Experiments in Psychology

1 Can you match up each element with its definition? Highlight the key words in each explanation below.

Key Term			Explanation
Hypothesis	○	○	A statement of the purpose of your investigation or study
Experiment	○	○	The set procedure followed by researchers in order to investigate human behaviour in a systematic and replicable (repeatable) way
Aim	○	○	A type of research study that allows researchers to establish a cause-effect relationship
Operationalised hypothesis	○	○	A prediction about the expected outcome of an experiment, stating the nature of the anticipated relationship between variables
Scientific method	○	○	A prediction about the expected outcome of an experiment, in which each variable is clearly defined and the method for measuring it is evident
Variable	○	○	The main topic of investigation and interest, e.g. What are the effects of mobile phone use on concentration span?
Research question	○	○	Anything that is being controlled or measured in an experiment: for example, amount of alcohol consumed, number of correct responses

2 For each of the aims below:

- highlight the terms that would need to be clearly defined or operationalised in an experimental investigation
- write a possible hypothesis, using the phrase: "The hypothesis is that…" or "It is hypothesised that…". The wording of the first hypothesis will give you an indication of how to write the others.

a Aim: To determine the impact of a book "speed-dating program" for students in Year 7 increases student interest in reading

Hypothesis: Year 7 students who take part in a book encounter program in which they are introduced to a range of genres each week during one class will borrow more books than Year 7 students who do not take part in this program.

operationalisation

b Aim: To investigate the impact of student laptop ownership on student performance

Hypothesis:

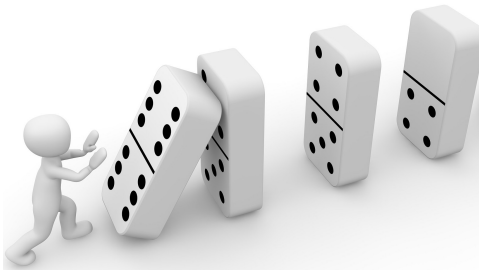
c Aim: To discover how listening to instrumental music influences performance on a motor task

Hypothesis:

d Aim: To explore how sleep deprivation affects performance on a simple task.

Hypothesis:

Identifying Independent and Dependent Variables



3 All experiments have at least one hypothesised **cause** and **effect**. The investigator or researcher wants to find out what the influence of a particular variable is – in other words, whether it **causes** a change. In the experiment, either one group of participants or one task condition introduces this **causal factor**. The influence of this causal factor is determined by measuring the **effect**. Can you identify the **causes** and **effects** (using branches) in the table below and **match each potential cause with the effect** (using colour coding)?

Cause or Effect?		Variable
	○	**a** The amount of alcohol drunk before a driving test
Cause	○ ○	**b** Participating in a "Quit" program
	○	**c** Difference between the number of cigarettes smoked before and after a "Quit" program
	○	**d** Your result in an exam
Effect	○ ○	**e** The number of books borrowed by year seven students in a year
	○	**f** The hours of study carried out before you do an exam
	○	**g** The year seven "speed dating" reading program
	○	**h** Your score on a driving test

4 The hypothesised causal factor in an experiment is called the **independent variable** (IV). The outcome or effect is called the **dependent variable** (DV).

For each study outlined below, identify the IV and the DV:

a Participants who use an application on their smartphones to count steps will complete more steps in the course of a month that those who do not have this feedback.

IV: _____

DV: _____

b Participants who listen to instrumental music by Mozart while completing motor tasks will complete more tasks than participants who do not listen to any music.

IV: _____

DV: _____

c In a driving simulator, the number of critical errors per minute are counted while the participants tap out one 5-word text message every five mintues.

IV: _____

DV: _____