

## Flat Cardboard Wing

- 1) Obtain a stiff piece of posterboard or lightweight cardboard from your teacher. You will think of this as a wing. The cardboard should be at least 40 cm by 40 cm, but not so large that it becomes hard to handle.
- 2) What force will you expect to feel acting on the cardboard when the cardboard is tilted up and when tilted down? Give reasons for your answer.

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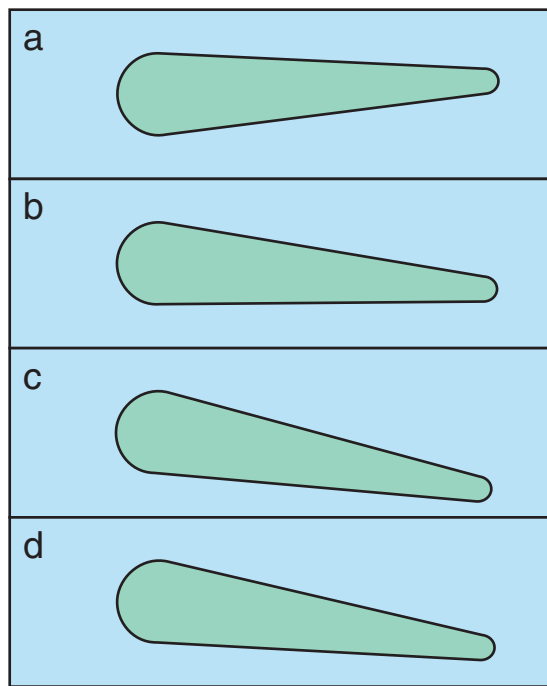
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- 3) Go to an area approved by your teacher. The area should be large enough for you to run with the cardboard in your hand.



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- 4) Run with the cardboard to test your predictions. Try tilting the cardboard up and down as you run. Run at different speeds.



Explain your answer:

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- 5) What difference does the speed at which you run have on the upward or downward force on the cardboard?

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- 6) What would happen if an airplane goes through the air too slowly? Why?

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7) What happens to a kite you are flying if the wind stops blowing?

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8) Explain why the slope of a wing can cause a wing to have lift.

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