

# CIE Biology IGCSE

## Planning experiments and improving technique

### Flashcards

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# What is the independent variable?



# What is the independent variable?

The variable that is changed in the practical.



# What is the dependent variable?



## What is the dependent variable?

The variable that is measured in the practical.



# What are controlled variables?



## What is a controlled variable?

Variables that are kept the same in the practical.



# What is the purpose of a control?





What is the purpose of a control?

To show that it is the independent variable that is having a true effect on the dependent variable.



What criteria should be used to select the appropriate apparatus?



# What criteria should be used to select the appropriate apparatus?

- Precision
- Accuracy
- Sensitivity
- Resolution



What should be planned regarding safety before starting a practical?



What should be planned regarding safety before starting a practical?

Carry out a risk assessment and take appropriate precautions.



# How can the reliability of the results be improved?



How can the reliability of the results be improved?

Use a larger sample size.

Repeat the practical and take a mean.



What is the difference between accuracy  
and precision?





# What is the difference between accuracy and precision?

**Accuracy** - how close a reading is to the true value.

**Precision** - How close a reading is to other readings taken under the same conditions (i.e. how 'close together' they are).



State two sources of error in a practical.



State two sources of error in a practical.

Certain variables not controlled.

Equipment is not precise and/or accurate enough.

