

GCSE Biology required practical activity: Reaction Time

Investigating whether practice reduces human reaction times

Risk Assessment

- Care should be taken to avoid injury from the falling ruler.

Method

You are provided with the following:

- a metre ruler
- a chair
- a table
- a partner.

Read these instructions carefully before you start work:

1. Use your weaker hand for this experiment. If you are right handed then your left hand is your weaker hand.
2. Sit down on the chair with good upright posture and eyes looking across the room.
3. Place the forearm of your weaker arm across the table with your hand overhanging the edge of the table.
4. Your partner will hold a ruler vertically with the bottom end (the end with the 0 cm) in between your thumb and first finger.
Practice holding the ruler with those two fingers.
5. Your partner will take hold of the ruler and ask you to remove your fingers.
6. Your partner will hold the ruler so the zero mark is level with the top of your thumb. They will tell you to prepare to catch the ruler.
7. Your partner will then drop the ruler **without** telling you.
8. You must catch the ruler as quickly as you can when you sense that the ruler is dropping.
9. After catching the ruler, look at the number level with the top of your thumb.
Record this in a table such as the one here.

Drop test attempts	Ruler measurements in cm		Reaction times in seconds	
	Person 1	Person 2	Person 1	Person 2
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

10. Have a short rest and then repeat the test. Record the number on the ruler as attempt 2.
11. Continue to repeat the test several times.
12. Swap places with your partner. Repeat the experiment to get their results.
13. Use a conversion table to convert your ruler measurements into reaction times.