LEARNING TRAILS AY 2026-27–

YEAR: 12 **TERM 1_WEEK 9(Nov 2nd – 6th Nov , 2026)**

IT	MATHEMATICS
Topics: Chapter3: Monitoring and control. • Monitoring and measurement technologies. **Learning Objectives:** Explain the functions of different sensors. Describe the process of following environmental monitoring: • monitoring water pollution • weather stations, including the use of sensors by weather stations. Describe patient monitoring systems. Define calibration: Analyze the importance of calibration. Explain different calibration methods. ☐ One-point calibration ☐ Two-point calibration ☐ Multipoint calibration **Resources needed:** Computer system, smart board, textbook, task sheets. **Homework/Assignments:** Solve past paper questions.	**Topics:** Trigonometry/Permutation and combinations **Learning Objectives:** Use the identities $\frac{\sin x}{\cos x} = \tan x$ $\sin^2 x + \cos^2 x = 1$ Find all the solutions of simple trigonometric equations lying in a specified interval. Understand the terms permutations and combinations, and solve simple problems involving selections. **Resources needed:** Text book, Calculator, Electronic Board https://cambridgepapers.net/a-level-mathematics-9709-pure-mathematics-1-trigonometry-trigonometric-identities https://cambridgepapers.net/a-level-mathematics-9709-probability-and-statistics-1-permutation-and-combination-permutation-questions-involving-digits-and-alphabets#google_vignette **Homework/Assignments:** Daily Practice Questions, Weekly Assignment.

ADVANCED ARABIC	GENERAL ARABIC
Topics: **اسم التفضيل / التشبيه التمثيلي** **Learning Objectives:** **أن يوظف المتعلم اسم التفضيل في جمل** **أن يشارك المتعلم في حل أسئلة الدرس** **أن يتعرف المتعلم التشبيه التمثيلي** **أن يحدد المتعلم أركان التشبيه من خلال النصوص** **أن يقارن المتعلم بين التشبيه التمثيلي والتشبيهات الأخرى** **أن يكتب المتعلم جمل تشتمل على تشبيه** **Resources needed:** **الكتاب المدرسي - السبورة - بطاقات تفاعلية – بوربوينت - دفتر الطالب** **Homework/Assignments:** حل الدرس على منصة ألف	**Topics:** **المثنى وجمع المذكر السالم** **Learning Objectives:** **أن يتعرف الطالب المثنى وجمع المذكر السالم** **أن يحول الطالب المفرد إلى مثنى وجمع** **أن يذكر الطالب علامات الرفع للمثنى وجمع المذكر السالم** **أن يكتب الطالب جملا عن الدرس** **أن يجيب الطالب عن أسئلة الكتاب المدرسي** **Resources needed:** **الكتاب المدرسي _ بوربوينت _ أنشطة صفية تعليمية _ دفتر الطالب** **Homework/Assignments:** **كتابة خمس جمل عن المثنى وجمع المذكر السالم**
PHYSICS	**BIOLOGY**
Topics: forces, density and pressure, work power and energy **Learning Objectives:** understand the concept of work, and recall and use *work done = force × displacement in the directionof the force* 2 recall and apply the principle of conservation of energy 3 recall and understand that the efficiency of a system is the ratio of useful energy output from the systemto the total energy input 4 use the concept of efficiency to solve problems 5 define power as work done per unit time 6 solve problems using $P = W/t$ 7 derive $P = Fv$ and use it to solve problems **Resources needed: ppt, course book, pictures** **Topical question**	**Topics:** Cell membranes and transport **Learning Objectives:** **4.1 Fluid mosaic membranes** 1 describe the fluid mosaic model of membrane structure with reference to the hydrophobic and hydrophilic interactions that account for the formation of the phospholipid bilayer and the arrangement of proteins 2 describe the arrangement of cholesterol, glycolipids and glycoproteins in cell surface membranes 3 describe the roles of phospholipids, cholesterol, glycolipids, proteins and glycoproteins in cell surface membranes, with reference to stability, fluidity, permeability, transport (carrier proteins and channel

Homework/Assignments: **Topical qns** **Past paper 2021-2025 [june, november]**	proteins), cell signalling (cell surface receptors) and cell recognition (cell surface antigens – see 11.1.2) 4 outline the main stages in the process of cell signalling leading to specific responses: • secretion of specific chemicals (ligands) from cells • transport of ligands to target cells • binding of ligands to cell surface receptors on target cells **4.2 Movement into and out of cells** 1 describe and explain the processes of simple diffusion, facilitated diffusion, osmosis, active transport, endocytosis and exocytosis 2 investigate simple diffusion and osmosis using plant tissue and non-living materials, including dialysis (Visking) tubing and agar 3 illustrate the principle that surface area to volume ratios decrease with increasing size by calculating surface areas and volumes of simple 3-D shapes (as shown in the Mathematical requirements) 4 investigate the effect of changing surface area to volume ratio on diffusion using agar blocks of different sizes **Resources needed:** Text book and Videos Teak sheets and topical papers. **Homework/Assignments:** **Past papers and revision sheets.**

CHEMISTRY	ACCOUNTING
Topics: Equilibria **Learning Objectives:** 1 deduce expressions for equilibrium constants in terms of concentrations, Kc 2 use the terms mole fraction and partial pressure 3 deduce expressions for equilibrium constants in terms of partial pressures, Kp (use of the relationship between Kp and Kc is not required) 4 use the Kc and Kp expressions to carry out calculations (such calculations will not require the solving of quadratic equations) 5 calculate the quantities present at equilibrium, given appropriate data **Resources needed:** **Data Booklet, Textbook** **Homework/Assignments:** **End of the Chapter Questions**	**Topics:** Accounts of Limited Company **Learning Objectives:** To formulate financial statements of limited companies, incorporating adjustments for rights and bonus issue . **Resources needed:** Text book Task sheet Formats PPT **Homework/Assignments:** Topical questions
ISLAMIC ARABIC	**ISLAMIC EDUCATION**
Topics: **أدب الحوار** **Learning Objectives:** • أن يبين الطالب المقصود بأدب الحوار. • أن يحدد الطالب آداب الحوار وصفات المحاور الناجح. • أن يعدد الطالب آداب الاستماع وفوائد الإصغاء. • أن يتعرف الطالب إلى آفات الحوار وطرق تجنبها. **Resources needed:** • الكتاب المدرسي. • العرض التقديمي والسبورة الذكية. • مقاطع فيديو تعليمية حول آداب الحوار والاستماع. • أوراق عمل متمايزة تناسب مستويات الطلبة (المبتدئ، المتوسط، المتقدم).	**Topics:** Manners of Dialogue **Learning Objectives:** • Define dialogue and explain its importance in Islam. • Identify the Islamic manners and etiquette of respectful dialogue. • Explain the importance of listening carefully, speaking politely, and respecting others' opinions. • Understand how effective dialogue promotes understanding, tolerance, and peaceful relationships.

• تطبيقات تعليمية تفاعلية مثل Wordwall وKahoot. **Homework/Assignments:** • حل أسئلة الكتاب المدرسي المتعلقة بدرس أدب الحوار. • حل منصة ألف التعليمية	• Apply Islamic manners of dialogue in everyday situations. **Resources Needed:** • Islamic Education textbook. • Whiteboard and markers. • PowerPoint presentation explaining the manners of dialogue. • Alef Platform. • Worksheets and interactive learning activities. **Homework/Assignments:** • Read the lesson "Manners of Dialogue" from the Islamic Education textbook. • Complete the lesson activities in the textbook. • Write five Islamic manners of dialogue and explain how to apply them in daily life.
ECONOMICS	**BUSINESS**
Topics: PES ,Interaction of demand and supply **Learning Objectives:** To analyse the factors affecting supply To define the meaning of equilibrium and disequilibrium in a market To explain the effects of shifts in demand and supply curves on equilibrium price and quantity To explain the relationship between different markets, including joint demand, derived demand and joint supply **Resources needed:** PPT, textbook, past paper questions and marking scheme **Homework/Assignments:** Topical questions and MCQ from the text book	**Topics:** Marketing **Learning Objectives:** • evaluate the relative advantages of mass marketing and niche marketing • assess the significance of market segmentation and how this might be achieved • Examine the importance of customer relationship marketing. **Resources needed:** **E book, Case studies with mark scheme** **Homework/Assignments:** **Practice end of chapter questions.**