

# Y11 Physics Transition Quick Questions

## Particles and radiation

### GCSE recap:

1. What particles are contained within the nucleus?
2. How are they arranged?
3. What is an isotope?
4. What is alpha decay and why does it occur?
5. What is beta decay and why does it occur?
6. Why does a nucleus emit gamma radiation?

### Thinking ahead:

1. Find out what nuclide notation is
2. Find out what antimatter is
3. What does the equation  $E = mc^2$  tell us?

## Waves

### GCSE recap:

1. What are waves?
2. What is the difference between a longitudinal and transverse wave?
3. Give some examples of the above
4. What do we mean by the frequency of a wave?
5. What do we mean by the amplitude of a wave?
6. What is refraction?
7. Why does refraction occur?

### Thinking ahead:

1. Find out what polarization is
2. Find out what total internal reflection is
3. Research the structure of a fibre optic cable

## Mechanics and materials

### GCSE recap:

1. What is the difference between weight and mass?
2. How what affects how much kinetic energy an object has?
3. What affects an objects momentum?
4. What is a 'moment'?
5. What affects how much gravitational potential on object has?
6. What is 'work'?
7. What is Hooke's Law?

### **Thinking ahead:**

1. What is the difference between an elastic and inelastic collision?
2. Find out about Newton's 3 laws of motion
3. What is a projectile?

### **Electricity**

#### **GCSE recap:**

1. What do we mean by current?
2. What do we mean by potential difference?
3. What do we mean by resistance?
4. What is Ohm's law?
5. What does a diode do?
6. What does a thermistor do?
7. What does an LDR do?

#### **Thinking ahead:**

1. Find out what resistivity is
2. Find out what internal resistance is
3. Research superconductors