Combined Science - Biology - KS4

Homeostasis and Response

Required Practical Reaction Time - Part 1

Miss Ray

Please note these slides contain colour font.

Method

- 1. Work with a partner.
- 2. Person A places their elbow on the table and opens their dominant hand.
- 3. Person B places the ruler in between the fingers and thumb with the ruler at 0 cm.
- 4. Person B drops the ruler whilst talking to person A and person A catches it.
- 5. The number level with the top of person A's thumb is recorded in a suitable table. Repeat this three times and calculate a mean.
- 6. Repeat the experiment with person B dropping the ruler silently.



Image - Oak National Academy.



Using the method, identify the independent, dependent and control variables.

Independent -

Dependent -

Control -



Answers

Independent variable - Presence of noise when dropping the ruler.

Dependent variable - Distance the ruler falls before it is caught.

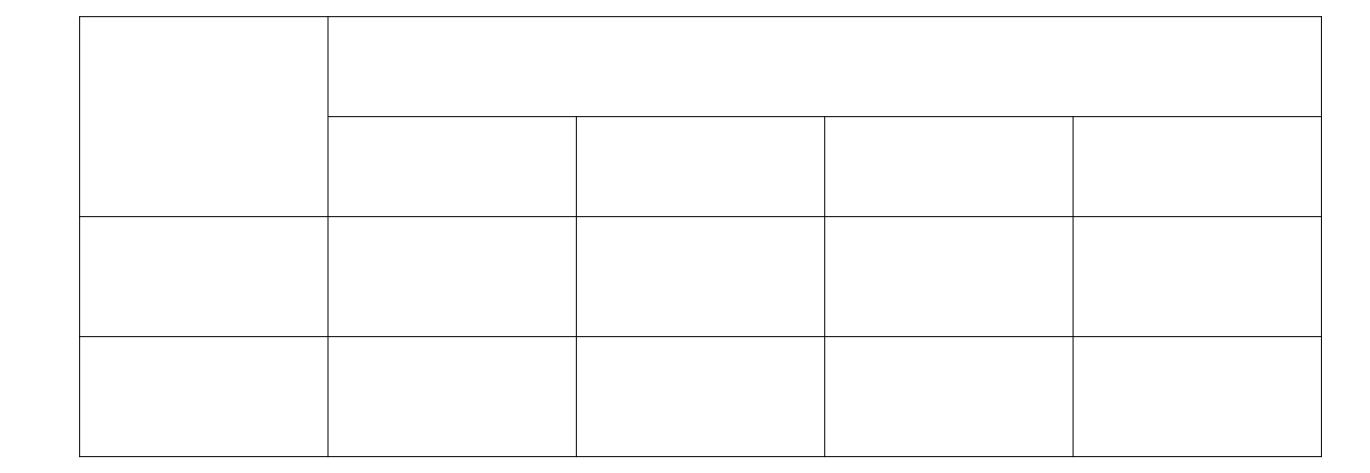
Control variables - Same starting height
Same mass of ruler
Same person catching the ruler
Always using dominant hand



Draw a results table

Dependent variable

Independent variable





Model results table

	Distance (cm)			
	1	2	3	Average
With				
noise				
Without				
noise				



Calculate the means

	Distance (cm)			
	1	2	3	Average
With noise	4.6	5.3	6.0	
Without noise	2.7	3.5	3.4	



	Distance (cm)				
	7	2	3	Average	
With noise	4.6	5.3	6.0	5.3	4.6 + 5.3 + 6.0 = 15.9 15.9 ÷ 3 = 5.3
Without noise	2.7	3.5	3.4	3.2	2.7 + 3.5 + 3.4 = 9.6 $9.6 \div 3 = 3.2$



Use this data to draw a line graph

	Distance (cm)				
	1	2	3	Average	
With	4.6	5.3	6.0	5.3	4.6 + 5.3 + 6.0 = 15.9 15.9 ÷ 3 = 5.3
Without	2.7	3.5	3.4	3.2	2.7 + 3.5 + 3.4 = 9.6 $9.6 \div 3 = 3.2$

