

OCR A Biology A-level

PAG 07 - Microbial Techniques

Flashcards

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State 5 aseptic techniques.



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- Wash your hands and disinfect your work area.
- Have Bunsen Burner on nearby to sterilise the air and prevent air-borne microorganisms settling.
- When opening the bottle of broth, pass the neck over the Bunsen Burner flame to prevent the microorganisms in the air entering the bottle.
- Only open a petri dish enough to allow you to introduce your desired organisms.
- All equipment should be sterilised by passing it over the flame before and after use.



Why is bacteria incubated at 25°C?



Why is bacteria incubated at 25°C?

To prevent the growth of pathogens (harmful bacteria), which occurs at higher temperatures.



Why are petri dishes incubated upside down?



Why are petri dishes incubated upside down?

To prevent condensation from forming on the lid and dripping down onto the bacteria.



Outline the procedure to find the effect of antibiotics on bacteria growth.



Outline the procedure to find the effect of antibiotics on bacteria growth.

1. Using a sterile pipette, add the same volume of each antibiotic to a different Petri dish.
2. Dip an inoculating loop in the broth. Recap the broth bottle.
3. Spread a streak of broth over the agar surface, then close the Petri dish, and tape it shut. Repeat for the remaining Petri dishes. Label each petri dish.
4. Place the petri dishes in a warm incubator. Leave all the plates for the same amount of time (e.g. a day) then observe the results.
5. Count the number of colonies that have formed on each plate and record results in a table. Calculate the mean number of colonies formed for each antibiotic.



How should the controls be set up for this practical?



How should the controls be set up for this practical?

Two petri dishes with no antibiotic and two uncultured petri dishes.



State the hazards and precautions of this practical.



State the hazards and precautions of this practical.

Naked flame: keep away from flammable materials, tie hair up, wear goggles

Bacteria is a biohazard, use disinfect and wash hands, dispose of bacteria safely

Disinfectant is flammable, keep away from naked flame.



Why should the lid not be completely taped to the petri dish?



Why should the lid not be completely taped to the petri dish?

To allow oxygen to enter the petri dish, preventing the growth of harmful anaerobic bacteria.

