**Year 7 Science Inquiry Skills**

**Paper Helicopters**

**Aim**: To find out if changing the length of the rotors affects how long the helicopter takes to fall.

**Hypothesis**:

**Equipment**:

* Paper helicopter print out
* Scissors
* Stop watch
* Paper clip

**Method**:

1. Cut along the solid lines on the helicopter print out. **Do not cut along the top lines on the rotors**. Fold along the dotted lines. Fold the side flaps towards the centre of the helicopter and the rotors down.
2. Attach the paper clip to the bottom of the helicopter.
3. Choose a group member to drop the helicopter.
4. Hold the helicopter paper clip end down as high as possible, while keeping feet flat on the ground.
5. Drop the helicopter without throwing it. Measure the length of the rotor and the time taken for the helicopter to hit the ground. Repeat 4 times and record results in the table.
6. Cut 1cm off the length of the rotor and repeat steps 4 and 5. Repeat this twice more cutting 1cm off the rotor length each time.
7. Calculate the mean time of fall using the following formula:

**(trial 1 + trial 2 + trial 3 + trial 4) ÷ 4 = mean**

Results:

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| Length of rotor (cm) | Trail 1 | Trail 2 | Trial 3 | Trial 4 | Mean |
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**Questions**:

1. Which variable did you change in this experiment?
2. Which variable did you measure/observe in this experiment?
3. Which variables did you keep the same in this experiment?

1. Draw an appropriate graph for your data.

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1. What type of data have you collected (quantitative/qualitative)?
2. Make an inference about the observation obtained from this experiment.
3. If you were to repeat this experiment, what improvement would you make to make the results more reliable?