



# SCIENCE

Year 8 2022

## Energy and Material World Practical Test

**All Classes: Friday 29/4**

**Weighting: 15%**

**Task information:**

In this test you will be tested on practical skills you have developed this year. These include *setting up simple electrical circuits, drawing scientific diagrams and measuring temperature, volume, mass and length*. You will be expected to complete 5 different tasks, each with a time limit of 3 minutes.

You will need to bring a pen, pencil, eraser, ruler and a calculator

**There will be no borrowing of any equipment during the test.**

**Absence:**

If you are absent on the day of your exam, you must bring a note from a parent/guardian explaining your absence and report to your science teacher on the day you return to school. A suitable time will then be organised for you to do the test.



# SCIENCE

Year 8 2022

## Energy and Material World Test Notification

**All classes: Tuesday 3/5**

**Weighting: 15%**

**Task information:**

In this test you will be tested on your ability to demonstrate the knowledge and skills outcomes learnt in both the Energy and Material World topics.

The Material World and Energy tick-summary sheet on the reverse of this page outlines the areas of both knowledge and skills covered. Use this to help prepare for the test.

Equipment needed by you is: calculator, pen, pencil, rubber and ruler.

**There will be no borrowing of any equipment during the test.**

**To do your best in the test you should start revising your work now!**

**Absence:**

If you are absent on the day of your exam, you must bring a note from a parent/guardian explaining your absence and report to your science teacher on the day you return to school. A suitable time will then be organised for you to do the test.

Tick the box when  
this has been  
done in class:

## Material World

Tick the box  
when you  
can partially  
do this:

Tick the box  
when you  
can do this  
confidently:

- |                          |  |                          |                          |
|--------------------------|--|--------------------------|--------------------------|
| <input type="checkbox"/> | 1. Define the term 'matter' and state that matter is made of particles that are continuously moving and interacting. | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 2. List the properties of solids, liquids and gases.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 3. Draw the particle arrangement in each state of matter.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 4. Explain how the particles behave in each state of matter.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 5. Explain how an increase or decrease in the amount of energy possessed by particles changes their movement.        | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 6. Explain the water cycle.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 7. Design and perform a practical to simulate the water cycle using laboratory equipment.                            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 8. Use the particle theory of matter to explain changes in state.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 9. Identify the benefits and limitations of using models to explain the properties solids, liquids and gases.        | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 10. Define the terms 'expansion' and 'contraction'.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 11. Give examples of where expansion and contraction occur in everyday life.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 12. Use the particle model to explain why expansion and contraction occur.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 13. Define 'diffusion'.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 14. Use the particle model to explain why diffusion occurs.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 15. give examples of where diffusion occurs in everyday life.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 16. Use the particle model to explain pressure in gases.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 17. Define 'density' and calculate the density of various substances.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 18. Use the particle model to explain density.   | <input type="checkbox"/> | <input type="checkbox"/> |

Tick the box when this has been done in class:

## Energy

Tick the box when you can partially do this:

Tick the box when you can do this confidently:

- |                          |  |                          |                          |
|--------------------------|--|--------------------------|--------------------------|
| <input type="checkbox"/> | 1. Identify a range of energy transformations in everyday devices.                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 2. List seven different types of energy.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 3. Name the units for energy.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 4. State the Law of Conservation of Energy.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 5. Construct and draw electrical circuit diagrams.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 6. Describe the transfer of energy occurring in different electrical circuits.                       | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 7. Identify the energy transformations in a motor.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 8. Identify how heat can be transferred by conduction.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 9. Identify how heat can be transferred by convection.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 10. Identify how heat can be transferred by radiation.   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 11. Draw a line graph accurately.  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 12. Identify that most energy conversions are inefficient and lead to the production of heat energy. | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 13. Describe the technological changes that have led to more efficient light globes.                 | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | 14. Discuss how more efficient light globes can affect society and the environment.                  | <input type="checkbox"/> | <input type="checkbox"/> |