

Summer Bridging Work

Subject: Physics

Year: 9 into 10



Topic/Title of what the students will be studying in September for the first half term:

Energy

Suggested background reading that will help them to understand the context of the topic to be studied:

- <https://www.bbc.co.uk/bitesize/guides/z8hsrwx/revision/1>
- Remember you also have access to the kerboodle online version of the text book. This work is from chapter one.

Relevant films/videos to watch or podcast to listen to:

<https://www.rigb.org/christmas-lectures/watch/2016/supercharged-fuelling-the-future>

There are three of these. Please watch at least one of these and write down five things you found interesting or unexpected. Explain why for one of them.

or

<https://www.sciencefocus.com/science/brendan-walker-where-is-the-best-place-to-sit-on-a-rollercoaster/>

or

<https://www.bbc.co.uk/programmes/b00fq3d4>

Activity to undertake:

There are 8 equations you need to learn, please memorise them.

Equation	Symbols
Weight = mass x gravitational field strength	$W=MG$
Work Done = Force x distance travelled	$W = Fs$
Gravitational potential = mass x gravitational x height energy field strength	$E_p=MGh$
Kinetic energy = $0.5 \times$ mass x speed ²	$E_k = 0.5MV^2$
Power = work done ÷ time	$P = W/t$
Energy transferred = power x time	$E= Pt$
Efficiency = useful power output ÷ total power input	
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