

Name:
Science Class:
Teacher:
Hand in day:

# Y9 Science

## Term 3 Homework Booklet

### Physics

	Hand in Date	Parents Signature
<b>Y9 GCSE Transition</b>		
Homework 1		
Homework 2		
Homework 3		
Homework 4		

## Homework 1 – Energy stores and Energy Equations

Watch the video (up to 8.30) on MyGCSEScience and answer the questions below

<https://www.my-gcse-science.com/aqa/physics/energy-changes-in-a-system-2/>

1. What is energy?
2. What is energy measured in?
3. How many joules are in 1 kilojoule?
4. What is the principle of conservation of energy?
5. What is the name of the energy store possessed by a moving object?
6. What is the definition of chemical energy?
7. What is the definition of gravitational potential energy?
8. What is the equation used to calculate Gravitational potential energy?
9. What is the equation used to calculate Kinetic energy?
10. What is the equation used to calculate Elastic potential energy?

## Homework 2 – Solids, liquids and gases

Watch the video on MyGCSEScience and answer the questions below

<https://www.my-gcse-science.com/aqa/physics/solids-liquids-and-gases/>

1. Draw the particle diagram for a solid.
2. Explain why it is difficult to change the shape of a solid.
3. Explain why it is difficult to compress a liquid.
4. Explain why liquids can flow.
5. How are particles arranged in gases?
6. How do particles move in gases?
7. What is internal energy?
8. What do we call a gas changing state into a liquid?
9. What do we call the change of state of a solid into a gas?
10. Why is changing state an example of a physical reaction?

### Homework 3 – Contact and non-contact forces

Watch the video on MyGCSEScience and answer the questions below

<https://www.my-gcse-science.com/aqa/physics/contact-and-non-contact-forces/>

1. What three things can forces change?
2. Give the definition of a contact force
3. Give the definition for a non-contact force
4. Name 4 contact forces.
5. How can friction be reduced?
6. In which direction does air resistance act?
7. Name 3 non-contact forces.
8. What happens when the north pole of a magnet is placed near the south pole of another magnet?
9. Which force acts when a spring is stretched or compressed?
10. Which force pulls you down to Earth?

## Homework 4 – Series and Parallel

Watch the video on MyGCSEScience and answer the questions below

<https://www.my-gcse-science.com/aqa/physics/series-and-parallel-circuits/>

1. Draw a series circuit containing a cell and two lamps.
  
  
  
  
  
  
  
  
  
  
2. Draw a parallel circuit with a cell and two lamps.
  
  
  
  
  
  
  
  
  
  
3. How should ammeters be connected in circuits?
  
  
  
  
  
  
  
  
  
  
4. How should voltmeters be connected in circuits?
  
  
  
  
  
  
  
  
  
  
5. Describe how the current flows in series circuits.
  
  
  
  
  
  
  
  
  
  
6. Describe how the current flows in parallel circuits.
  
  
  
  
  
  
  
  
  
  
7. Describe how the potential difference is distributed in a series circuit.
  
  
  
  
  
  
  
  
  
  
8. Describe how the potential difference is distributed in a parallel circuit.
  
  
  
  
  
  
  
  
  
  
9. What is the equation we use to calculate the total resistance in a series circuit?
  
  
  
  
  
  
  
  
  
  
10. Complete the sentence below:  
For a parallel circuit, the total resistance is \_\_\_\_\_ the resistance of each resistor.