

Section B: Laboratory safety

11. Match each hazard with the correct control measure. Write the letter in the final column.

Hazard	Control measure	Letter
Methanol-containing fixative	A. Use forceps when handling heated specimens	
1 M hydrochloric acid	B. Keep away from flames and ignition sources	
Water bath at 60°C	C. Avoid splashes; wear eye protection and gloves	
Slides and coverslips	D. Handle carefully; use the designated broken-glass container	

12. How should the onion root-tip tissue be squashed?

- A. Twist the coverslip firmly.
- B. Press or tap gently through blotting paper using the blunt rubber end of a pencil.
- C. Remove the coverslip and press directly on the tissue.
- D. Apply maximum pressure with a mounted needle.

13. For each situation, write the immediate action that you should take.

Situation	Immediate action
Chemical contacts the skin	
Chemical contacts the eyes	
A chemical spill occurs	
A slide or coverslip breaks	

Section C: Mitosis and meiosis

14. Complete the comparison table.

Feature	Mitosis	Meiosis
Number of nuclear divisions		
Number of daughter cells produced		
Chromosome number in daughter cells		
Genetically identical or different?		
Principal biological role		

15. Explain one important difference between chromosome behaviour during meiosis I and chromosome behaviour during mitosis.

16. Why does meiosis produce genetically different cells? Give two reasons.

Section D: Pre-lab safety confirmation

Read each statement carefully and tick the box to confirm that you understand the requirement.

☐	A fully fastened laboratory coat, eye protection, nitrile gloves and closed footwear must be worn.
☐	Methanol and acetic acid are flammable; no open flames must be used.
☐	Chemical splashes, spillages and broken glass must be reported immediately.
☐	Root tips heated in the 60°C water bath must be handled using forceps.
☐	I will begin with the lowest-power objective and increase magnification systematically.
☐	I will not rotate a dry objective through immersion oil.
☐	I will not begin or continue the practical unless all required safety controls are in place.

Student declaration

I confirm that I have completed this pre-lab worksheet and have read the Practical 1 method and safety information.

Student signature: _____ Date: _____

Submission: Bring the completed worksheet to your scheduled laboratory session or submit it through Blackboard as instructed by your tutor.