

CIE Biology GCSE

General practical skills

Safe use of apparatus



Before you start

Read the instructions **carefully**. Check that you **know** how to use each piece of apparatus listed. Think about the hazards involved with the equipment, and any precautions you may need to take to ensure it's being used safely. This is like a mini **risk assessment**.

Make sure you have any necessary **safety equipment** for the experiment you will be carrying out. Goggles are almost always required, and if your hair is long it will need to be tied back. You may also need other items such as a heatproof mat or gloves. Ensure your work area is **tidy**, and that there are no trip hazards on the floor around you.

Check all your apparatus for **faults**, particularly glass which may have chips or cracks. If you find a fault, do not use that apparatus. Hand it in so it can be safely dealt with, and so that no one else uses it.

If appropriate for the practical at hand, rinse your apparatus with **distilled water** before using it. This will wash away any contaminating substances that may have been left behind by the previous user, which may otherwise affect your results.

During the experiment

Follow all instructions **exactly**, making sure you do not try and take short cuts. You may find it helpful to tick off steps as you complete them so that you do not make any errors. If you are using multiple test tubes or other containers, **label** them so that you know what is inside. If the instructions tell you to rinse your apparatus with distilled water between steps, ensure you do this or your results may be affected.

Do not leave your experiment **unattended** while it is running. If you are walking around the room, exercise caution, particularly if there are **other people** also running experiments.

Be careful when touching apparatus during the experiment, as accidents might happen. Be especially wary if the apparatus is **hot**; do not attempt to touch it with your bare hands. There are some substances in science that you should **never smell directly** as they can cause damage. Instead use the technique of 'wafting' to detect the smell of a substance without inhaling too much. If you **injure** yourself e.g. receive a cut or a burn, alert your teacher **immediately**, even if it does not seem serious. If a piece of apparatus **breaks**, alert your teacher and do not try to fix it or clear it up yourself.

When you finish

Remember to not touch any apparatus that has been hot until it has **completely** cooled down. Walk carefully when **carrying** apparatus, particularly glass or heavy items. **Clean** anything you have dirtied with distilled water before putting it away. Now **wash your hands** thoroughly with soap and warm water. Leave your safety equipment on until the very end.

