LEARNING TRAILS AY 2026-27

YEAR: 12 **TERM 1_WEEK 10(Nov 9th – 13th Nov , 2026)**

IT	MATHEMATICS
Topics: Monitoring and control: Monitoring and measurement technologies. Calibration. Spreadsheet. **Learning Objectives:** Describe different types of sensors and their functions. Explain monitoring water pollution. Explain weather stations, including the use of sensors by weather stations. Describe calibration. Discuss different types of calibration. • One-point calibration • Two-point calibration • Multi point calibration Solve spreadsheet challenges using formulae and functions. **Resources needed:** Computer system, Textbook, task sheets **Homework/Assignments:** Solve past paper questions.	**Topics:** Permutations and combinations **Learning Objectives:** Understand the terms permutations and combinations and solve simple problems involving selections. Solve problems about arrangement of objects in a line, including those involving: • Repetition (e.g. the number of ways of arranging the letters of the word NEEDLESS • Restriction (e.g.the number of ways several people can stand in a line if two particular people must-or must not stand next to each other. • Evaluate probabilities by calculation using permutations and combinations. **Resources needed:** Scientific calculator, Text book, ppt **Homework/Assignments:** Daily Practice Questions, Weekly Assignment.

ADVANCED ARABIC	GENERAL ARABIC
Topics: **الكناية** **Learning Objectives:** **أن يعرف المتعلم الكناية** **أن يميز المتعلم بين الكناية والاستعارة** **أن يحدد المتعلم أنواع الكناية** **أن يستخرج المتعلم الكناية من الجمل والنصوص** **أن يوظف المتعلم الكناية في جمل مفيدة** **Resources needed:** **الكتاب المدرسي ـ البوربوينت ـ السبورة ـ دفتر الطالب أوراق عمل مختلفة** **Homework/Assignments:** كتابة نص وصفي عن جزيرة ياس مستخدما الكناية والتشبيه والاستعارة	**Topics:** **الأفعال الناسخة والحروف الناسخة** **Learning Objectives:** أن يميز الطالب بين الأفعال والحروف الناسخة أن يكتب جملا مستخدما أفعال ناسخة وحروف ناسخة أن يذكر الطالب التغيير الذي يطرأ على الجملة الاسمية أن يجيب الطالب عن الأسئلة **Resources needed:** الكتاب المدرسي _ بوربوينت _ أنشطة صفية تعليمية **Homework/Assignments:** أن يكتب الطالب فقرة عن الإمارات مستخدما أفعال وحروف ناسخة
PHYSICS	**BIOLOGY**
Topics: **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 derive, using $W = Fs$, the formula $\Delta E_P = mg\Delta h$ for gravitational potential energy changes in a uniformgravitational field 2 recall and use the formula $\Delta E_P = mg\Delta h$ for gravitational potential energy changes in a uniformgravitational field 3 derive, using the equations of motion, the formula for kinetic energy $E_K = 12\ mv^2$ 4 recall and use $E_K = 21mv$ *Progressive assessment-forces chapter*	**Topics:** Cell Membrane and transport **Learning Objectives:** 1 describe and explain the processes of simple diffusion, facilitated diffusion, osmosis, active transport, endocytosis and exocytosis. 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) investigate the effects of immersing plant tissues in solutions of different water potentials, using the results to estimate the water potential of the tissues. **The mitotic cell cycle** **describe the structure of a chromosome, limited to:** • DNA • histone proteins • sister chromatids • centromere • telomeres

Solving numerical for the whole chapter **Resources needed:past paper qns** **Homework/Assignments:** **Past paper qns-2021-2025**	explain the importance of mitosis in the production of genetically identical daughter cells during: • growth of multicellular organisms • replacement of damaged or dead cells • repair of tissues by cell replacement • asexual reproduction 3 outline the mitotic cell cycle, including: • interphase (growth in G1 and G2 phases and DNA replication in S phase) • mitosis • cytokinesis 4 outline the role of telomeres in preventing the loss of genes from the ends of chromosomes during DNA replication 5 outline the role of stem cells in cell replacement and tissue repair by mitosis 6 explain how uncontrolle **Resources needed:** Text Book, Videos, Revision sheets **Homework/Assignments:** **Past papers**
CHEMISTRY	**ACCOUNTING**
Topics: **Equilibria** **Learning Objectives:** 1 state the names and formulas of the common acids, limited to hydrochloric acid, HCl, sulfuric acid, H2SO4, nitric acid, HNO3, ethanoic acid, CH3COOH 2 state the names and formulas of the common alkalis, limited to sodium hydroxide, NaOH, potassium hydroxide, KOH, ammonia, NH3 3 describe the Brønsted–Lowry theory of acids and bases	**Topics:** Accounts of Limited Companies **Learning Objectives:** To formulate Statement of changes in equity **Resources needed:** PPT Task sheet Format **Homework/Assignments:** Topical questions

4 describe strong acids and strong bases as fully dissociated in aqueous solution and weak acids and weak bases as partially dissociated in aqueous solution 5 appreciate that water has pH of 7, acid solutions pH of below 7 and alkaline solutions pH of above 7 6 explain qualitatively the differences in behaviour between strong and weak acids including the reaction with a reactive metal and difference in pH values by use of a pH meter, universal indicator or conductivity 7 understand that neutralisation reactions occur when H+ (aq) and OH– (aq) form H2O(l) 8 understand that salts are formed in neutralisation reactions 9 sketch the pH titration curves of titrations using combinations of strong and weak acids with strong and weak alkalis 10 select suitable indicators for acid-alkali titrations, given appropriate data (pKa values will not be used) **Resources needed:** **Textbook, Data booklet** **Homework/Assignments:** **Textual and Topical Question paper**	
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:**	**Topic:** **Manners of Dialogue** **Learning Objectives:** • Explain what is meant by the etiquette of dialogue. • Identify the manners of dialogue and the qualities of a successful speaker. • List the manners of listening and the benefits of attentive listening.

• الكتاب المدرسي. • العرض التقديمي والسبورة الذكية. • مقاطع فيديو تعليمية حول آداب الحوار والاستماع. • أوراق عمل متمايزة تناسب مستويات الطلبة (المبتدئ، المتوسط، المتقدم). • تطبيقات تعليمية تفاعلية مثل Wordwall وKahoot. **Homework/Assignments:** • حل أسئلة الكتاب المدرسي المتعلقة بدرس أدب الحوار. • حل منصة ألف التعليمية	• Recognise harmful practices in dialogue and ways to avoid them. **Resources Needed:** • Textbook. • Presentation and smartboard. • Educational videos on the etiquette of dialogue and listening. • Differentiated worksheets for beginner, intermediate and advanced learners. • Interactive educational applications such as Wordwall and Kahoot. **Homework/Assignments:** • Complete the textbook questions related to the lesson “Manners of Dialogue.”
ECONOMICS	**BUSINESS**
Topics: The interaction of demand and supply ,consumer and producer surplus **Learning Objectives:** To explain the relationship between different markets, including joint demand and joint supply To analyse the functions of price in resource allocation, signalling To explain the meaning and significance of consumer and producer surplus **Resources needed:** PPT Textbook Past paper questions Marking scheme **Homework/Assignments:** Topical questions MCQ from the text book	**Topics:** Nature of Marketing **Learning Objectives:** **• measure market growth and market share** **• evaluate the relative advantages of mass marketing and niche marketing** **• assess the significance of market segmentation and how this might be achieved** **Resources needed:** **Text book, case study, PPT** **Homework/Assignments:** **Practice End of chapter questions**