

9K Speeding up...Newton's laws of motion

level 5
level 6
level 7

starter one

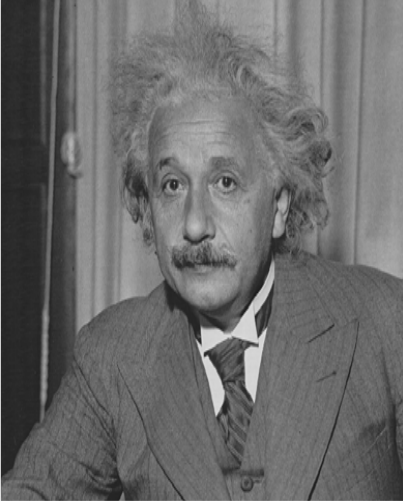

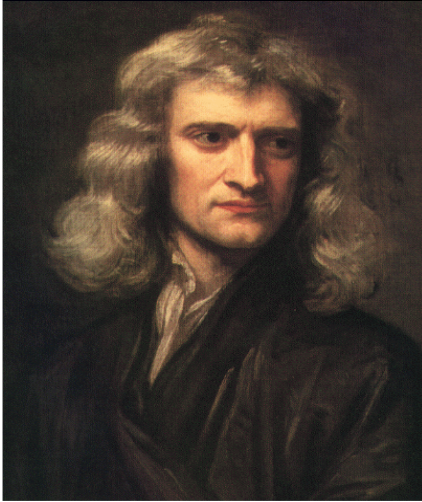

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Look at the four pictures below. Match the pictures with the following statements:



Click mouse to reveal answer

	Einstein	A piece of chalk	Newton	Stephen Hawking
Diagram				
	According to Einstein's famous equation $E = MC^2$. If you could get all the energy from this object it would power London for 1 week.	This famous scientist worked in a patent office before he published his theory of relativity which linked space and time.	This famous scientist, popularised the theory that the Universe started with a 'big bang' about 12 to 15 billion years ago.	This scientist first provided the answer to why objects fall to Earth. He called it gravity. He proposed three laws of motion.

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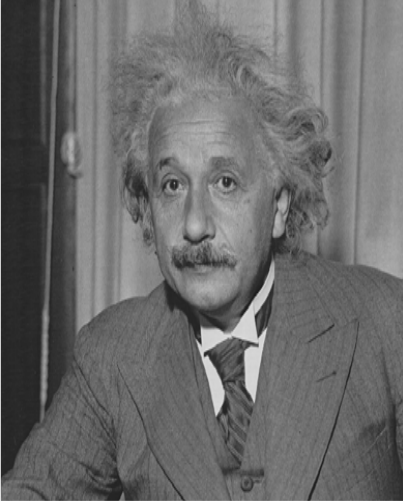



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Answer:

	Einstein	A piece of chalk	Newton	Stephen Hawking
Diagram				
	<p>This famous scientist worked in a patent office before he published his theory of relativity which linked space and time.</p>	<p>According to Einstein's famous equation $E = MC^2$. If you could get all the energy from this object it would power London for 1 week.</p>	<p>This scientist first provided the answer to why objects fall to Earth. He called it gravity. He proposed three laws of motion.</p>	<p>This famous scientist, popularised the theory that the Universe started with a 'big bang' about 12 to 15 billion years ago.</p>

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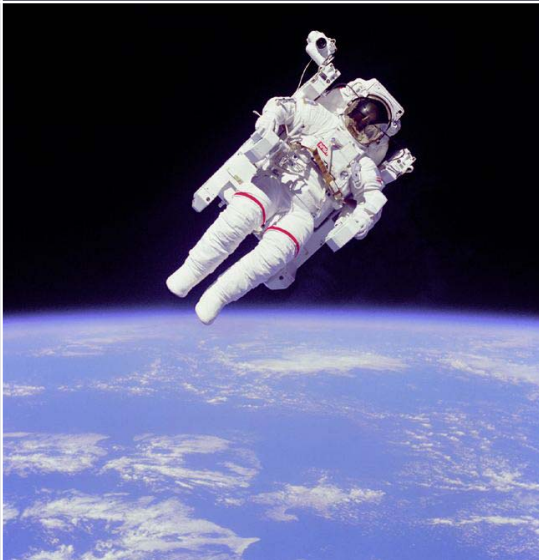
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Look at the three pictures below. Match the picture with each of Newton's laws of motion:



Click mouse to reveal answer

Picture one



Picture two



Picture three



Diagram

Newton's first law states: 'An object in motion tends to stay in motion, and an object at rest tends to stay at rest, unless the object is acted upon by an outside force.'

Newton's second law states that 'Acceleration = force/mass.' This law relates the force exerted on an object, its mass and resulting acceleration.

Newton's third law states that: 'Every action has an equal and opposite action.' This law relates how if you're falling to Earth, the Earth is also falling towards you !

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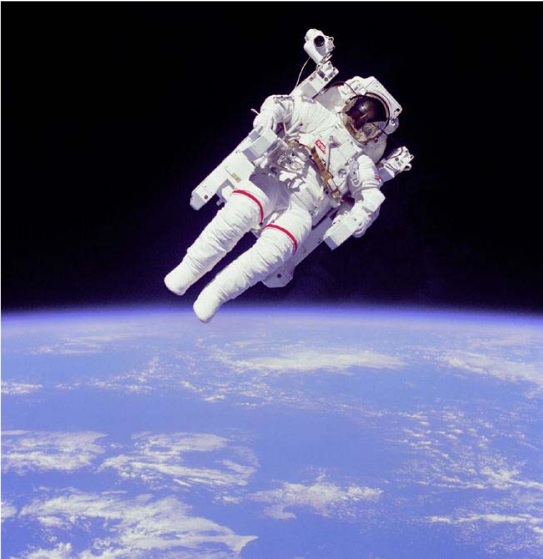

level 7

starter two

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Answer:

	Picture one	Picture two	Picture three
Diagram			
	<p><i>Newton's first law states: 'An object in motion tends to stay in motion, and an object at rest tends to stay at rest, unless the object is acted upon by an outside force.'</i></p>	<p><i>Newton's third law states that: 'Every action has an equal and opposite action.' This law relates how if you're falling to Earth, the Earth is also falling towards you !</i></p>	<p><i>Newton's second law states that 'Acceleration = force/mass.' This law relates the force exerted on an object, its mass and resulting acceleration.</i></p>

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Look at the two pictures below: In picture one, the racing car is at rest with zero speed or 0ms^{-1} . In picture two the racing car is moving at a constant speed of 25ms^{-1} . Complete the missing information for the force values for both examples:

 Click mouse to reveal answer

Picture one

Picture two

Diagram

Gravity 4000N

Zero speed 0ms^{-1}



Up thrust ? N

Force 0N

Air drag __ ?

Gravity 4000N

Constant speed 25ms^{-1}



Up thrust ? N

Force 70,000N

Air drag __ ?

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Answer:

Picture one

Picture two

Diagram

Gravity 4000N

Up thrust 4000N

Zero speed 0ms^{-1}



Force 0N

Air drag 0N

Gravity 4000N

Up thrust 4000N

Constant speed 25ms^{-1}



Force 70,000N

Air drag 70,000N