By Grouping:** according to prior attainment, gender, social preference, preferred learning style.  **By Task:**Pupils should be involved in the identification of targets which are meaningful to them and in the selection of an appropriate task from the given range.  **By Offering Optional Activities:** In class or as homework, to extend learning.  This QFT/SEND provision will be explicit within the lesson-by-lesson schemes of work. |
| **QFT/SEND Provision** |
| **Implementation**  **Curriculum Delivery** | **AC1.1** describe variables affecting research  **AC1.2** justify the research hypothesis  **AC1.3** justify selection of sampling methods  **AC1.4** explain selection of research methods  **AC1.5** evaluate how ethical issues affect research  **AC2.1** plan to collect data  **AC2.2** produce documentation to collect data  **AC2.3** obtain data  **AC3.1** explain significance of terms used in data analysis  **AC3.2** explain selection of statistical methods used to analyse data  **AC4.1** analyse data using statistical methods  **AC4.2** make conclusions from data  **AC4.3** evaluate procedures  **AC4.4** use mathematical notation  **AC5.1** present data visually  **AC5.2** communicate outcome of research |
| **Learning Outcomes (Knowledge)** |
| **Current learning to be developed in the future within:** | Unit 1 and 6 exam |
| **Assessment** | Refer to assessment maps for formative and summative assessment opportunities. |
| **Impact** | Attainment and Progress – Refer to assessment results / data review documentation. |