



Transition Tasks

BTEC Applied Science

Year 11 → Year 12

Name:



Applied Science

Compulsory Tasks These must be completed before you start this course in September	Minimum time	Date completed
<p>1. Consolidating GCSE Knowledge: Head start books</p> <p>Download the Biology, Chemistry and Physics books on the Kindle App for free</p> <ul style="list-style-type: none"> - Complete the following Biology Head start questions: LINK <ul style="list-style-type: none"> Section 2 — Cell Structure 1) Eukaryotic and Prokaryotic Cells - page 6 2) Microscopes – page 7 3) Functions of the Nucleus, Mitochondria and Cell Wall – page 8 Section 4 — Exchange 1) Size and Surface Area to Volume Ratio – page 17 2) Structure of the Thorax – page 18 Section 6 — The Circulatory System 1) The Circulatory System – page 22 2) The Heart – page 23 3) Blood Vessels – page 25 4) Blood – page 27 - Complete the following Chemistry Head start questions: LINK <ul style="list-style-type: none"> Section 1— Structure of the atom Atomic Structure –page 1 Atomic Number, Mass Number and Isotopes – page 2 Relative Atomic Mass –page 3 Electronic Structure - page 4 The Periodic Table –page 5 Section 4 – Bonding and properties Ionic Bonding - page 11 Ionic Compounds - page 12 Covalent Bonding - page 13 Metallic Bonding – page 16 Trends in Properties Across the Periodic Table –page 17 Section 11 – Calculations The Mole - page 37 Determination of Formulae from Experiments – page 38 Calculation of Molecular Formulae –page 39 - Complete the following Physics Head start questions: LINK <ul style="list-style-type: none"> Section 5 — Waves Waves - page 32 Frequency and the Wave Equation –page 33 Superposition of Waves - page 34 Reflection and Diffraction - page 35 Refraction - page 36 Section 7 — Investigating and Interpreting Planning an Experiment and Collecting Data- page 39 Analysing Your Data - page 40 Conclusions and Uncertainty –page 41 <p>- Mark your answers using the Mark schemes in the back of each book</p> <p>- Use green pen to add in your corrections from the Mark scheme answers</p>	<p>10 Hours</p>	

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<p>2. Consolidating GCSE Knowledge: Educake Quizzes</p> <p>Get upon 70% in all Educake GCSE consolidation quizzes – you may repeat many times as necessary to achieve the benchmark score</p> <p>Biology quizzes</p> <ul style="list-style-type: none"> - Cell Biology - Organisation - Homeostasis and Response - Working Scientifically <p>Chemistry quizzes</p> <ul style="list-style-type: none"> - Atomic Structure and the Periodic Table - Bonding, Structure and the Properties of Matter - Quantitative Chemistry - Chemical Changes - Organic Chemistry - Chemical Analysis - Chemistry Practicals - Experimental Skills and Strategies - Analysis and Evaluation - Scientific Vocabulary <p>Physics quizzes</p> <ul style="list-style-type: none"> - Energy - Waves - Electricity - Particle Model of Matter - Atomic Structure - Physics Practicals 	15 Hours	
<p>3. KS5 Preparation: Key knowledge tasks</p> <p>In Sixth Form you are expected to arrive to your lessons with good knowledge and understanding of each unit.</p> <p>Prepare key knowledge notes in any form suitable for you using the BTEC specification LINK on the following units:</p> <ol style="list-style-type: none"> 1) Unit 1 – Principles and Applications of Science I 2) Unit 2 – Practical Scientific Procedures and Techniques 3) Unit 3 – Science Investigation Skills 4) Unit 4 – Laboratory Techniques and their Application 5) Unit 5 – Principles and Applications of Science II 	12 Hours	

<p>4. Working in the Science Industry Research Task</p> <p>Understanding how to complete practical work safely and professionally is a key part of the course. Research the following roles in the science industry.</p> <p>a) Scene of Crime Officer/forensic laboratory technician b) laboratory technician in haematology department of a hospital</p> <p>From your notes write a job description for one of the roles which could be included in a job advert. Include the following:</p> <ul style="list-style-type: none"> • what qualifications the role would need • what day to day tasks are involved • any equipment the technician would use • what safety precautions they would need to use 	<p>3 Hours</p>	
<p>5. <u>Optional Challenge tasks</u></p> <p>1) Suggested Reading</p> <ul style="list-style-type: none"> - Physics for you by Keith Johnson - Chemistry for you by Lawrie Ryan - Biology for you by Gareth Williams BTEC Nationals Applied Science: Student Book Level 3 (BTEC Nationals Applied Science 2016) by Joanne Hartley - Periodic Tales: The Curious Lives of the Elements (Paperback) Hugh Aldersey-Williams http://bit.ly/pixlchembook1 - The Science of Everyday Life: Why Teapots Dribble, Toast Burns and Light Bulbs Shine (Hardback) Marty Jopson http://bit.ly/pixlchembook2 - Frankenstein's cat, E.Anthes <p>2) Video links</p> <ul style="list-style-type: none"> - Atomic and electronic structure https://www.youtube.com/watch?v=H0rFDakTI-0 - Ionic and covalent bonds https://www.youtube.com/watch?v=wQ3NJUKKcTU - History of the microscope https://www.youtube.com/watch?v=Ue-86MDmjns - Cell structure https://www.youtube.com/watch?v=URUJD5NEXC8 - Specialised cells https://www.youtube.com/watch?v=RqbkTT63yeE - Structure and function of the blood https://www.youtube.com/watch?v=noMsCGRkwSE - Longitudinal and transverse waves https://www.youtube.com/watch?v=ZADaRGEUCDw - electromagnetic spectrum https://www.youtube.com/watch?v=HPcAWNIVI-8 		