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| **Investigating Science Summary Scaffold - Module 7** |
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| **Inquiry Question 1: How can a claim be tested?** |
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| Outline the validity, reliability and accuracy of the data collected to test if Caramello Koalas have a net mass of 15g |
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| Can the data collected to investigate Caramello Koalas support or refute the claim that they have a net mass of 15g? Why/why not? |
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| Define sample size How do scientist determine a reliable sample size for an investigation? |
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| Evaluate the sample size and sample selection used to test Caramello koala’s net mass |
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| Outline the emotive advertising and claims used by Coca-Cola to sell diet coke |
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| Outline evidence that supports and refutes Coca-Cola’s claims about diet coke |
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| Evaluate the sample size and sample selection used to test the pH of Alka-Power water |
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| Outline the claims made by Alka-Power – alkaline water |
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| Did the data you collected support or refute Alka-Power’s claim? Why/Why not? |
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| Define sample selection  Outline different methods of selecting samples from a population |
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| **Inquiry Question 2: What factors can affect the way data can be interpreted, analysed and understood?** |
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| Define placebo and give an example |
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| Outline some of the ethical consideration when scientists are considering using a placebo |
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| Define the placebo effect and give an example |
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| Define observer bias and give an example |
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| Define control group and give an example |
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| Explain how a double blind trials reduce bias in scientific investigations |
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| Outline the societal and economic influences on the prediction of climate change |
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| Outline the societal and economic influences on suggesting remedies for health conditions |
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| Outline the societal and economic influences on the manipulation of data |
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| Define double-blind trial |
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| Explain the regulation of the Nuclear Industry in Australia |
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| Outline the ethical issues related to the use of radiation |
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| **Inquiry Question 3: What type of evidence is needed to draw valid conclusions?** |
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| Define correlation and draw a diagram to show your understanding of the definition |
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| Describe two reasons that correlation is misrepresented and causation |
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| Define causation and draw a diagram to show your understanding of the definition |
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| Describe two examples of when establishing a correlation is useful in scientific studies |
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| Evaluate how correlation was misrepresented as causation in ‘The Hawthorne Effect’ |
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| Evaluate how correlation was misrepresented as causation in ‘The Mozart Effect’ |
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| Evaluate how correlation was misrepresented as causation in 1991 study that linked hormone replacement therapy to coronary heart disease |