

OCR (B) Biology A-level

Module 1: Development of practical skills in Biology

PAG 10: Investigation using a Data Logger OR Computer Modelling

Please note: You only need to do one from each PAG, and you don't need to do the PAGs listed here, as long as you show the same skills that these are testing (see 5f of the specification for more information). However, you need to at least be able to design your own method for most of these experiments in the exam.



Using a spirometer:

1. A person breathes through a tube connect to the oxygen chamber.
2. **As the person breathes in and out, the lid of the chamber moves up and down.** These movements are recorded by a pen attached to the lid of the chamber.
3. The pen writes on a rotating drum, creating a **spirometer trace**.
4. The spirometer could be hooked up to a motion sensor, which will use the movements to produce electronic signals, which are picked up by a data logger.
5. The person must **wear a nose clip and the machine must be air tight**, so a valid reading is obtained.
6. An **upwards slope** on the trace indicates the **person breathing out** as volume in chamber increases.
7. A **downwards slope** on the trace indicates the **person breathing in** as volume in chamber decreases.

