General Certificate of Secondary Education
Specimen Controlled Assessment

GCSE Additional Applied Science

Unit 2 How Scientists use Practical Techniques

Specimen Controlled Assessment V1.0

Assignment 1, Option 3: The work of microbiologists in the food industry

Notes for Candidates

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This assignment relates to Unit 1 Section 3.3.5 – The use of science in food production.

Area of Investigation

Microbiologists work in a wide variety of organisations that are involved in the preparation of food. The type of work a microbiologist will need to carry out depends on the type of organisation they are working for. They need particular qualifications and skills to be able to carry out their work, and use many different practical techniques.

Task

1. You will need to do research to find out about the work of a microbiologist in an organisation in the food production industry.

2. You will also need to do a practical task that uses some of the techniques that a microbiologist would use to help them in their work. Before you carry out the task you will need to decide on a hypothesis that the task could be used to test.

3. You will then need to write a report of what you found in your research, and analysing the results of your practical task.

You will be given the opportunity to:

- collect information from a range of sources, including the internet, and reference them
- carry out a practical task using a standard procedure and equipment, which will be provided for you.

You will be expected to:

- research and select appropriate information to use in your report
- practice the technique that you will use during your practical task, using the equipment provided
- understand and comment on the importance of using standard procedures.

You will have to decide on things such as:

- what information should go in your report
- what your hypothesis is
- how you will structure your report
- the limitations of your research and of the data you obtained from the practical task.

In your final report you should:

- give information on the purpose of the type of organisation in which the microbiologist works
- give an account of the work the microbiologist carries out
- describe the qualifications the microbiologist needs to carry out their work
- explain how the microbiologist uses their practical skills and scientific knowledge to carry out their work
- explain how the microbiologist would use the techniques you have used in your practical task
- state the hypothesis that you will be testing in the practical task
- record the data and observations you made in an appropriate form
- analyse the data and write scientific conclusions that the microbiologist would give, based on the evidence you have obtained in your investigation.