

# Revision Questions - Year 10 Science

## Student made 2010 v1.0

### Forces

1. What is the unit for force?
2. What is the relationship between force and mass?
3. Name three non-contact forces
4. Draw and label Force arrows on a force diagram
5. How are floating and sinking linked to density?
6. Name two situations where friction is useful
7. Name two situations where friction is not helpful
8. What is the equation for speed?
9. What is the equation for acceleration?

### Electricity

1. What is current?
2. What is voltage?
3. Name 8 electricity components and draw their symbols
4. What can you say about the current in a series circuit?
5. What can you say about the voltage in a series circuit?
6. What can you say about the current in a parallel circuit?
7. What can you say about the voltage in a parallel circuit?
8. What happens to the current when a resistor is added?
9. What is the relationship between voltage, current and resistance?
10. What is the relationship between power, voltage and current?

### Physics Equations

1. You should know the units and symbols for:
  - a) Speed
  - b) Distance
  - c) Time
  - d) Force
  - e) Energy
  - f) Mass
  - g) Acceleration
  - h) Voltage
  - i) Current
  - j) Pressure
  - k) Power

2. Turn these units into an equation
  - a) Speed, distance, time
  - b) Acceleration change in time, change in speed
  - c) Mass force, acceleration
  - d) Resistance, current, voltage
  - e) Gravity, mass
  - f) Mass, density, volume
  - g) Force, area, pressure
  - h) Voltage, current, power
3. Draw a distance-time graph. Comment on the gradient of the graph e.g. step line, flatter slope, flat line, upward curving line
11. Draw a speed-time graph. Comment on the gradient of the graph.

### Atoms, Molecules and ions

1. Draw a particle diagram for solids, liquids and gases
2. Explain the difference between an element and a compound
3. How do you find metals and non-metals on the periodic table?
4. Explain the structure of a simple atom
5. Draw out the box of any element on the periodic table; label the atomic number and mass number
6. How do you work out the number of protons, neutrons and electrons in an atom?
7. Draw the structure of 6 of the first 20 elements
8. What is an ion? How does a positive ion form? How does a negative ion form?
9. Give a simple explanation of the law of conservation of mass
10. Discuss the advantages and disadvantages of our reliance on plastics

### Acids and Bases

1. Name the common acids and bases. What are the formulas?
2. What are the pH numbers for acids, bases and neutral?
3. What is the colour with universal indicator for acids, neutral and bases?
4. How should you be safe with acids and bases?
5. Acid + Base  $\rightarrow$
6. Acid + metal  $\rightarrow$
7. Acid + carbonate  $\rightarrow$

## Variation

1. What are the two types of variation?
2. Why is genetic variation important?
3. Define 'sexual' and 'asexual' reproduction
4. Define the terms: gamete, zygote, fertilisation
5. Be able to label the parts of flower
6. Explain the difference between pollination and fertilisation
7. Name the main methods of seed dispersal
8. Label diagrams of the male and female reproductive system
9. Recognise dominant and recessive genes
10. Complete Punnet square

## Living Together

1. Define: Habitat, environment, population, community
2. What does the arrow mean in a food chain?
3. What is the role of: producer, primary consumer, carnivore, herbivore, omnivore, and predator?
4. In which what ways is energy lost in a food chain?
5. What are the three a main adaptations? Give examples
6. What is a quadrat used for?

## Earth and Rocks

1. What are rocks made of?
2. Draw and label diagram of the structure of the Earth.
3. What is magma?
4. What are the three rock types?
5. How is each of the three rock types formed?
6. In terms of tectonic plates, what is an earthquake?
7. What happens to the plates to cause mountains to form?
8. Why is acid rain formed? What are the effects on the environment?