Science department
Newpark comprehensive school

First year science revision list 2017

Name _____

The Nature of Science

Note: First year students should have a basic appreciation of the following Nature of Science learning outcomes while carrying out investigations.

Learning outcome	Tick when revised
Understand how and why scientific ideas change over time. p. 29	
Recognise questions that can be investigated scientifically. p. 30, 31 e.g. How strong is human hair? - yes Who is the best singer in Ireland? - no	
Understand how to plan and carry out an investigation p.38	
Recognise safety symbols p 21 Appreciate the need and reason for safety in the lab. Chapter 2	
Recognise different equipment found in the lab, and recognise what they are used for. p24, 25	
Understand the term hypothesis. p.30	
Ways to investigate hypothesis. p.31, 32, 33	
Variables: p.32 Cause variable Effect variable Control Constants	
Sources of evidence: p.47 Primary sources Secondary sources	
The stages of researching a scientific issue p.50	

Biological world

Chapter 7. Cell structure and function

Learning outcome	Tick when revised
Be able to draw a plant and animal cell p.64	
Can relate each part of a cell to its function p.63,64,66,67	

Chapter 9. The Circulatory system

Learning outcome	Tick when revised
Describe the structure of the circulatory system p.87	
Explain the functions of the circulatory system p.87	
Describe the structure of the different parts of the circulatory system: Heart p.91 Arteries p.90 Veins p.90 Capillaries p.90	
Describe the functions of the different parts of the circulatory system: Heart p.91 Arteries p.90 Veins p.90 Capillaries p.90	
Explain how the circulatory system works with the digestive system and respiratory system. p.94	
How is the circulatory system affected by exercise, lifestyle and diet? p. 94+95	
Investigate the effect of exercise and rest on pulse rate (EXPERIMENT) p.92	

The Chemical world

Chapter 21. Properties of materials

Learning outcome	Tick when revised
Physical properties of different materials including: Solubility (EXPERIMENTS) p.227-229 Heat conductivity (EXPERIMENTS) p.230 Electrical conductivity (EXPERIMENT) p.231 Melting point (EXPERIMENT) p.231+232 Boiling point p.234	

Chapter 22. Structure of the atom

Learning outcome	Tick when revised
Describe the structure of the atom p.238 +239	
Compare the mass and charge of: Protons p.238+239 Neutrons p.238+239 Electrons p.238+239	

The Physical World

Chapter 27. Measurement and units

Learning outcome	Tick when revised
Be able to select appropriate measuring instruments	
Identify and be able to measure using the correct units: Length p.296 Mass p.297 Time p.297 Temperature p.297+298 Area p.298 Volume (EXPERIMENTS) p.299-301	

Chapter 28. Density, Speed and Acceleration

Learning outcome	Tick when revised
Be able to select appropriate measuring instruments	
Identify and be able to measure using the correct units: Density (EXPERIMENTS) p.305-307	

Earth and Space

Chapter 35. Our universe

Learning outcome	Tick when revised
Describe the relationships between the following celestial bodies and space: Moons p.380 Asteroids p.381 Comets p.381 Planets p.378+379 Stars p.377 Solar systems p.378 Galaxies P.378	
Explore a scientific model to illustrate the origin of the universe – the big bang theory p.382	

Chapter 38. Space exploration

Learning outcome	Tick when revised
Hazards of space exploration p.412+413	
Benefits of space exploration p.408-411	
Understand the role and implications of space exploration in society p.408-413	
What is the social and global importance of humans exploring space? Should humans explore space? *SSI Research project*	