



Summer Tasks

BTEC Level 3 Medical Science

Summer Task Title/Instructions:

Complete task 1 and 2 on this sheet.
There is an optional task at the end for you to complete if you would like to challenge yourself.

If you have any questions with regards to this task, please email c.livick-smith@springwoodhighschool.co.uk

Please submit the task to your teacher on the first lesson in September.

Qualification	Pearson BTEC Level 3 National Extended Certificate in Medical Science Pearson
Unit number and title	Summer Task 2025
Assignment title	Microbiology
Learning aims(s)	To show your organisational, practical and documentations skills.
Issue date	
Hand in deadline	First BTEC lesson back in September

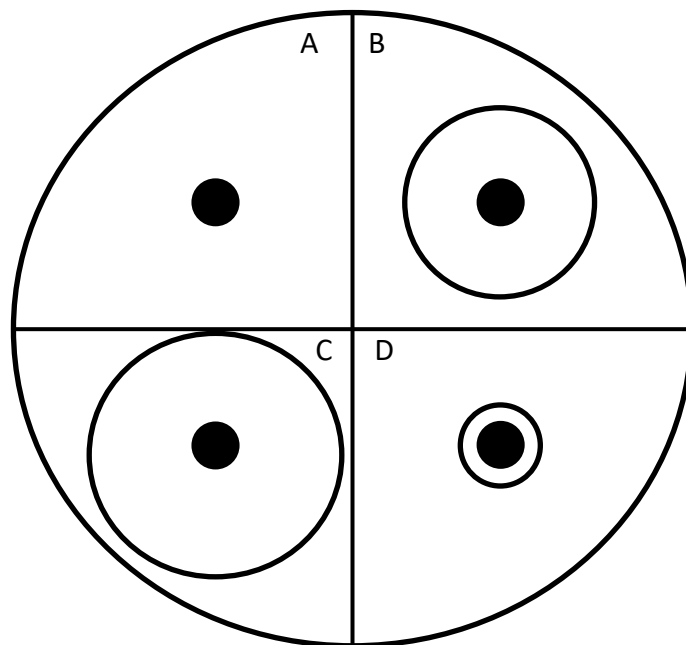
Vocational Scenario or Context	You are working in a biomedical sciences lab in a hospital. A patient has been admitted with a urinary tract infection. A sample has been taken from the patient and the bacteria have been isolated. These bacteria have been delivered to your lab. The doctor treating this patient would like to know which antibiotic would be most appropriate to prescribe to the patient. Please complete the task below in order to determine which antibiotics to prescribe the patient.
---------------------------------------	--

Task 1	<p>Please complete the following:</p> <ul style="list-style-type: none"> A. Complete the equipment list and method for this practical. Answer the questions about the method. B. Analyse the example results from this investigation C. Draw a results table and populate with results using the example results D. Write a short conclusion for this investigation stating which antibiotic to prescribe the patient.
---------------	---

3. Why do you not completely seal the petri dish once you have completed the investigation?
4. Why do you need to work under a Bunsen burner?
5. Why must the Bunsen burner be on a blue flame?
6. Why can't you use hand sanitiser in step 2?

B. Results analysis

Here are some example results from the investigation. Rather than using an antibiotic ring, the scientists used filter paper discs soaked in three different antibiotics (B, C and D) and a filter paper disc soaked in a control (A). The filter paper discs are shown in the diagram as a black circle. The rings around antibiotics B, C and D show the area where no bacteria grew.



Please answer the questions below:

1. What is the name given to the area around the antibiotic where no bacteria grew?

2. Calculate the area around B, C and D where no bacteria grew. Give your answers in mm^2 .

B

C

D

3. What do you think the scientist used as a control for disc A?

4. Why did the scientist include a control?

C. Results table

Please draw a results table in the space below. This should include your results for B, C and D. For the control please use the result of 0mm^2 .

Remember to follow the table drawing rules and think about decimal places when inputting your data.

D. Conclusion

Please write a brief conclusion here for the investigation. This needs to include which antibiotic you would prescribe the patient and why.

Task 2 – Command words

Please answer the questions below on scientific command words.

1. What does the word appraise mean?

2. What does the word evaluate mean?

3. What word is this the definition for?

'Identify separate factors; say how they are related & how each one contributes to the topic'.

4. What word is this the definition for?

'Give reasons or evidence to support your opinion to show how you came to your conclusion'.

5. What does the word interpret mean?

Optional extension task

Please complete the gap fill below.

Words: micrometres, functions, metre, irregular, tissues, glucose, regular, membrane, cytoplasm, small, nucleus, tissues, organs, cell, dead, plastic, single.

The _____ is the basic unit of life. Microorganisms such as bacteria, yeast, and amoebae exist as single cells. By contrast, the adult human is made up of about 30 trillion cells which are mostly organized into collectives called _____. Tissues are made from cells of a similar type.

Organs are made from _____, and systems are made from several _____ working together. Some cells have specialised _____. Cells are usually _____ with lengths measured in _____ (μm , where $1000 \mu\text{m} = 1 \text{ mm}$).

The first person to observe and record cells was Robert Hooke (1635–1703) who described the cella (open spaces) of plant tissues. Animal cells usually have an _____ shape, and plant cells usually have a _____ shape. Cells are made up of different parts. Animal

cells and plant cells both contain: cell surface _____, _____,
_____.