

Use and maintenance of equipment

[Science](#), [Biology](#)



For the following equipment state a use and how it is maintained.

Equipment

Use

Type of maintenance required

Centrifuge

This separates liquids and solids and also particles of different sizes or liquids of different densities.

The inside and the backsides should be regularly cleaned to stop material and dust building up furthermore the seals may need changing.

Microscope

Microscopes are used to magnify a miniscule material so that the naked eye can see it. For maintenance microscopes need the eye pieces and objective lenses to be cleaned thoroughly. A microscope just needs general cleaning however if immersion oil is used then it should not be left to dry as this could cause a problem.

Balance

Measures the mass of objects. Using a safe cleaning agent dampen a towel and wipe it over the surface of the balance. Furthermore balances should have regular calibrations.

pH meter

Measures a liquids Ph. The meter should regularly be calibrated by using standard pH solutions they should be rinsed clean and stored with a protective cap to stop it from drying out.

Oven

Heats objects to high temperatures. Clean once a week using a lint free cloth dipped into disinfectant solution squeeze the cloth and then clean the surface including the internal surface and the trays (make sure the trays have been taken out beforehand).

Incubator

Maintains objects at a certain temperature normally to the human body temperature. Clean the fan and the fan wheels 2-3 times per year and replace the filters and HEPA and gas every 6-12 months also check the CO₂ levels every month and check the temperature once every year. Furthermore replace water every 1-2 weeks and keep water pans full.

Fume cupboard

This will keep the operator away from harm when using hazardous fumes and powders as the cupboard will suck up the harmful gases and provide a cover which will stop the user inhaling harmful substances. The motor and filters need maintenance to make sure that the air moves fast enough to remove dangerous substances.

Graduated pipette

Measures the amount of liquid to use. The pipette should be checked for cracks and should be calibrated furthermore the pipette should be disassembled and cleaned out also you should decontaminate the outside of the pipette by using decontaminating solution.

Heating mantle

An alternative way to heat something when using a flame is too dangerous. When maintaining a heating mantle you should make sure that the device does not overheat or get contaminated if this occurs the device is more likely to stop working faster furthermore when maintaining a heating mantle it should be checked for leaks and cracks. It should also regularly be inspected to see whether or not it is safe for use. Finally repairs should only be made by the manufacturer or firms that have been authorized by the manufacturer.

Bunsen burner

It is used as a source of heat using a flame when required. Connections must be checked for leaks and breaks as these can be hazardous. Also the collar should be working smoothly.

Desiccator

Attracts moisture to keep contents drier than when out in the open. Silica gel must be changed every fortnight and when maintaining a desiccator all materials must be removed including the silica gel then the desiccator must be cleaned using soap and water and then dried using a cloth after this it should be left to completely dry. Finally transfer all materials back into the desiccator

Oscilloscope

Measures frequency and voltage in electrical circuits. This should regularly be calibrated this can be done by the staff however if there are adjustments that are needed to the device then a specialist would be required to come in.