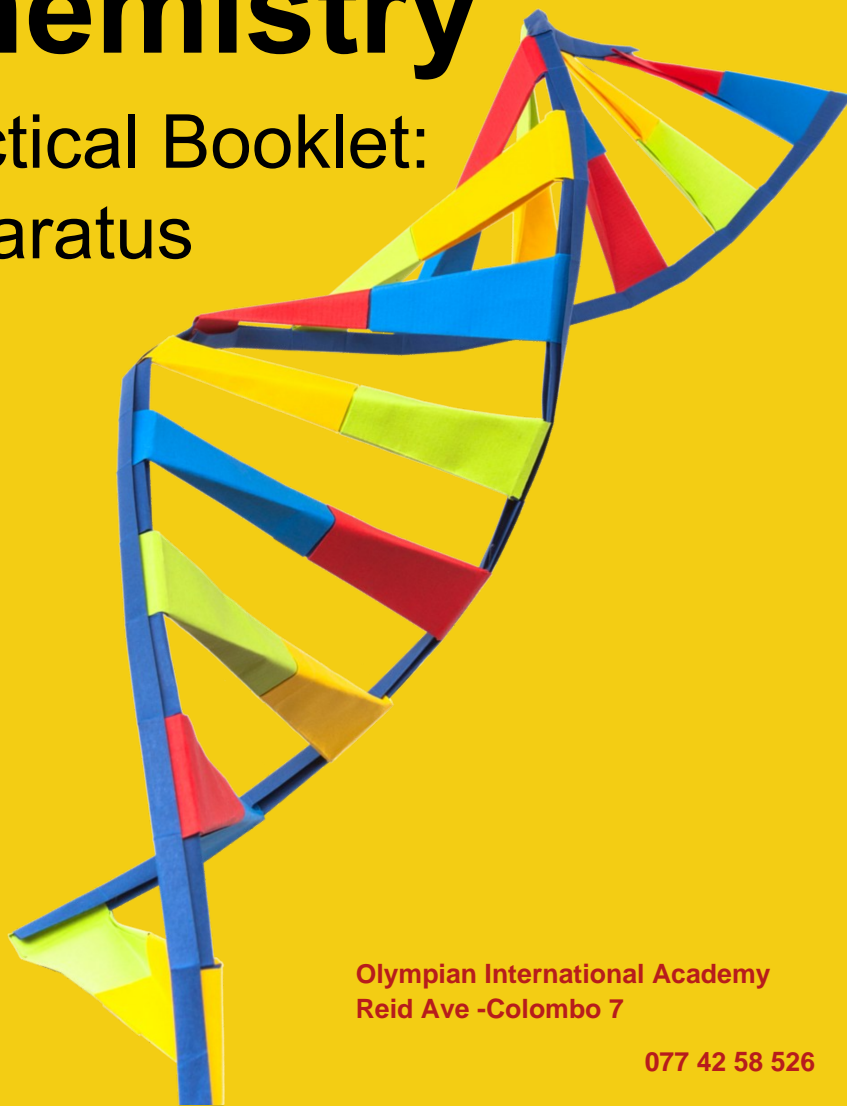


# International Chemistry

Practical Booklet:  
Apparatus



# Laboratory Equipment

## Test Tube



What it looks like in the lab

How it is represented in a diagram



### Uses

- Holds small volumes of liquid or solid substances
- Cannot be strongly heated as it melts/shatters.

## Boiling Tube



What it looks like in the lab

How it is represented in a diagram

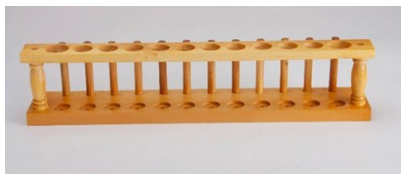


### Uses

- Holds small volumes of liquid or solid substances
- Used when heating solids or liquids over a Bunsen

# Laboratory Equipment

## Test Tube Rack



What it looks like in the lab

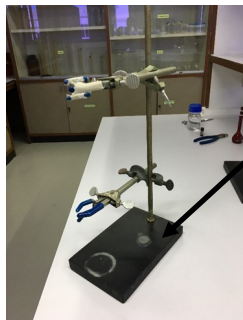


How it is represented in a diagram

## Uses

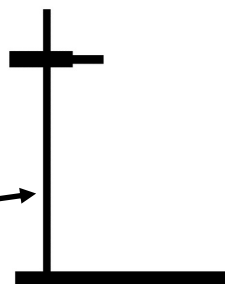
- Holds many test tubes upright. This keeps them stable and stops them tipping over, helping to avoid spills or accidents in the lab.

## Retort Stand



What it looks like in the lab

How it is represented in a diagram

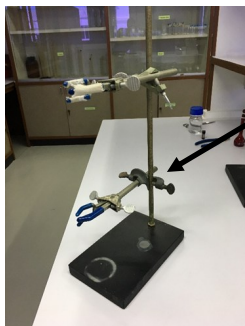


## Uses

- Holds different pieces of apparatus in place, such as boiling tubes or springs.
- Often used with a boss and clamp.

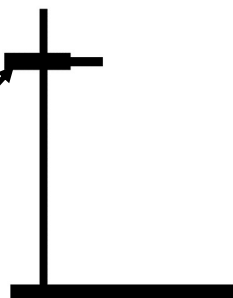
# Laboratory Equipment

## Boss



What it looks like in the lab

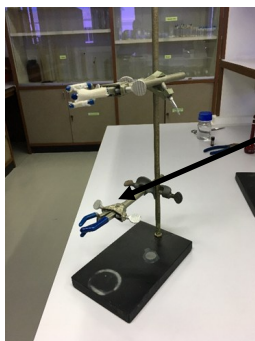
How it is represented in a diagram



## Uses

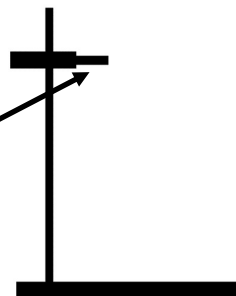
- Holds different pieces of apparatus in place, such as boiling tubes or springs.
- Often used with a retort stand and clamp.

## Clamp



What it looks like in the lab

How it is represented in a diagram



## Uses

- Holds different pieces of apparatus in place, such as boiling tubes or springs.
- Often used with a retort stand and boss.

# Laboratory Equipment

## Bunsen Burner



What it looks like in the lab

How it is represented in a diagram



### Uses

- Used for heating, sterilising or burning things.

## Tripod



What it looks like in the lab

How it is represented in a diagram

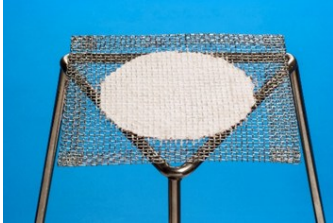


### Uses

- Holds items above the Bunsen burner.
- Can get very hot during heating.

# Laboratory Equipment

## Gauze



What it looks like in the lab



How it is represented in a diagram

## Uses

- Used with a Bunsen burner and tripod. Used to hold items above the Bunsen burner that are too small for the tripod.
- Distributes heat evenly across the surface of the white patch/circle in the middle.

## Spirit Burner/Alcohol Burner



What it looks like in the lab

How it is represented in a diagram

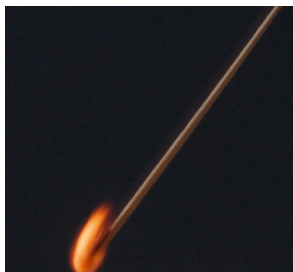


## Uses

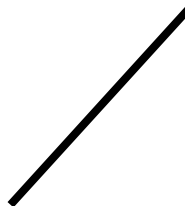
- Contains a liquid fuel (often an alcohol). Used for heating.

# Laboratory Equipment

## Splint



What it looks like in the lab



How it is represented in a diagram

### Uses

- Use to light Bunsen burners or substances such as gases when performing gas tests.

## Beaker



What it looks like in the lab



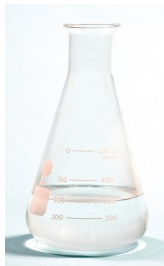
How it is represented in a diagram

### Uses

- Used for holding different volumes of liquids, more than a test tube. Available in various volumes.
- Can be made from glass or plastic.

# Laboratory Equipment

## Conical Flask



What it looks like in the lab

How it is represented in a diagram



### Uses

- Used for holding liquids, mixing solutions or completing chemical reactions.
- Designed to make it easy to swirl or mix liquids

## Measuring Cylinder



What it looks like in the lab

How it is represented in a diagram



### Uses

- Used to measure volumes of liquids. Come in a variety of sizes/volumes.

# Laboratory Equipment

## Funnel



What it looks like in the lab



How it is represented in a diagram

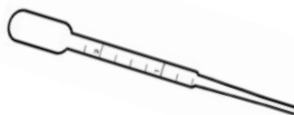
## Uses

- Cone shaped to assist with transferring liquids from one container to another or to containers with narrow openings e.g. conical flask.
- Also used with filter paper when filtering liquids.

## Dropping Pipette (Pipette)



What it looks like in the lab



How it is represented in a diagram

## Uses

- Used to transfer and dispense small volumes of liquid.

# Laboratory Equipment

## Volumetric Pipette



What it looks like in the lab

How it is represented in a diagram



## Uses

- Used to accurately transfer a measured volume of liquid from one container to another.

## Burette



What it looks like in the lab

How it is represented in a diagram



## Uses

- Used to accurately dispense precise volumes of liquid.
- Often used as part of a titration set up.

# Laboratory Equipment

## Syringe



What it looks like in the lab

How it is represented in a diagram



## Uses

- Used for measuring and transferring precise volumes of liquid.

## Gas Syringe



What it looks like in the lab

How it is represented in a diagram

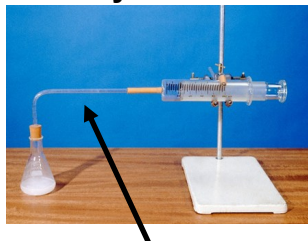


## Uses

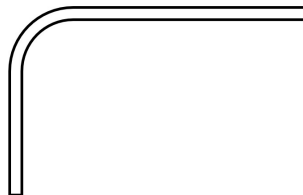
- A special type of syringe, often larger and made of glass which is used to measure the volume of gases produced during chemical reactions.

# Laboratory Equipment

## Delivery Tube



What it looks like in the lab



How it is represented in a diagram

## Uses

- A thin glass or plastic tube, used to transfer liquids or gases from one container to another.
- Often seen as part of the set up for gas collection

## Thermometer



What it looks like in the lab

How it is represented in a diagram



## Uses

- Used to measure temperature.

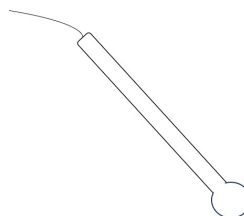
# Laboratory Equipment

## pH Probe



What it looks like in the lab

How it is represented in a diagram



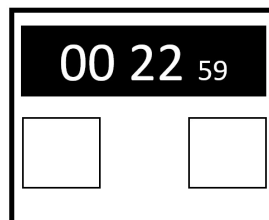
## Uses

- Used to measure how acidic or alkaline a solution is, find the pH of the solution.
- The sensor is often the only part shown in any equipment diagram.

## Stopwatch/Stop clock



What it looks like in the lab



How it is represented in a diagram

## Uses

- Used to measure the time between the start and end points.
- Not usually shown in diagrams.

# Laboratory Equipment

## Electronic Balance



What it looks like in the lab



How it is represented in a diagram

### Uses

- Used to measure the mass of an object or substance.
- More sensitive balances have a greater number of numbers after the decimal place.
- **Not often shown in diagrams.**

## Evaporating Dish



What it looks like in the lab



How it is represented in a diagram

### Uses

- Used to evaporate solutions. Often made from a ceramic material.

# Laboratory Equipment

## Crucible



What it looks like in the lab

How it is represented in a diagram



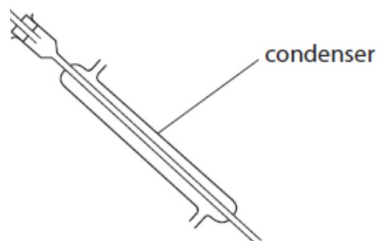
## Uses

- Used for heating substances to high temperatures. Fragile as they are often made from porcelain or ceramic material.
- Sometimes has a lid.

## Condenser



What it looks like in the lab



How it is represented in a diagram

## Uses

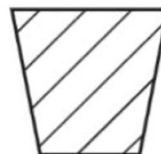
- A piece of glass wear used to cool and condense gases back into liquids.
- Often seen as part of the distillation set up.

# Laboratory Equipment

## Bung



What it looks like in the lab

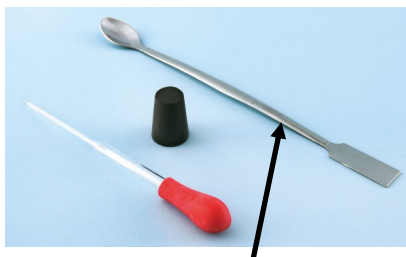


How it is represented in a diagram

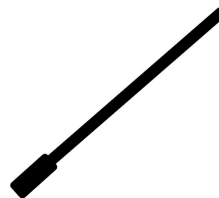
## Uses

- A rubber stopper used to seal containers such as boiling tubes or conical flasks, preventing gases escaping.

## Spatula



What it looks like in the lab



How it is represented in a diagram

## Uses

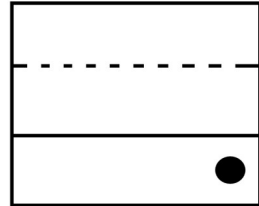
- Made from metal or plastic, used for transferring substances.

# Laboratory Equipment

## Water Bath



What it looks like in the lab



How it is represented in a diagram

### Uses

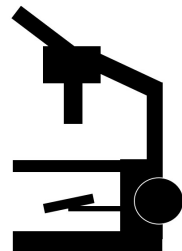
- A large container filled with water that is heated to a specific temperature. Used to keep substances at a set temperature or heat substances gradually.
- **Not usually shown in diagrams.**

## Microscope



What it looks like in the lab

How it is represented in a diagram

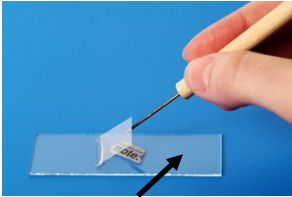


### Uses

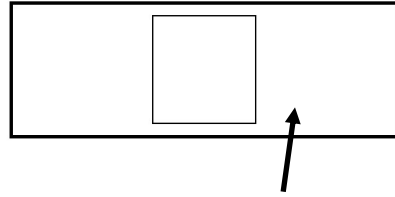
- Used to view small objects.
- Has several different lenses to increase magnification.

# Laboratory Equipment

## Slide



What it looks like in the lab

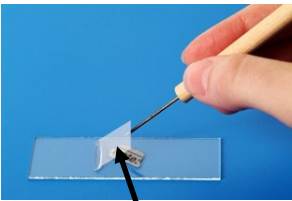


How it is represented in a diagram

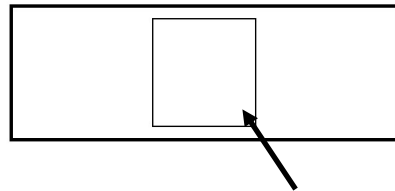
## Uses

- A flat piece of glass, where a specimen is placed for viewing under a microscope.
- **Not usually shown in diagrams.**

## Coverslip



What it looks like in the lab



How it is represented in a diagram

## Uses

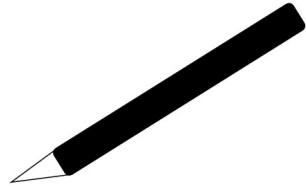
- A very thin, square piece of glass or plastic that is placed over a specimen when viewing under a microscope slide.
- **Not usually shown in diagrams.**

# Laboratory Equipment

## Scalpel



What it looks like in the lab



How it is represented in a diagram

### Uses

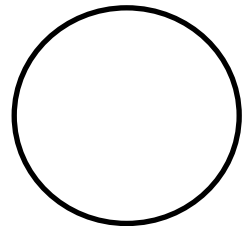
- A small, sharp knife used for precise cutting or dissection of tissue samples /biological materials.
- **Not usually shown in diagrams.**

## Petri Dish



What it looks like in the lab

How it is represented in a diagram



### Uses

- A shallow, round dish, often with a lid; made of glass or plastic. Used for growing microorganisms in the lab.

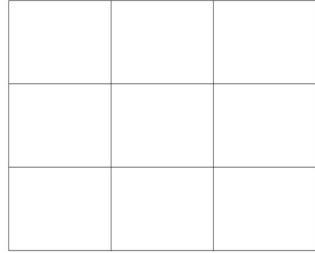
# Laboratory Equipment

## Quadrat



What it looks like in the field

How it is represented in a diagram



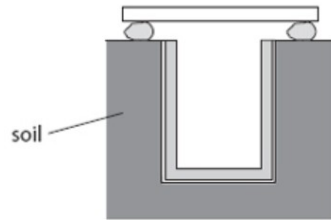
## Uses

- A square sampling tool. Used to study and count organisms in a particular area.
- Come in a variety of sizes.

## Pitfall Trap



What it looks like in the field



How it is represented in a diagram

## Uses

- A sampling device used to collect small invertebrates living on the ground.
- Can be used with or without bait..