

# CIE Physics IGCSE

## General practical skills

### Safe use of apparatus



## Setting Up and Using Apparatus Safely

### Setting Up Apparatus

When setting up the apparatus for an experiment, ensure you follow **all instructions** carefully so as to minimise the chances of somebody getting hurt or of making a mistake and getting inaccurate results. For example, when creating a circuit, ensure the **power is always off** before making any changes, and be sure to connect everything in the **correct places** so that you get the right measurements.

### Using Apparatus Safely

As with setting up the experiment, ensure that you **follow the method carefully** all the way through. There may also be a **risk assessment** within the instructions which you should be aware of and follow all precautions. If one does not already exist, then you should carry out your own risk assessment, detailing all **possible hazards**, why they are hazardous (what is the risk?), and then what you can do to **minimise the risk**. For example:

Hazard	Risk	Precautions
Using a Bunsen burner	Can start a fire or burn someone	Ensure all loose or hanging clothing is removed or kept away from the Bunsen burner (e.g. ties or blazers) and <b>hair is tied up</b> . The flame should be off or on the <b>safety flame</b> when not in use. <b>Heatproof mats</b> should also be placed under the Bunsen burner.
Using hanging masses	Masses can fall and hit someone	Stand away from the hanging masses and wear protective, closed-toe shoes.
Stretching a spring	The spring may break and hit someone	<b>Wear goggles</b> to protect your eyes from any sharp pieces of metal and do not overload the spring.

### 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. 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. If you **injure** yourself e.g. receive a cut or a burn, alert someone **immediately**, even if it does not seem serious. If a piece of apparatus **breaks**, alert someone and do not try to fix it 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. Leave your safety equipment on until the very end.

