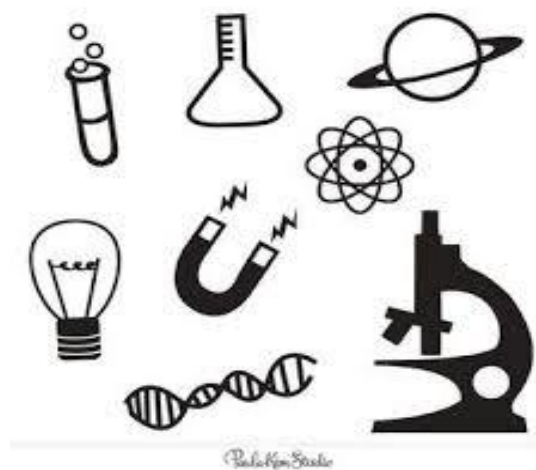


DURHAM JOHNSTON
COMPREHENSIVE SCHOOL
— DARE TO BE WISE —

Year 7 Science workbook answers



Week 1 Biology Cells

1. What are cells?

Cells are the basic building blocks of all animals and plants

2. How do you calculate the total magnification when using a microscope?

Total magnification = eyepiece lens magnification x objective lens magnification

3. What structures do animal and plant cells have in common?

Cell membrane, nucleus, cytoplasm, mitochondria, ribosomes

4. What structures are found in plant cells but NOT animal cells?

Vacuole, cell wall, chloroplasts

5. What is the function of the nucleus?

The nucleus controls the activities of the cell and contains genetic information.

6. What is the function of the cytoplasm?

The cytoplasm is a jelly-like substance where chemical reactions take place.

7. What is the function of the cell membrane?

The cell membrane controls what enters and leaves the cell.

8. What is the function of the mitochondria?

The mitochondria are where aerobic respiration takes place.

9. What is the function of the vacuole?

The vacuole contains cell sap and keeps the cell turgid (firm).

10. What is the function of the cell wall?

The cell wall is made of cellulose which supports the cell.

11. What is the function of the chloroplasts?

The chloroplast contains chlorophyll and is where photosynthesis takes place.

12. What is diffusion?

It is the movement of a substance from a high concentration to a low concentration.

Multiple choice

1. B

2. C

3. A

4. D

5. C

6. A

Week 2 Chemistry Separating Techniques

1. What is a mixture? **One or more substance combined but not chemically bonded together.**
2. Give definitions for;

Solvent; **The liquid in which a solute is dissolved to form a solution.**

Solute; **The substance dissolved in a liquid to form a solution.**

Solution; **The mixture formed when one or more substances is dissolved in a liquid.**

3. When would you use distillation to separate a mixture?

When the mixture is two or more liquids together

4. When would you use Evaporation to separate a mixture?

When the mixture is a solid dissolved in a liquid

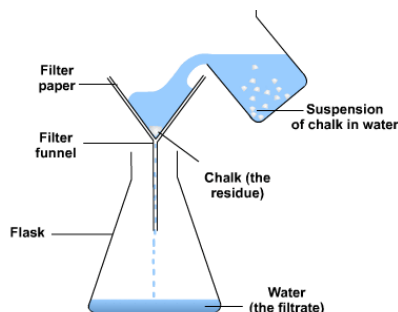
5. When would you use Filtration to separate a mixture?

When an insoluble solid is mixed with a liquid

6. Why could you not use distillation to separate sand and water?

Sand is an insoluble solid and water is a liquid so they would be separated by filtration, distillation is used for mixtures of liquids or solids dissolved in liquids.

7. Draw a diagram to show how a filtration is set up label all key parts.



8. Look at the chromatography image which two inks are the same how do you know?

A and C both have moved same distance up the paper

Multiple choice

1. D
2. C
3. C
4. B
5. B
6. C
7. A
8. A

Energy Week 3

1. What is energy?

The capacity to do work

2. What is temperature?

The measure of the average kinetic energy of particles in a system

3. What is Power?

Energy transferred per second

4. Name 3 types of energy store.

Thermal, Kinetic, Gravitational Potential, Elastic Potential, Chemical, Nuclear

5. Name 3 ways energy can be transferred.

Mechanical Work, Electrical Work, Heating, Radiation (light, infrared, sound)

6. Name three fossil fuels.

Coal, Natural Gas (Methane), Oil

7. Name three renewable energy sources.

Solar, Wind, Tidal, Wave, Geothermal, Hydroelectric Power, Biomass

8. What is the key difference between renewable and non-renewable energy resources?

Renewable will not run out, but non-renewable resources will run out one day (finite)

9. What is the main environment concern linked to burning fossil fuels?

Increase in Carbon Dioxide in the Atmosphere leading to Global warming

10. What does efficiency measure?

The percentage of energy that is transferred to a useful energy type by a machine.

Multiple Choice

1. C

2. C

3. C

4. D

5. D

6. D

7. A