

OCR (A) Biology GCSE

PAG 07 - Microbiological techniques

Flashcards

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



What do the areas of the clear zones indicate?



What do the areas of the clear zones indicate?

The larger the clear zone, the more bacteria killed, the more effective the antimicrobial agent.



State the aseptic techniques to be taken in this practical.



State the aseptic techniques to be taken in this practical.

Disinfect work surfaces before and after use.

Work close to a Bunsen flame.

Pass equipment through a Bunsen flame to sterilise before using.



Why should the lid to the agar plate be taped loosely?



State the aseptic techniques to be taken in this practical.

To allow oxygen in to prevent the growth of harmful anaerobic bacteria.



Why should the petri dish be inverted during incubation?



Why should the petri dish be inverted during incubation?

To prevent condensation from forming on the lid and dripping down to the agar plate.



What temperature should the petri dish
be incubated at?



What temperature should the petri dish be incubated at?

A temperature which does not favour the multiplication of pathogens.



How should the area of the zone of inhibition be measured?



How should the area of the zone of inhibition be measured?

Place a piece of squared paper under the agar plate to measure the diameter and use πr^2 calculate the area.



State a source of error in this practical.



State a source of error in this practical.

The zone of inhibition may not be a uniform circle so the area may be determined accurately.



Outline to procedure to prepare a plant extract.



Outline to procedure to prepare a plant extract.

Grind the plant with a small amount of sterile water using a mortar and pestle.



Outline the procedure to test the effectiveness of different antimicrobial agents.



Outline the procedure to test the effectiveness of different antimicrobial agents.

1. On the bottom of the agar plate, divide the plate into 4 sections and label with the antimicrobial agent to be applied.
2. Use sterile forceps to place a filter paper disc soaked in the antimicrobial agent in the center of each agar plate section.
3. Tape loosely and incubate at 25°C for 2-3 days.
4. Find the area of the clear zones.



State the controlled variables of this practical.



State the controlled variables of this practical.

Size of filter paper disc

Concentration of antimicrobial agents

Spread of bacteria (evenly throughout the agar plate)



State a hazard and a safety precaution involved in this practical.



State a hazard and a safety precaution involved in this practical.

E.g: Bacteria is a biohazard, wash hands before and after the practical, use aseptic techniques, and disinfect work surfaces.

