

# Scientific Method and Technology

## SCIENTIFIC METHOD

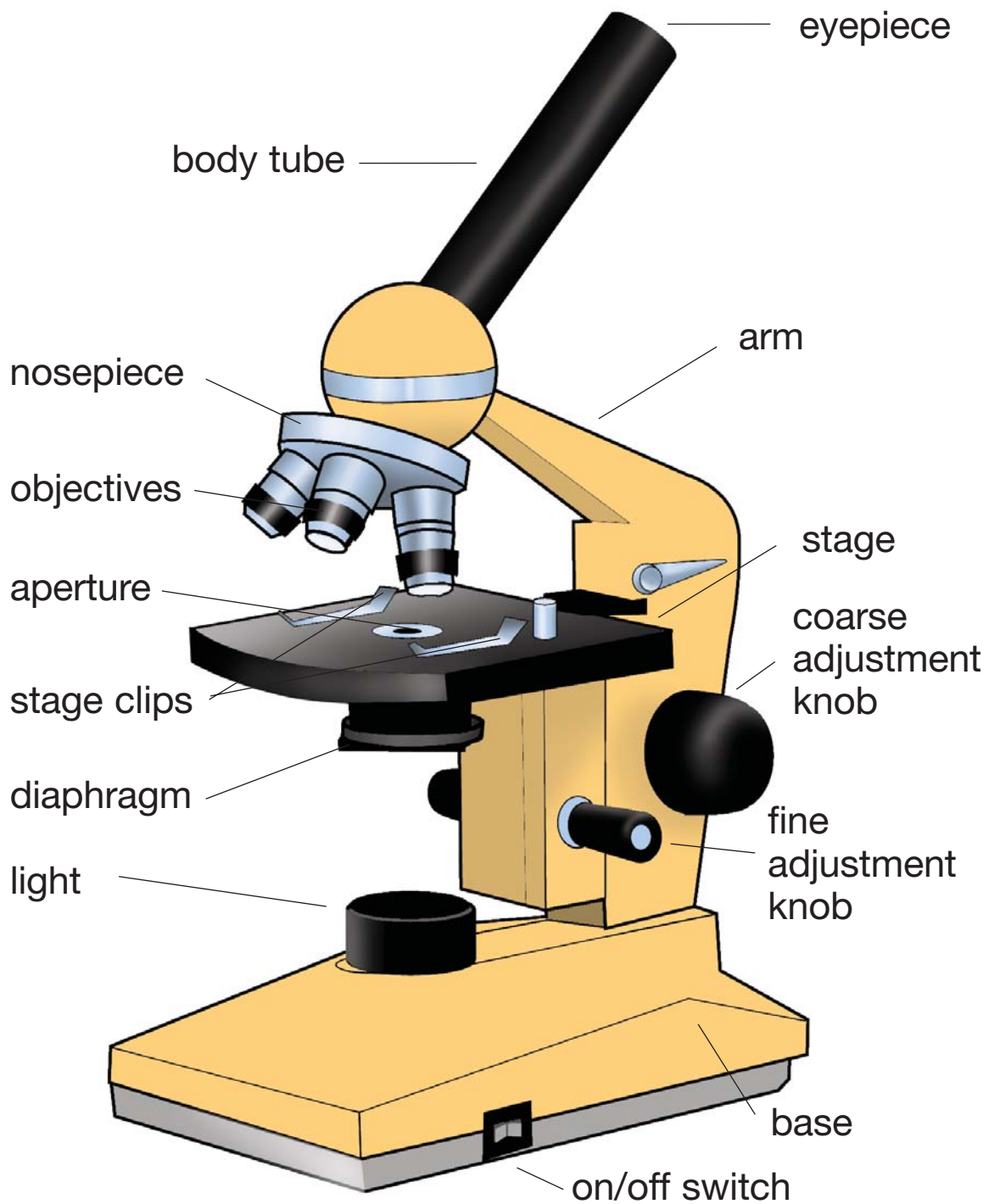
Diagram, The scientific method .....	1
Diagram, The compound microscope .....	2
Diagram, Sample drawing from microscopic observation .....	3
Diagram, The triple-beam balance .....	4
Diagram, Scale drawing on squared paper .....	5
Chart, Summary of experimental variables .....	6
Chart, Ball bounce heights for four types of balls .....	7
Chart, Time standing on one leg .....	8

## TECHNOLOGY

Diagram, The lever .....	9
Diagram, A fixed pulley .....	10
Diagram, A movable pulley .....	11
Diagram, A block and tackle .....	12
Summary chart: The six simple machines .....	13
Diagram, Parts of a Roman arch .....	14

## TECHNOLOGY RESEARCH PROJECTS FOR OLDER STUDENTS

Chart, Examples of technology research projects .....	15
List, Steps to take when starting a technology research project .....	18



*The compound microscope*

## Summary chart: The six simple machines

Machine	Structure	Function	Applications
Ramp	A slope (or inclined plane).	Decreases effort required to move loads upward.	Moving ramp, stairs, escalator, mountain road.
Wedge	A pair of ramps back to back (some wedges are a single ramp).	Changes direction of a force to push apart or split objects.	Ax, chisel, ship's bow, knife.
Screw	A ramp wrapped around a central post.	Changes direction of a force from circular to straight; holds things together.	Wood screw, car jack, corkscrew, hand auger.
Lever	A rigid bar or pole that pivots on a fulcrum.	Multiplies force, decreases effort required to move and lift loads.	Seesaw, human arm.
Wheel and axle	Two wheels attached at their centers, the smaller wheel being the axle.	Multiplies force required to move loads.	Doorknob, steering wheel, windmill, gear.
Pulley	A wheel with a grooved rim, around which a rope or chain passes.	Changes direction of force (fixed pulley); decreases the force needed to lift a load (movable pulley).	Flagpole, sails, curtain and blind cords.