

Year 9 Science Summer Exam Revision List 2017

PHYSICS topic revision list

Pupils should revise the following content in preparation for their end of year assessment in **physics**. They should also consult the following resources:

- Collins connect e-textbook: <https://connect.collins.co.uk/school/defaultlogin.aspx>
- BBC Bitesize resources in physics:
 - Waves: <http://www.bbc.co.uk/education/topics/zpxyrd>
 - Atoms and Radioactivity: <http://www.bbc.co.uk/education/topics/zjkdm3>

6.6 Waves

6.6.1.1 Transverse and Longitudinal waves

6.6.1.2 Wave Quantities

Practical knowledge

- Speed of water waves in tray
- Speed of water waves ripple tank
- Speed of sound
- Amplitude and Frequency from an oscilloscope

6.6.2.2 Electromagnetic waves types

6.6.2.2 EM waves properties (calculating v , f or λ)

6.6.2.3 EM waves dangers

6.6.2.4 EM waves uses

6.4 Atomic Structure and Radioactivity

6.4.1.1 Structure of an atom

6.4.1.2 Mass number, atomic number and isotopes

6.4.1.3 Development of the model of the atom

6.4.2.1 Radioactivity

Practical knowledge

- Geiger Counter to show penetrations of alpha, beta and gamma

6.4.2.2 Radioactive decay equations

6.4.2.3 Modelling half-life with dice

-Determination of half life of protactinium

-Uses for radiation

6.4.2.4 Radioactive contamination

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BIOLOGY topic revision list

Pupils should revise the following content in preparation for their end of year assessment in **biology**. They should also consult the following resources:

- Collins connect e-textbook: <https://connect.collins.co.uk/school/defaultlogin.aspx>
- BBC Bitesize resources in biology:
 - Cell biology: <http://www.bbc.co.uk/education/topics/z9wwxnb>
 - Levels of organisation: <http://www.bbc.co.uk/education/topics/z8qqtftr>
 - Blood: <http://www.bbc.co.uk/education/guides/ztp9q6f/revision>
 - The circulatory system: <http://www.bbc.co.uk/education/guides/zhnk7ty/revision>

4.1 Cell biology

- 4.1.1.2 Cell structure
- 4.1.1.5 Microscopy
- 4.1.1.3 Cell specialisation
- 4.1.1.4 Cell differentiation
- 4.1.2.3 Stem cells
- 4.1.2.1 Chromosomes
- 4.1.1.1 Eukaryotic and prokaryotic cells
- 4.1.2.2 Mitosis and cell cycle
- 4.1.3.1 Diffusion
- 4.1.3.2 Osmosis
- 4.1.3.3 Active Transport

Practical knowledge

- Magnification calculations and use of microscopes
- Scales of measurement
- Diffusion and osmosis

4.2 Organisation

- 4.2.1 Principles of organisation
- 4.2.2.1 The human digestive system
- 4.2.2.1 Properties of enzymes
- 4.2.2.1 Human digestive enzymes
- 4.2.2.2 The heart and blood vessels
- 4.2.2.2 Structure and function of arteries, veins and capillaries
- 4.2.2.4 Coronary heart disease
- 4.2.2.3 Blood
- 4.2.2.5 & 4.2.2.6 Health Issues and effect of lifestyle on non-communicable diseases
- 4.2.2.6 Cancers

Practical knowledge

- Knowledge of food tests
- Enzyme function

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CHEMISTRY topic revision list

Pupils should revise the following content in preparation for their end of year assessment in **chemistry**. They should also consult the following resources:

- Collins connect e-textbook: <https://connect.collins.co.uk/school/defaultlogin.aspx>
- BBC Bitesize resources in chemistry:
 - Atomic structure: <http://www.bbc.co.uk/education/topics/z84k7ty>
 - Formulae and equations (balancing equations): <http://www.bbc.co.uk/education/topics/z62xsbk>
 - Chemical reactions and tests (including ionic compounds): <http://www.bbc.co.uk/education/topics/zwkdp3>

Atomic structure and the periodic table

- 5.1.1.1 Atoms, elements, compounds, mixtures
- 5.1.1.2 Filtration
- 5.1.1.2 Simple distillation
- 5.1.1.2 Fractional distillation
- 5.1.1.2 Chromatography

Practical knowledge

- Methods of separating mixtures

Overview of groups, periods, metals and non-metals / The periodic table

- 5.1.2.1 The periodic table
- 5.1.2.2 Development of the periodic table
- 5.1.1.3 Development of the model of the atom
- 5.1.1.4/5 Charge, size and mass of atoms and sub-atomic particles
- 5.1.1.6 Relative atomic mass
- 5.1.1.7 Electronic structure

- 5.1.2.3 Metals
- 5.1.2.3 Non-metals
- 5.1.2.4 Group 0 elements and their properties
- 5.1.2.5 Group 1 elements and their properties
- 5.1.2.6 Group 7 elements and their properties

Practical knowledge

- Displacement of Halogens

Chemical bonds, ionic and covalent bonding

- 5.2.1.2 Ions
- 5.2.1.2 Ionic bonding
- 5.2.1.3 Ionic compounds
- 5.2.2.3 Properties of ionic compounds
- 5.2.1.4 Covalent bonding
- 5.2.2.6 & 5.2.3.1 Giant covalent bonding, Diamond