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| **Investigating Science Summary Scaffold - Module 5** |
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| **Inquiry Question 1: What initiates an investigation?** |
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| Describe factors that led to Marshall and Warren’s investigation into the cause of Peptic Ulcers |
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| Describe the deviation from traditional scientific methodology that were necessary for Marshall and Warren to test their hypothesis |
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| Describe factors that led to Von Helmont’s investigation into plant growth |
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| Describe the deviations from traditional scientific methodology that were necessary for Von Helmont to test his hypothesis |
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| Describe factors that lest to Spencer’s development of the microwave oven |
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| Describe the deviations from traditional scientific methodology that were necessary for Spencer to test his hypothesis |
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| Identify Marshall and Warren’s Hypothesis  Identify Von Helmont’s Hypothesis  Identify Spencer’s Hypothesis |
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| Outline examples in Warren and Marshall’s work of the following:   * finding relationships or patterns in identified phenomena * testing the conclusions of a previous investigation * utilising scientific knowledge and understanding to make more accurate predictions and develop new technologies |
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| Outline examples in Von Helmont’s work of the following:   * finding relationships or patterns in identified phenomena * testing the conclusions of a previous investigation * utilising scientific knowledge and understanding to make more accurate predictions and develop new technologies |
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| Outline examples in Spencer’s work of the following:   * finding relationships or patterns in identified phenomena * testing the conclusions of a previous investigation * utilising scientific knowledge and understanding to make more accurate predictions and develop new technologies |
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| Describe the relationship between speed and distance travelled shown in your data |
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| **Inquiry Question 2: What type of Methodology best suits a scientific investigation?** |
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| Evaluate the data collected by Warren and Marshall to establish the relationship between helicobactor pylori and peptic ulcers |
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| Justify the use of experimental testing methods by Warren and Marshall |
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| Evaluate the data collected by Eratosthenes to determine the circumference of the Earth |
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| Justify the use of fieldwork methods by Eratosthenes |
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| Evaluate the data collected by Doppler to describe the Doppler effect |
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| Justify the use of data by Doppler |
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| Evaluate the data collected by Priestly to discover the existence of oxygen |
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| Justify the use of experimental testing methods by Priestly |
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| Evaluate the importance of Warren and Marshall’s work to other scientist’s work in their area of study |
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| Evaluate the importance of Eratosthenes work to other scientist’s work in their area of study |
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| Evaluate the relevance of Doppler’s work to other scientist’s work in their area of study |
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| Evaluate the relevance of Priestly’s work to other scientist’s work in their area of study |
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| What was the Inquiry Question for one of our Depth Studies?  What was your hypothesis for this task? |
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| Explain your choice of independent variable for this investigation:  was chosen as the independent variable in this investigation because . . . . . . . . . . . |
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| Explain your choice of controlled variables for your investigation |
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| Justify the suitability of the materials use (consider in your answer relevance to question, availability, cost, risk and familiarity of use) |
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| Justify working individually or collaboratively on this task |
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| Explain the relevance of the data you collected in relation to the inquiry question |
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| Evaluate the validity of the investigation by determining whether the tests measured what they were intended to measure |
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| Explain the relevance of the data you collected in relation to the hypothesis |
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| Describe potential beneficial or harmful consequences when your findings are applied to real-world scenarios |
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| Justify your methodology (experimental testing, fieldwork, using secondary sources, conducting surveys or using modelling and simulations) and any changes made to improve the data collected |
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| Evaluate the reliability of the investigation by determining the consistency of the results obtained |
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| Evaluate the reliability of the investigation by determining the measures taken to reduce error |
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| **Inquiry Question 3: What is the structure of a scientific report?** |
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| Attach a copy of peer-reviewed scientific report of your choosing. Highlight the features of scientific report listed in table 1.7.1 |
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| Identify the purpose of your chosen report |
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| Identify measure taken to reduce error in the investigation |  |
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| Describe the language conventions used in the report |
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| Describe any variations in the structure of the report to the report sections listed in table 1.7.1 |