Error	Description	Random or Systematic
Scale error	If a piece of equipment is not calibrated correctly (e.g. a wooden ruler has shrunk), all measurements will be offset by the same fraction.	Systematic error.
Zero error	If a piece of equipment has an offset (e.g. a mass balance shows a reading that is not zero when there is nothing on it), all measurements will be offset by the same amount.	Systematic error.
Parallax error	If you make a measurement by comparing an indicator against a scale (e.g. reading a dial on a voltmeter, or using a mercury thermometer), the angle at which you view it will affect the reading.	Systematic error if you always view the dial from the same angle. Random error if you view the dial from a random angle each time.
Errors arising from the environment	Ideally, the control variables are kept constant, but some may be beyond your control, e.g. air pressure, temperature, humidity, vibrations.	Changes to the control variables can result in both systematic and random errors. One consistent change will give a systematic error. Random changes will give random errors.
Reaction time	If a measurement relies on your reaction time, then you may react too early or too late by different amounts of time.	Random error.
Measurement errors from insufficient precision	If you're measuring something that falls between two markings on a scale (e.g. you're using a ruler to measure something that's 10.25 mm long), you cannot measure its precise value and will need to round it up or down (does it look like 10 mm or 10.5 mm?).	Random error.

Instrument drift (systematic) - Most electronic instruments have readings that drift over time. The amount of drift is generally not a concern, but occasionally this source of error can be significant and should be considered.

Zero offset (systematic) — When making a measurement with a micrometer caliper, electronic balance, or electrical meter, always check the zero reading first. Re-zero the instrument if possible, or at least measure and record the zero offset so that readings can be corrected later. It is also a good idea to check the zero reading throughout the experiment. Failure to zero a device will result in a constant error that is more significant for smaller measured values than for larger ones.