HEART RATE INVESTIGATION TEST

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mark: /25

1. Write a hypothesis for your investigation. (2 marks)

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2. For your investigation give; (3 marks)

The independent variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The dependent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3 controlled variables \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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3. What is a control? Why is it necessary?

(2 marks) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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4. What is the control in your experiment?

(1 mark)

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5. Describe two things in your investigation that you think might have made it invalid.

Explain how you could improve each of these. (4 marks)

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6. Do you think your experiment was reliable? Explain. (1 mark)

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7. How could you make it more reliable? (1 mark)

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8. What previous research has been done on your topic of investigation? (1 mark)

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9. Describe your results and use correct scientific terminology to explain why you think these results occurred.

(5 marks)

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Question 10 and 11 refer to the information in the table below.

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| --- | --- | --- | --- | --- | --- |
| Student | Heart Rate (BPM) | | | | |
| 1 min of Exercise | 2 min of Exercise | 3 min of Exercise | 4 min of Exercise | 5 min of Exercise |
| 1 | 88 | 98 | 103 | 110 | 125 |
| 2 | 92 | 96 | 105 | 115 | 123 |
| 3 | 87 | 100 | 109 | 112 | 123 |
| 4 | 93 | 109 | 114 | 120 | 130 |
| 5 | 90 | 101 | 111 | 119 | 122 |
| 6 | 93 | 108 | 116 | 124 | 135 |
| 7 | 87 | 99 | 104 | 109 | 120 |
| 8 | 91 | 106 | 110 | 116 | 127 |
| 9 | 91 | 107 | 112 | 119 | 128 |
| 10 | 88 | 94 | 102 | 110 | 114 |
| Average | 90 | 101.8 | 108.6 | 115.4 | 124.7 |

10. Draw a graph on the paper provided showing the relationship between the average heart rate and exercise duration. (4 marks)

11. What conclusion could you draw from the graph?

(1 mark)

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