

Нужно выполнить задание D, упражнение 2.3 стр. 18, саммари, которое мы обсуждали в классе. Сдать на своей паре на неделе с 25 по 29 ноября в бумажном виде (от руки или в напечатанном виде), высылать мне на почту НЕ нужно.

Information about work on a medical sample in the laboratory.

- D Write a summary of the text on page 17. Paraphrase the topic sentences. Add extra information and examples. See *Skills bank*

2.3 Extending skills using research questions • writing topic sentences • summarizing

What do biomedical scientists do?

What happens to a medical sample after it is taken by a nurse or doctor? Teams of biomedical scientists analyze all samples taken from patients by nurses and doctors. Without these specialists, doctors could not make diagnoses or treat patients. Biomedical scientists investigate conditions ranging from food poisoning to HIV. They play an essential part in preventing and treating illnesses. In fact, laboratory services are critical in disease treatment and prevention, as up to 70 per cent of diagnoses are based on their pathology results. Without this support, accident and emergency wards would shut down, organ transplants could not take place and premature babies would struggle to survive.

Biomedical science provides important information about illnesses that affect us all. It is a fast-changing science that requires attention to detail. Scientists within this field concentrate on many aspects of living organisms. These include the study of anatomy, physiology and pathology to understand basic biological structures and pathways. Trainees are also likely to study more specialized fields, such as immunology and genetics, to better understand the disease process. In this way, qualified scientists continue to investigate the causes, diagnoses and treatment of diseases.

Graduates in biomedical science are employed in various roles in the public and private sectors. In the public sector, employers include health service laboratories and forensic departments, which help catch criminals. In the private sector, graduates might work in research and development (R&D) departments for pharmaceutical companies. Companies which make medical devices and laboratory instruments also need the specialist knowledge of biomedical scientists. It does not matter which role is chosen. The work of a biomedical scientist is exciting and at the forefront of technology.

One career path is medical microbiology, often based in a hospital laboratory. In this role, microbiologists detect, isolate and identify micro-organisms such as bacteria, fungi and parasites that cause disease. High-profile infections include

tuberculosis, salmonella and Methicillin-resistant Staphylococcus aureus (MRSA). Microbiologists also investigate food-poisoning outbreaks and work with the food and drinks industry to ensure quality control. Microbiologists usually work in bright, modern laboratories, not the small dark rooms that some people might imagine. These laboratories are the hi-tech centres of hospitals at the cutting edge of medical technology.

Clinical chemistry offers another area of employment. Here the focus is on human biochemical pathways and mechanisms. Biomedical scientists provide detailed pictures of patients with conditions such as kidney failure or diabetes. They do this through analysis of tissue and fluid samples taken by medical staff. Like microbiologists, they provide information that is essential to preserve health, and fight and control disease.

Transfusion science is a further option for biomedical scientists. In this role, they identify blood groups and test the compatibility of a donor's blood with that of a patient who needs a transfusion. In addition, biomedical scientists make sure that there are enough blood products available to deal with road traffic accidents, operations and cancer treatments.

The future for biomedical scientists is challenging and exciting as developments push techniques forward. Their work is constantly evolving as new infections emerge and 'older' diseases recur. Biomedical science moves into new areas as the field develops. For example, in the emerging discipline of cytogenetics, there is an increasing focus on the link between inheritance and cell structure. There is also greater interest in molecular biology, which looks at the nature and function of biological structures. Clearly, biomedical scientists will play an ever-increasing role in categorizing, preventing and treating disease. The discipline will continue to offer a wide variety of exciting career opportunities with good promotion prospects. These will include specialist laboratory work, research, education and management. There will also be a need for experts and consultants.