

AL AIN JUNIORS SCHOOL- BRITISH SYSTEM

LEARNING TRAILS

AY 2023-24: Term 2\_Week 4 (22<sup>nd</sup> to 26<sup>th</sup> January 2024)

GRADE 12

MATHEMATICS	IT
<p><b>Topics:</b> Complex Numbers</p> <p><b>Learning Objectives:</b></p> <p><b>Resources needed:</b></p> <p><b>Homework/Assignments:</b></p>	<p><b>Topics:</b> Communications technology: Network protocols</p> <p><b>Learning Objectives:</b> Explain the term 'protocol' as used in networking and why protocols are necessary. Transmission Control Protocol (TCP) Internet Protocol (IP) Internet Control Message Protocol (ICMP) Address Resolution Protocol (ARP) and Inverse Address Resolution Protocol (InARP) Dynamic Host Configuration Protocol (DHCP) User Datagram protocol (UDP) Hypertext Transfer Protocols (HTTP and HTTPS) File Transfer Protocol (FTP) Tunneling protocol, e.g. L2TP Simple Mail Transfer Protocol (SMTP) Post Office Protocols (e.g. POP3) Internet Message Access Protocol (IMAP) Telnet SSH TLS/SSL.</p> <p><b>Resources needed:</b> Cambridge International AS and A level IT- course book. Videos</p> <p><b>Homework/Assignments:</b> Solve past paper questions</p>
ADVANCED ARABIC	GENERAL ARABIC
<p><b>Topics:</b> الجملة الفعلية ومكملاتها أ- الفعل</p> <p><b>Learning Objectives:</b> أن يطبق المتعلم ما درسه في أبواب الجملة الفعلية</p> <p><b>Resources needed:</b> كتاب التطبيقات النحوية - الدفتر - العرض التقديمي - منصة ألف</p> <p><b>Homework/Assignments:</b> حل تمرينات الكتاب ص124-125</p>	<p><b>Topics:</b> الشبكة العنكبوتية</p> <p><b>Learning Objectives:</b> أن يتعرف الطالب على المفردات الجديدة أن يعدد الطالب فوائد الشبكة العنكبوتية أن يقارن بين الهاتف والحاسوب</p> <p><b>Resources needed:</b> كتاب الطالب - الدفتر - أوراق عمل</p> <p><b>Homework/Assignments:</b> يكتب فقرة عن أهمية الشبكة العنكبوتية</p>

PHYSICS	BIOLOGY
<p><b>Topics:</b> Nuclear physics</p> <p><b>Learning Objectives:</b></p> <ul style="list-style-type: none"> <li>• Should be able to</li> <li>• Explain what mass defect is and binding energy of a nucleus</li> <li>• Calculate energy released during a fission and fusion reaction.</li> <li>• Explain binding energy per nucleon graph and link with fusion and fission</li> </ul> <p><b>Resources needed:</b> Calculator, copy book, stationeries</p> <p><b>Homework/Assignments:</b> <i>Topical past paper questions</i></p>	<p><b>Topics:</b>Variation and selection</p> <p><b>Learning Objectives:</b> Explain how environmental factors can act as stabilising, disruptive and directional selection. Explain how selection, the founder effect and genetic drift, including the bottle neck effect, may affect the allele frequencies in population. Outline how bacteria become resistant to antibiotics as an example of natural selection Use of hardy – Weinberg principle to calculate allele and genotype frequencies (the two equations and state the conditions when this principle is applied) Describe the principles of selective breeding</p> <p><b>Resources needed:</b> Calculator, note book, graph paper , stationeries, Activity sheet</p> <p><b>Homework/Assignments:</b> Solve the topical questions</p>
ISLAMIC ARABIC	ISLAMIC EDUCATION
<p><b>Topics:</b> البيوع المحرمة</p> <p><b>Learning Objectives:</b> أن يبين البيوع المحرمة أن يذكر صورا تطبيقية للبيوع المحرمة أن يوضح الأدلة على تحريم هذه البيوع</p> <p><b>Resources needed:</b> الكتاب المدرسي بوربوينت أنشطة تعليمية منصة ألف</p> <p><b>Homework/Assignments:</b></p> <ul style="list-style-type: none"> <li>• حل أنشطة الطالب</li> <li>• حل أسئلة منصة ألف</li> </ul>	<p><b>Topics:</b> Prohibited Sales</p> <p><b>Learning Objectives:</b> Explain the meaning of sales in shariah. Discuss different types of sales in shariah Explain Halal and Haram sales.</p> <p><b>Resources needed:</b> Book PPT Student's activities Revision of power point. Muqitweb.com</p> <p><b>Homework/Assignments:</b> Solve students' activities in textbook</p>

CHEMISTRY	ACCOUNTING
<p><b>Topics:</b> 31 Halogen compounds</p> <p><b>Learning Objectives:</b></p> <ol style="list-style-type: none"> <li>1 Recall the reactions by which halogenoarenes can be produced: substitution of an arene with <math>Cl_2</math> or <math>Br_2</math> in the presence of a catalyst, <math>AlCl_3</math> or <math>AlBr_3</math> to form a halogenoarene, exemplified by benzene to form chlorobenzene and methylbenzene to form 2-chloromethylbenzene and 4-chloromethylbenzene</li> <li>2 explain the difference in reactivity between a halogenoalkane and a halogenoarene as exemplified by chloroethane and chlorobenzene</li> </ol> <p><b>Resources needed:</b> Smart board, white board, textbooks, pastpapers</p> <p><b>Homework/Assignments:</b> <i>Textbook questions</i></p>	<p><b>Topics:</b> Standard costing</p> <p><b>Learning Objectives:</b> Application of standard costing as an aid to improve the performance of a business • how to calculate the following variances: – direct material price and usage – direct labour rate and efficiency – fixed overhead expenditure and volume – fixed overhead capacity and efficiency sub-variances – sales price and volume • possible causes of favourable or adverse variances and their relationship to each other • how to make business decisions and recommendations using supporting data</p> <p><b>Resources needed:</b> A level Accounting By David Hopkins Formulas Task Sheets</p> <p><b>Homework/Assignments:</b> Topical questions</p>
BUSINESS	ECONOMICS
<p><b>Topics:</b> Financial statements</p> <p><b>Learning Objectives:</b></p> <p><b>To:</b></p> <ul style="list-style-type: none"> <li>• analyze the need for businesses to keep accounts</li> <li>• analyse the main components of a statement of profit or loss (income statement)</li> <li>• analyze the main components of a statement of financial position</li> <li>• evaluate the importance of inventory valuation</li> <li>• evaluate the importance of depreciation.</li> </ul> <p><b>Resources needed:</b> Text book Case studies with mark schemes</p> <p><b>Homework/Assignments:</b> End of unit questions</p>	<p><b>Topics:</b> Unemployment, Money and Banking</p> <p><b>Learning Objectives:</b></p> <ul style="list-style-type: none"> <li>• To discuss the meaning of mobility of labour force and its types.</li> <li>• To analyze the effectiveness of policies to reduce unemployment.</li> <li>• To understand the functions and characteristics of money</li> </ul> <p><b>Resources needed:</b> Economics by Peter Smith and Past Papers</p> <p><b>Homework/Assignments:</b> Find solutions to the questions given at the end of the chapter and pen down in notebook</p>