



Australian
National
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Science report writing

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Warm-up activity

Have you read or written a lab report before?

Any unique features you noticed in terms of its use of language and structure?

What's the purpose of a Science report?





Learn lab methods



Apply theories



Write in the disciplines

Macrostructure



Intro

Establish the topic

- Determining the protein composition in foods **is important** so that...

Advance hypothesis

- **So it is likely that** the theoretical value of 'I' will be higher than the value calculated from experimental data.

Introduce experiment

- **The purpose of this experiment** was to develop understanding of: ...

Activity

Read the introduction in the sample

- Can you identify the three moves?



Introduction: Recombination and Genetic Mapping in *Drosophila*

Recombination is caused by a physical exchange between paired homologous chromosomes (Campbell, Mitchell & Reece, 1997). The frequency of recombination is a measure of linkage between genes on the same chromosome (Snustad, 1997; Levine, 1973). The greater the distance between gene loci, the greater the chance that crossing over will occur in that interval (Rowell, 1999). If the interval is sufficient, two crossovers may occur, resulting in recombination of some intervening loci. Recombination can be observed, and gene loci mapped, in the laboratory using testcross experiments of the fly *Drosophila melanogaster*.

Aim: The aim of this report is to analyse the occurrence of recombinational events on the X-chromosome of *Drosophila melanogaster*, as manifested in the phenotypes of the F2 progeny, and to map the order and distances between these loci.

Method

List materials

- **25 ml** pipettes were used in place of **20 ml** pipettes.

Describe experiment procedures

- **Twenty** adult apterous aphids (*Acyrtosiphon pisum*) **were placed onto** bean plant cuttings **at the 4–5 leaf stage**.

Detail statistical/data-analysis procedures

- Each attribute was scored **using a line scale**. The line scale allows the panellist to score each of the attributes from 'zero' to 'maximum'.
Analysis of variance (ANOVA) was then used to show any statistical differences between the attributes of the four samples.

Results

Stating methodology

- **Three sets of tests** were performed by three patients of similar physical description: Male, age 18–20

Announcing results

- **Refer to** printed excel spreadsheets. Species are listed **in table 1.0**.

Commenting on results

- The TLC plate **clearly shows** that the reaction still contains the starting materials.

Discussion

Contextualizing discussion

- **Troutons rule** states that for most un-associated liquids, **DHvap** is roughly independent of temperature.

Interpreting results

- This value is slightly lower than the value given **by R. Stone which quotes** a maximum bmep value of 11.2 bar at 3500 rev/min.

Stating limitation and suggest future improvements

- There are also some possible sources of **systematic error** in this experiment. For example...
- If the experiment **were conducted again** more spots **would be** placed on each plate,

Activity

Read the discussion in the sample

- Can you identify the three moves?



Discussion for: Reaction time as a determinant for hemispheric lateralisation.

The present study examined lateralisation of function for a verbal and visuo-spatial task and the measures that could be applied to indicate this hemispheric activation. A significant interaction was found between reaction time and hemispheric activation for both the verbal and visuo-spatial tasks. Reaction time was faster for the hand ipsilateral, rather than the hand contralateral, to the activated hemisphere as hypothesised. This finding indicates not only that hemispheric lateralisation was established in the present study, but also that reaction time is a reliable measure of hemispheric activation. Handedness did not significantly affect the hypothesised relationship. As temperature in the ear ipsilateral to the activated hemisphere was higher after the lateralised tasks, than before it, the theory that tympanic membrane temperature is correlated to hemispheric activation was not supported.

Studies using the Poffenberger paradigm which found the existence of interhemispheric transfer time and the impact that it has on reaction time for contralateral responses (Berlucchi et al., 1995; Berlucchi et al., 1977; Cherbuin & Brinkman, 2006; Poffenberger, 1912) were supported by the results in the present study...

Conclusion

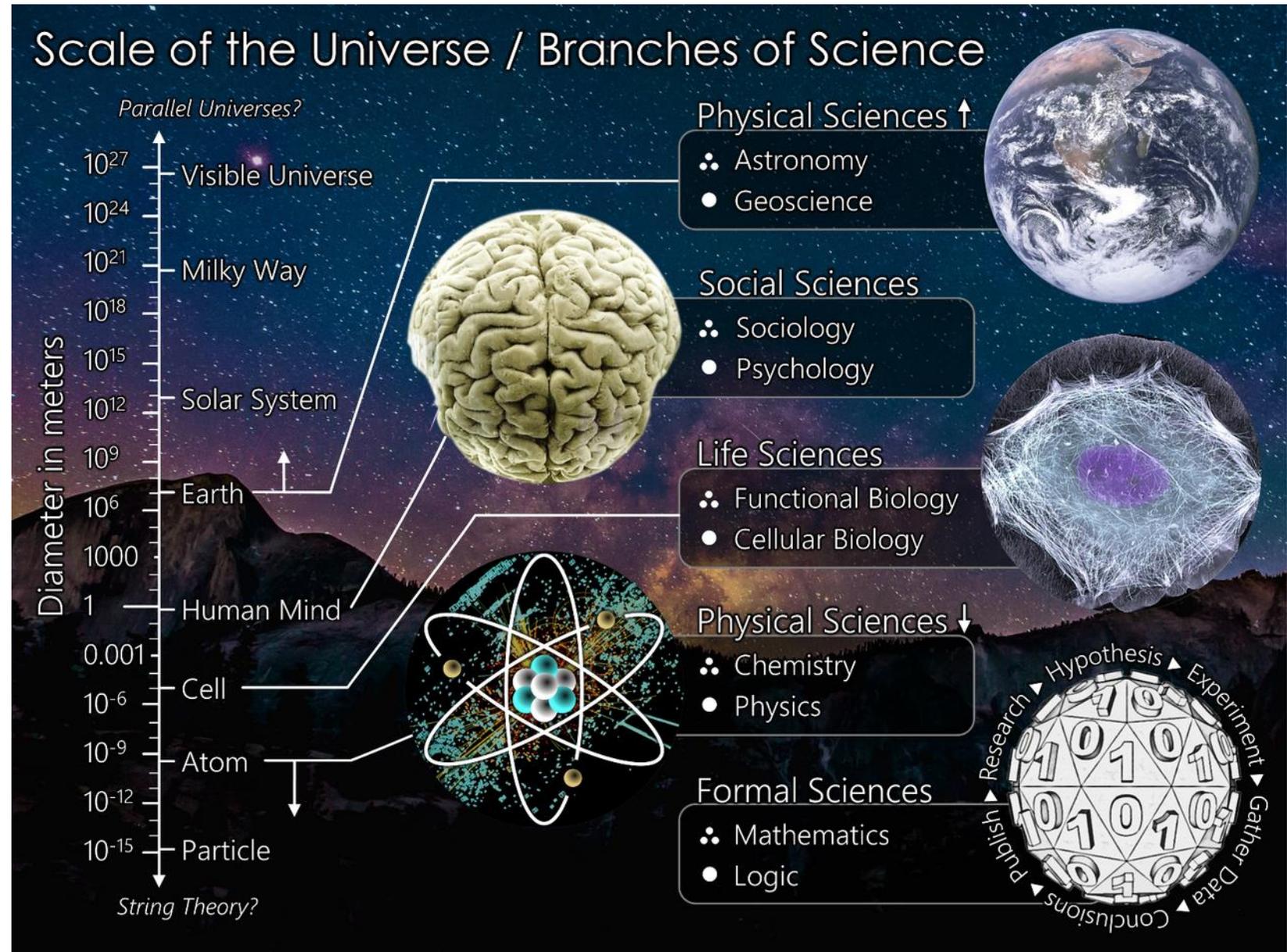
Summarizing study

Drawing conclusions/Making claims

Noting limitation and suggest future improvements

Questions?

It's very hard to be a scientist without them!



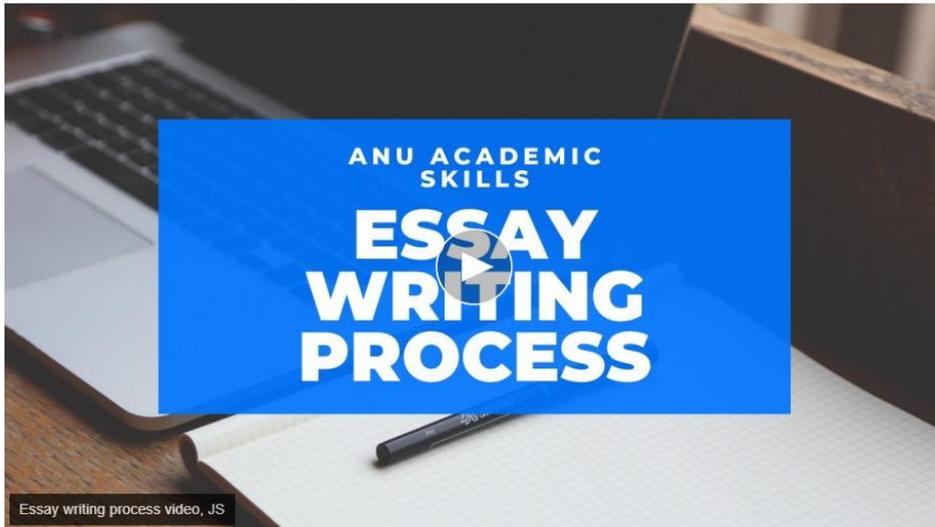
References

Parkinson, J. (2017). The student laboratory report genre: A genre analysis. *English for specific purpose*, 45, 1-13.

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Essay writing



At university, you will come across many different kinds of essay questions. The one thing to remember, no matter the question, is that academic essay writing is persuasive. This means that you are expected to take a position and present an argument in order to convince the reader of your views.

Arguing for a position goes beyond simple description or the presentation of a series of facts. It means understanding

“ A position refers to taking a stance on a

ESSAY WRITING

- » Find your argument
- » Develop your argument
- » Plan your essay
- » Write your essay
- » Polish your essay

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