

## What we can tell from velocity time graphs.

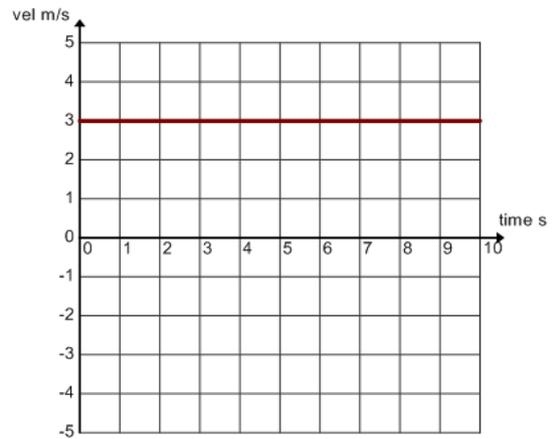
Motion graphs tell the story of an object's motion in terms of either displacement, velocity or acceleration.

This graph is a motion graph of an objects **velocity** against time.

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Here is another velocity time graph.

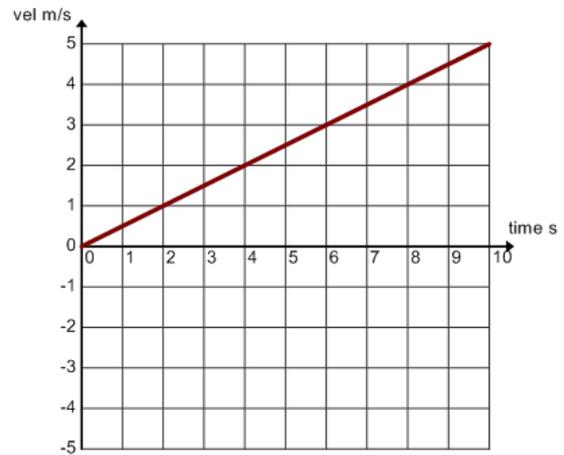
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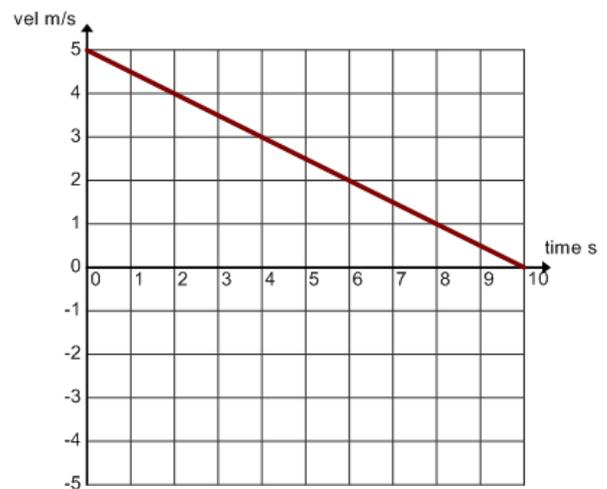
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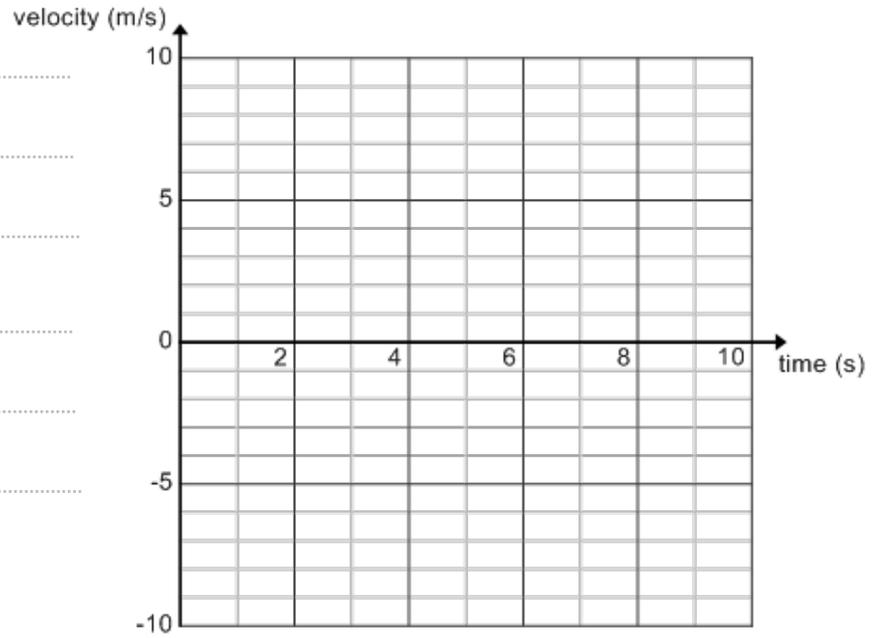
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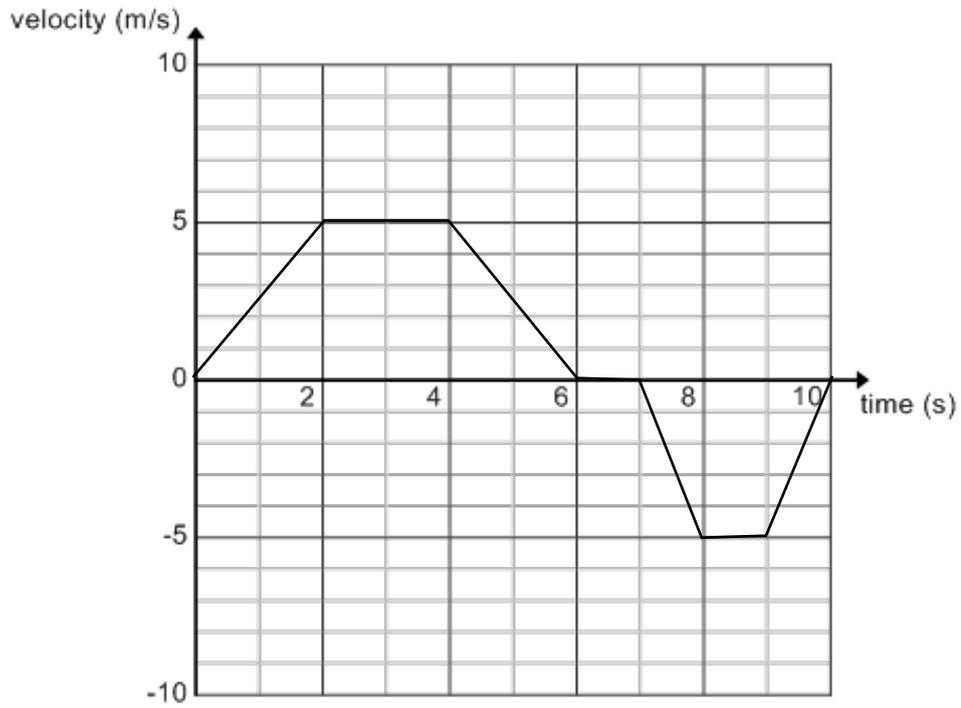
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## Key information from velocity time graphs.



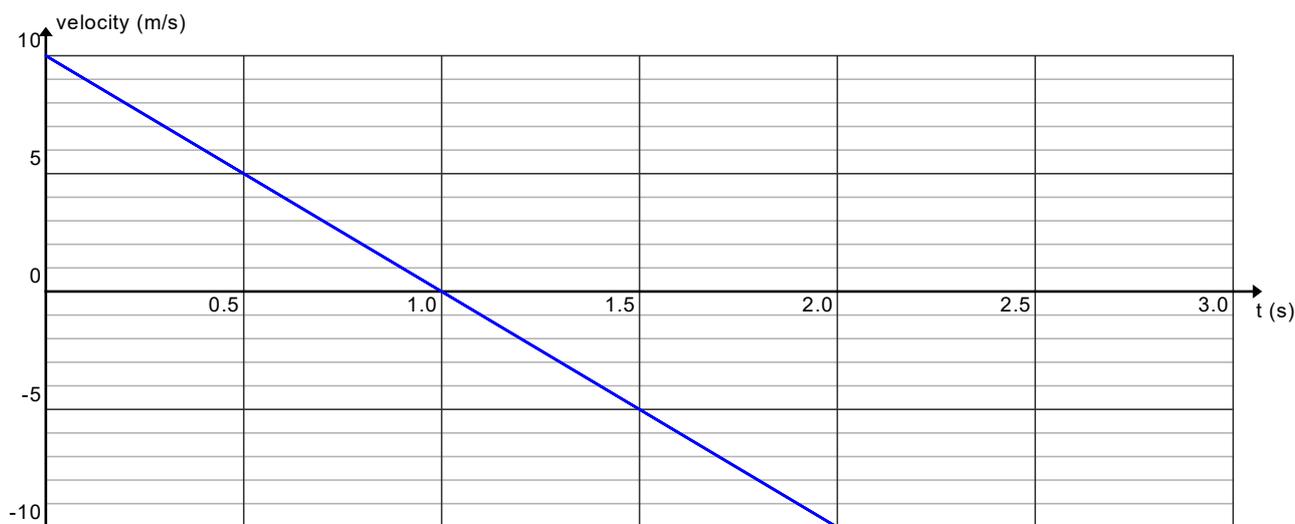
**Displacement**

**Acceleration**

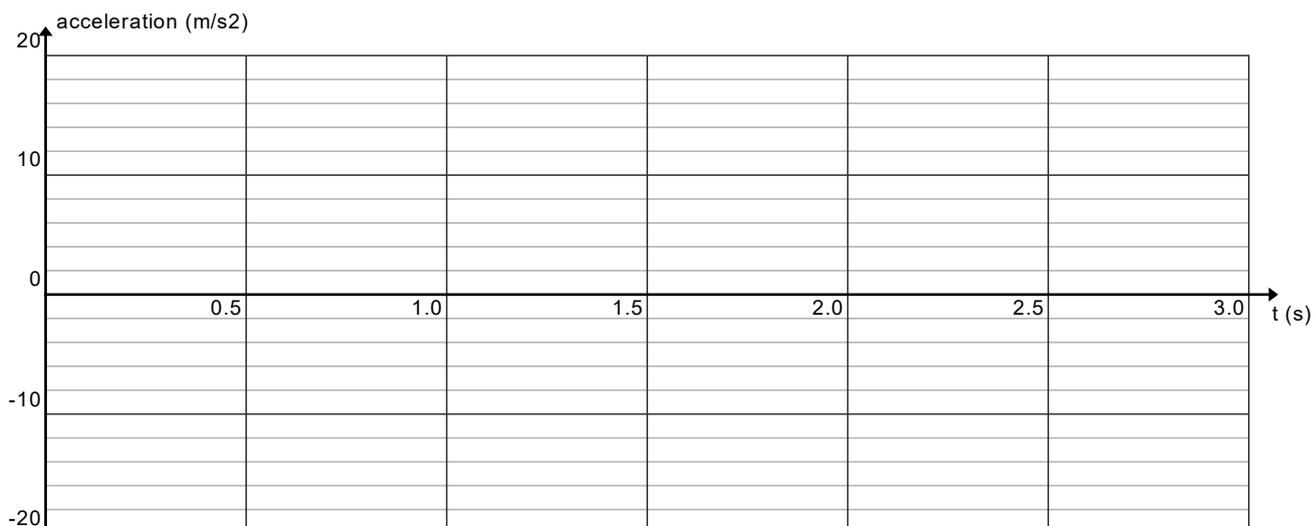
## A ball thrown vertically up into the air

Here is the velocity time graph of a ball being thrown vertically up into the air.

1. The ball leaves the persons hand with a velocity of .....
2. The ball reaches its maximum height at .....
3. The maximum height reached by the ball is .....
4. The final displacement of the ball from the person`s hand is .....



## The corresponding acceleration time graph of the motion



## Conclusion about the acceleration time graph

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 .....

## The bouncing car velocity time graph.



Key points about the above velocity time graph:

1. The car changes direction at the following times .....
2. The ball undergoes a bounce at the following times .....
3. The car starts moving up the slope with a velocity of .....
4. At 2 seconds the car has velocity .....
5. The shaded area marked by hatches is the maximum distance it moves up the slope
6. Those parts of the graph marked UP are when the car is travelling up the slope
7. Those parts of the graph marked DOWN are when the car is moving down the slope
8. Those parts of the graph marked BOUNCE are when the car bounces or suddenly changes direction
9. The car is subject to only 1 acceleration which has a magnitude of .....