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| A picture containing clipart  Description automatically generated**YEAR 13 Medical Science**  **‘An ambitious curriculum that meets the needs of all’**  **Medium Term Planning - Topic: Unit 5** | |
| **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 about the clinical laboratory techniques that can be used to assess body functions. It relates knowledge and understanding of human physiology and biochemistry to clinical measurement test results through an understanding of the principles of the measurement techniques. The unit will enable learners to perform tests which will accurately measure a range of biochemical and microbiological parameters. They will be able to interpret the results of their tests, and other test results and link these results to possible physiological disorders.  What measurements do biomedical scientists carry out on patient samples? How do they carry out these tests? How do they ensure that they work safely and avoid contamination? How do they interpret their data? How do they report their data in a suitable format for health professionals to draw conclusions? Laboratory measurement plays a very important role in the diagnosis and treatment of patients in a range of clinical settings. These measurements may involve simple biochemical tests, microscopy or microbiology, or they may be more complicated, using the polymerase chain reaction (PCR) or Enzyme-linked immunosorbent assay (ELISA). Following these laboratory measurements, healthcare professionals will use the results to monitor for signs of abnormality (i.e. anything that falls outside of the 'normal' range). Health professionals will then be able to draw conclusions about the health status of the individual and any treatments they may require. This unit is designed to help you understand how biomedical scientists investigate the function of body systems by undertaking laboratory-based measurements. You will learn how they use specialist equipment, advanced technologies and a range of different procedures. Most clinical scientists work in hospital laboratories or specialist departments, often working as a team to allow healthcare professionals to assess patient status. |
| **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** explain principles of clinical tests  **AC1.2** explain factors that affect clinical test results  **AC2.1** Plan tests  **AC2.2** assess biological samples using clinical tests  **AC2.3** record results from tests  **AC3.1** use graphs to process data  **AC3.2** use numerical methods to process data  **AC3.3** interpret data from clinical tests  **AC3.4** communicate information to an audience |
| **Learning Outcomes (Knowledge)** |
| **Current learning to be developed in the future within:** | Unit 6 |
| **Assessment** | Refer to assessment maps for formative and summative assessment opportunities. |
| **Impact** | Attainment and Progress – Refer to assessment results / data review documentation. |