

Scientific Instruments

Have you ever been in the middle of a class lecture, medical examination or episode of *Star Trek* only to realise suddenly that you have no clue what all those gizmos, gadgets and other scientific instruments actually do? If so, your problems are solved. This list defines 418 scientific instruments and technical tools used for viewing, displaying, recording and measuring just about anything you can imagine (and some things you probably can't). Most of these words end in "meter" (instruments for measuring), "scope" (instruments for viewing) or "graph" (instruments for displaying and recording).

Word	Definition
absorptiometer	instrument for measuring solubility of gases in liquids
accelerometer	instrument for measuring acceleration or vibrations
acetimeter	instrument for measuring strength of vinegar
acidimeter	instrument for measuring concentration of acids
actinograph	instrument used to calculate time of photographic exposure
actinometer	instrument for measuring incident radiation
aerometer	instrument for measuring weight or density of gas
aethrioscope	instrument for measuring temperature variations due to sky conditions
alcoholometer	instrument for measuring proportion of alcohol in solutions
alcovimeter	instrument to measure strength of wine
algometer	instrument for measuring sensitivity to pain
alkalimeter	instrument for measuring strength of alkalines
altimeter	instrument for measuring altitude
ammeter	instrument for measuring electrical current
anemograph	instrument for measuring pressure and velocity of wind
anemometer	instrument for measuring wind velocity
areometer	instrument used for measuring specific gravity
arthroscope	instrument for examining interior of a joint
atmometer	instrument for measuring evaporating capacity of air
audiometer	instrument for measuring acuity of hearing
auriscope	instrument for examining the ear
auxanometer	instrument for measuring growth of plants
auxometer	instrument for measuring magnifying power
ballistocardiograph	instrument for detecting body movements caused by heartbeat

barograph	instrument for recording air pressure
barometer	instrument for measuring air pressure
baroscope	weather-glass
bathymeter	instrument for recording contours of deep oceans
bathythermograph	instrument for recording water temperature as compared to depth
bolometer	instrument for measuring radiant energy or infrared light
bronchoscope	instrument for examining the windpipe
calorimeter	instrument for measuring absorbed or evolved heat
cardiograph	instrument for recording movements of the heart
cathetometer	instrument for measuring short vertical distances
ceilometer	instrument for measuring height of cloud ceiling above earth
ceraunograph	instrument for recording thunder and lightning
chlorometer	instrument for measuring amount of chlorine in a solution
chromatograph	instrument for performing chromatographic separations
chromatoptometer	instrument measuring eyes' sensitivity to colour
chronograph	instrument for recording the moment of an event
chronometer	instrument for measuring time
chronoscope	instrument for measuring very short time intervals
clinometer	instrument used to measure slopes and elevations
coercimeter	instrument for measuring coercive force
colonoscope	instrument for viewing the colon
colorimeter	instrument for measuring and determining color
colposcope	instrument for viewing the neck of the uterus
coronagraph	instrument for viewing the corona of the sun
coulombmeter	instrument for measuring electric charge
coulometer	instrument measuring amount of substance released in electrolysis
craniometer	instrument for measuring the skull
cratometer	instrument for measuring power of magnification
crescograph	instrument for measuring the growth of plants
cryometer	instrument for measuring low temperatures
cryoscope	instrument for determining freezing points of substances
cyanometer	instrument for measuring blueness of the sky or ocean
cyclograph	instrument for describing arcs of circles without compasses
cyclometer	instrument for measuring revolutions of a wheel
cymograph	instrument for tracing the outline of mouldings
cymometer	instrument for measuring frequency of electrical waves

cystoscope	instrument for examining the bladder
cytometer	instrument for counting cells
decelerometer	instrument for measuring deceleration
declinometer	instrument for measuring magnetic declination
dendrometer	instrument for measuring trees
densimeter	instrument for measuring closeness of grain of a substance
densitometer	instrument for measuring optical or photographic density
diagometer	instrument for measuring electrical conductivity
diagraph	instrument for enlarging or projecting drawings
diaphanometer	instrument for measuring the transparency of air
dichroscope	instrument for examining crystals for dichroism
diffractionmeter	instrument for determining structure of crystal through light diffraction
dilatometer	instrument for measuring expansion
dioptrimeter	instrument for measuring focus or refraction of the eyes
dipleidoscope	instrument for measuring moment when an object passes a meridian
diplograph	instrument for writing two lines of text at once
dosimeter	instrument for measuring dose of radiation
dromometer	instrument for measuring speed
drosometer	instrument for measuring dew
durometer	instrument for measuring hardness of substances
dynamograph	instrument for recording mechanical forces
dynamometer	instrument for measuring mechanical force
ebullioscope	instrument for measuring boiling point of liquids
effusimeter	instrument for comparing molecular weights of gases
eidograph	instrument for copying drawings
elatrometer	instrument for measuring gaseous pressure
electrocardiograph	instrument for recording unusual electrical fluctuations of the heart
electrodynamometer	instrument for measuring electrical current
electroencephalograph	instrument for measuring the brain's electrical impulses
electrograph	instrument for recording electrical potential
electrometer	instrument for measuring electrical potential
electromyograph	instrument for diagnosing neuromuscular disorders
electroretinograph	instrument for measuring electrical activity in the retina
electroscope	instrument for detecting electrical charges in the body
ellipsograph	instrument for describing ellipses
encephalograph	instrument for recording brain images

endoscope	instrument for visualizing interior of a hollow organ
endosmometer	instrument for measuring osmosis into a solution
epidiascope	instrument for projecting images of objects
episcope	instrument for projecting images of opaque objects
ergograph	instrument for measuring and recording muscular work
ergometer	instrument for measuring work performed
eriometer	instrument for measuring very small diameters
eudiometer	instrument for measuring air purity
evaporimeter	instrument for measuring rate of evaporation
extensometer	instrument for measuring deformation in object due to forces applied
fathometer	instrument for measuring underwater depth using sound
fiberscope	instrument using fiberoptics to examine inaccessible areas
floriscope	instrument for inspecting flowers
flowmeter	instrument for measuring properties of flowing liquids
fluorimeter	instrument for measuring fluorescence
fluoroscope	instrument using x-rays to examine internal structure of opaque object
focimeter	instrument for measuring focal length of a lens
galactometer	instrument for measuring specific gravity of milk
galvanometer	instrument for measuring electrical current
galvanoscope	instrument for detecting presence and direction of electric current
gasometer	instrument for holding and measuring gases
gastroscope	instrument for examining interior of the stomach
geothermometer	instrument for measuring subterranean temperatures
goniometer	instrument for measuring angles between faces
gradiometer	instrument for measuring gradient of a physical quantity
gravimeter	instrument for measuring variations in gravitational fields
gyrograph	instrument for counting a wheel's revolutions
haptometer	instrument measuring sensitivity to touch
harmonograph	instrument drawing curves representing vibrations
harmonometer	instrument measuring harmonic relations of sounds
helicograph	instrument for drawing spirals on a plane
heliograph	instrument for measuring intensity of sunlight
heliometer	instrument for measuring apparent diameter of the sun
helioscope	instrument for observing sun without injury to the eyes
hemacytometer	instrument for counting blood cells
hippometer	instrument to measure height of horses

hodoscope	instrument for tracing paths of ionizing particles
hydrometer	instrument for measuring specific gravity of liquids
hydroscope	instrument for viewing under water
hydrotimeter	instrument for measuring water hardness
hyetograph	instrument for recording rainfall
hyetometer	instrument for measuring rainfall
hyetometrograph	instrument for recording rainfall
hygrograph	instrument for recording variations in atmospheric humidity
hygrometer	instrument for measuring air moisture
hygroscope	instrument for displaying changes in air humidity
hypsonometer	instrument for measuring height of trees through triangulation
iconometer	instrument for finding size of object by measuring its image
idiometer	instrument for measuring motion of observer in relation to transit of the heavens
inclinometer	instrument for measuring inclination to the horizontal of an axis
interferometer	instrument for analysing spectra of light
iriscope	instrument for exhibiting the prismatic colours
katathermometer	instrument for measuring the cooling power of air
katharometer	instrument measuring changes in composition of gases
keratometer	instrument for measuring curvature of the cornea
keraunograph	instrument for recording distant thunderstorms
kinetoscope	instrument for producing curves by combination of circular movements
konimeter	instrument measuring amount of dust in air
koniscope	instrument for measuring dust in air
kymograph	instrument for recording fluid pressure
labidometer	instrument for measuring size of the head of a fetus
lactometer	instrument for testing relative density of milk
lactoscope	instrument for measuring purity or richness of milk
lanameter	instrument for measuring quality of wool
laparoscope	instrument for viewing interior of peritoneal cavity
laryngoscope	instrument for examining interior of the larynx
leptometer	instrument for measuring oil viscosity
loxodograph	device used to record ship's travels
lucimeter	instrument for measuring light intensity
luxmeter	instrument for measuring illumination
lysimeter	instrument for measuring percolation of water through soil
magnetograph	instrument for recording measurements of magnetic fields

magnetometer	instrument for measuring intensity of magnetic fields
manometer	instrument for measuring pressure of a liquid or gas
marigraph	instrument for recording tide levels
mecometer	instrument for measuring length
megameter	instrument for determining longitude by observing stars
megascope	instrument for projecting an enlarged image
mekometer	range-finder
meldometer	instrument for measuring melting points of substances
meteorograph	instrument recording a variety of meteorological observations
methanometer	instrument for detecting presence of methane
microbarograph	instrument for recording minute changes in atmospheric pressure
microcalorimeter	instrument for measuring tiny quantities of heat
micrograph	instrument used to write on a very small scale
micrometer	instrument for measuring very small distances
micronometer	instrument for measuring short periods of time
microscope	instrument for magnifying small objects
microseismograph	instrument for recording small or distant earthquakes
microseismometer	instrument for measuring small or distant earthquakes
mileometer	instrument for recording distance travelled in miles
milliammeter	instrument for recording very small electrical currents
myograph	instrument for recording muscular contractions
myringoscope	instrument for viewing the eardrum
nephelometer	instrument for measuring cloudiness
nephograph	instrument for photographing clouds
nephoscope	instrument for observing direction and velocity of clouds
nitrometer	instrument for measuring nitrogen and its compounds
odograph	odometer; instrument for measuring distance travelled
odometer	instrument for measuring distance travelled
odontograph	instrument for obtaining curves for gear-teeth
oenometer	instrument for measuring alcoholic strength of wine
ohmmeter	instrument for measuring electrical resistance
oleometer	instrument for measuring amount of oil in a substance
olfactometer	instrument measuring intensity of odour of a substance
ombrometer	rain-gauge
oncometer	instrument measuring change in size of internal organs
oncosimeter	instrument measuring variations in density of molten metal
ondograph	instrument measuring change in wave formations of

	electricity
oometer	instrument for measuring eggs
opacimeter	instrument for measuring opacity
opeidoscope	instrument for illustrating sound by means of light
ophthalmometer	instrument for measuring the eye
ophthalmoscope	instrument for viewing the interior of the eye
opisometer	instrument for measuring curved lines
opsiometer	instrument for testing vision
optometer	instrument for testing vision
orchidometer	instrument for measuring the size of the testicles
oscillograph	instrument for recording alternating current wave forms
oscillometer	instrument for measuring ship's rollings
oscilloscope	instrument for detecting electrical fluctuations
osmometer	instrument for measuring osmotic pressure
otoscope	instrument for examining the ear
pachymeter	instrument for measuring small thicknesses
pallograph	instrument measuring ship's vibration
pantochronometer	combined sundial and compass
pantograph	instrument for copying drawing to a different scale
passimeter	instrument for issuing automatic tickets
pedometer	instrument for measuring distance travelled on foot
peirameter	instrument measuring resistance of road surfaces to wheel movement
pelvimeter	instrument for measuring the pelvis
penetrometer	instrument for measuring firmness or consistency of substances
permeameter	instrument for measuring permeability
phacometer	instrument for measuring lenses
phaometer	old instrument for measuring light intensity
pharmacometer	instrument for measuring drugs
pharyngoscope	instrument for inspecting the pharynx
phonautograph	instrument for recording sound vibrations
phonendoscope	device which amplifies small sounds
phonometer	instrument for measuring sound levels
phorometer	instrument used to correct abnormalities in eye muscles
photometer	instrument for measuring light intensity
photopolarimeter	instrument for measuring intensity and polarization of reflected light
phototachometer	instrument for measuring the speed of light

phototelegraph	instrument for transmitting drawings telegraphically
phthongometer	instrument measuring intensity of vowel sounds
piezometer	instrument for measuring pressure or compressibility
pitchometer	instrument for measuring angles of ship's propeller blades
planigraph	instrument for copying drawings at a different scale
planimeter	instrument for measuring area of plane figures
platometer	instrument for measuring area; planimeter
plegometer	instrument for measuring the strength of a blow
plemyrameter	instrument for measuring variations in water level
plethysmograph	instrument for measuring change in body part size due to blood flow
pluviograph	self-registering rain gauge
pluviometer	rain-meter
pneometer	instrument that measures respiration
pneumatometer	instrument for measuring quantity of air breathed
pneumograph	instrument for measuring and recording respiration
polarimeter	instrument for measuring polarised light
polariscope	instrument for detecting polarized light
polygraph	instrument for measuring small changes in pulse and respiration
porometer	instrument for measuring degree of porosity
poroscope	instrument for investigating porosity
potentiometer	instrument for measuring electromotive forces
potometer	instrument measuring rate at which plants absorb water
prisoptometer	instrument for measuring degree of astigmatism
proctoscope	instrument for examining the rectum
psophometer	instrument measuring audible interference of electrical current
psychograph	instrument that supposedly records spirit messages
psychrometer	instrument for measuring air moisture or temperature
psychrometer	instrument for measuring dryness of the atmosphere
pulsimeter	instrument for measuring the pulse
pycnometer	instrument for measuring specific gravity or density
pyknometer	instrument for measuring specific gravities
pyranometer	instrument measuring solar radiation from the sky's whole hemisphere
pyrgeometer	instrument for measuring radiation from earth
pyrheliometer	instrument for measuring heating effect of sun
pyrometer	instrument for measuring very high temperatures

pyroscope	instrument for measuring intensity of radiant heat
qualimeter	apparatus for measuring penetrating power of X-ray beams
quantimeter	apparatus for measuring quantity of X-rays
quantometer	instrument for measuring proportions of elements in metallic samples
rachimeter	instrument for measuring the spine
radarscope	instrument for detecting radar signals
radiogoniometer	instrument for finding direction through radio signals
radiometeorograph	instrument for measuring atmospheric conditions at high altitude
radiometer	instrument measuring radiation energy
radioscope	instrument for viewing objects using X-rays
ratemeter	instrument for measuring counting rate of electronic counters
recipiangle	old instrument with two arms used for measuring angles
reflectometer	instrument for measuring reflectance of radiant energy
refractometer	instrument measuring refraction of light
respirometer	instrument for measuring and studying respiration
retinoscope	instrument for measuring and viewing the retina
rheometer	instrument that measures current
rhinoscope	instrument for examining the nose
rhythmometer	instrument for measuring speed of rhythms
riometer	instrument for measuring absorbed cosmic radio waves
rotameter	old instrument for measuring length of curved lines
rotameter	instrument consisting of glass tube with free float for measuring liquid flow
saccharimeter	instrument for measuring amount of sugar in a solution
salinometer	instrument for measuring amount of salt in a solution
scintillometer	instrument measuring scintillation of star
scintilloscope	instrument for measuring gamma rays emitted by a radioactive body
sclerometer	instrument measuring hardness
scoliometer	instrument measuring curvature
scotograph	instrument for writing without seeing
scotoscope	instrument for detecting objects in darkness
seismograph	instrument for recording earthquakes
seismometer	instrument for measuring earthquake intensity
seismoscope	instrument for detecting earthquakes
selenoscope	instrument for viewing the moon
sensitometer	instrument for measuring sensitivity of photographic material

sepometer	instrument for measuring septic matter in the air
serimeter	instrument for testing quality of silk
shuftiscope	instrument used to explore interior of dysentery case
siccimeter	instrument for measuring liquid evaporation
sideroscope	instrument using magnets to detect presence of iron
sigmoidoscope	instrument for examining the interior of the rectum and sigmoid colon
sillometer	instrument measuring speed of ship
skiascope	instrument for measuring eye's refraction from movement of shadows
snooperscope	instrument for viewing infrared radiation
solarimeter	instrument for measuring solar radiation
sonograph	instrument for recording and analysing sound
spectrofluorimeter	instrument for measuring and recording fluorescence spectra
spectrograph	instrument for viewing a spectrum
spectroheliograph	instrument for taking pictures of the sun
spectroheliokinematograph	camera for taking pictures of the sun
spectroheliroscope	instrument for viewing solar disc in light of a single wavelength
spectrometer	instrument measuring wavelengths of light of a spectrum
spectrophotometer	instrument for measuring speed of different parts of light spectrum
spectroscope	instrument for forming spectra by dispersing rays of light
speedometer	instrument for measuring velocity
spherometer	instrument measuring curvature
sphygmograph	instrument for recording pulse
sphygmomanometer	instrument for measuring arterial blood pressure
sphygmometer	instrument for measuring arterial blood pressure
sphyngoscope	instrument for making arterial pulsations visible
spintharoscope	instrument for visually detecting alpha particles
spiograph	instrument recording movements of breathing
spirometer	instrument measuring lung capacity
stactometer	pipette with hollow bulb for counting drops
stadiometer	instrument for measuring the length of a curved line
stagnometer	instrument for measuring number of drops in volume of liquid
stalagmometer	instrument for measuring surface tension by drops
statoscope	instrument for measuring small changes in atmospheric pressure

stauroscope	instrument for studying structure of crystals with polarised light
stenometer	instrument for measuring distances
stereometer	instrument for measuring specific gravity
stereoscope	instrument for viewing special three-dimensional photographs
stethometer	instrument measuring chest expansion during breathing
stethoscope	instrument for detecting sounds produced by the body
strabismometer	instrument measuring degree of squinting
strabometer	instrument for measuring strabismus in the eyes
stroboscope	instrument for studying motion using flashes of light
stylometer	instrument for measuring columns
swingometer	instrument for measuring swing in votes during an election
sympiesometer	instrument for measuring pressure of a current
synchroscope	instrument for detecting whether two moving parts are synchronized
tacheometer	instrument for rapidly measuring survey points on a map
tachistoscope	instrument for rapidly showing images on a screen to test perception
tachograph	instrument for recording speed of rotation
tachometer	instrument for measuring speed of rotation
taseometer	instrument for measuring stress in a structure
tasimeter	instrument for measuring changes in pressure
taximeter	instrument for measuring fee for hired vehicle
telemeter	instrument for measuring strain or distance from observer
telescope	instrument for viewing objects at great distances
telespectroscope	instrument for analysing radiation omitted by distant bodies
telestereoscope	instrument for viewing distant objects stereoscopically
tellurometer	instrument using microwaves to measure distance
tenderometer	instrument for measuring tenderness of fruits and vegetables
tensimeter	instrument for measuring vapour pressure
tensiometer	instrument for measuring tension
thalassometer	instrument for measuring tides
thermograph	instrument for recording changes in temperature
thermometer	instrument for measuring temperature
thermometrograph	instrument for recording changes in temperature
thermoscope	instrument indicating change in temperature
thoracoscope	instrument for viewing the thorax and chest wall
tiltmeter	instrument for measuring tilting of earth's surface
tocodynamometer	instrument for measuring uterine contractions during

	childbirth
tomograph	instrument for viewing section of an object using X-rays
tonometer	instrument measuring pitch of musical tones
topophone	instrument to determine direction and distance of a fog-horn
torsiograph	instrument for recording torsional vibrations on an object
transmissometer	instrument for measuring transmission of light through a fluid
trechometer	instrument for determining distance travelled; odometer
tremograph	instrument for recording involuntary muscular motion
tribometer	instrument measuring friction
trigonometer	instrument for solving triangles
trocheameter	instrument counting wheel's revolutions
tromometer	instrument for measuring slight earthquake shocks
tropometer	instrument measuring rotation
turbidimeter	instrument for measuring turbidity of liquids
turgometer	instrument for measuring turgidity
typhlograph	instrument to help the blind write clearly
udometer	instrument for measuring rainfall
ultramicroscope	instrument for viewing extremely small objects
urethroscope	instrument for viewing the interior of the urethra
urinometer	instrument for measuring specific gravity of urine
vaporimeter	instrument for measuring vapour pressure
variometer	instrument for measuring magnetic declination
velocimeter	instrument for measuring velocity
velometer	instrument for measuring speed of air
viameter	instrument for measuring revolutions of a wheel
vibrograph	instrument for recording vibrations
vibrometer	instrument for measuring vibrations
viscometer	instrument for measuring viscosity
visometer	instrument for measuring focal length of the eye
voltameter	instrument for measuring electrical current indirectly
voltmeter	instrument for measuring electrical potential
volumenometer	instrument for measuring volume of a solid
volumeter	instrument for measuring volume of a liquid or gas
wattmeter	instrument for measuring electrical power
wavemeter	instrument for measuring wavelengths
weatherometer	instrument for measuring weather-resisting properties of paint
xanthometer	instrument for measuring colour of sea or lake water
xyloimeter	instrument measuring specific gravity of wood

zymometer
zymosimeter

instrument for measuring fermentation
instrument for measuring fermentation