

## Straits International School Rawang Curriculum Overview Year 10 Autumn Term 1.2 2024/2025

Autumn Term 1.2	What are we learning?	What KUS will we gain?	What will excellence look like?
Mathematics	Chapter 10: Straight lines and quadratic equations  Chapter 11: Pythagoras' theorem and similar shapes	In studying straight lines and quadratic equations, Pythagoras' Theorem, and similar shapes, students will develop key mathematical knowledge and problem-solving skills. They will understand the properties of linear and quadratic equations, learning how to graph and interpret them, solve for unknowns, and apply them to real-world situations. Through Pythagoras' theorem, they will grasp the relationship between the sides of right-angled triangles, applying it to find missing lengths in various geometric contexts. In exploring similar shapes, students will recognize proportional relationships between corresponding sides and angles, developing an understanding of scale factors, and applying these principles in geometric reasoning and real-life problems involving similarity and enlargement.	Excellence in straight lines and quadratic equations, Pythagoras' theorem, and similar shapes will be demonstrated by a deep understanding and confident application of concepts. Students will accurately solve and graph complex linear and quadratic equations, interpret their meaning, and apply them in practical scenarios. In Pythagoras' theorem, they will effortlessly solve multi-step problems involving right-angled triangles. For similar shapes, excellence is shown through precise reasoning about proportional relationships and scale factors, with students applying these concepts to solve challenging problems involving geometric similarity and real-world contexts.
How will th	is be assessed?	Mental Maths, Topical tests, End of term one exam	
Additional Mathematics	Unit 3  Factors and polynomials	Students will be learning roots of quadratics equations and quadratics inequalities. Polynomials involving polynomials, factor and remainder theorems, solving modulus inequalities algebraically and graphically, factors and polynomials, starting with adding, subtracting, and multiplying polynomials, which forms the foundation for algebraic manipulation. Students will learn polynomial division, factor theorem, and	Excellence in this area involved strengthen the understanding of advanced algebra and equip them with problem-solving skills essential for graphing and interpreting various types of equations and inequalities.

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	Equations, Inequalities and graphs	remainder theorem, key tools for solving cubic expressions and equations. Students will also tackle more complex topics such as solving equations of the form  ax + b = cx + d ,  working with modulus inequalities, and sketching graphs of cubic polynomials and their moduli.  They will also explore graphical solutions of cubic inequalities and solve more complex quadratic equations.	
How will this be assessed?		Class discussions and end of term assessment	
First Language English	Unit 2: The World of Nature	Writing to inform and discuss; writing to argue and persuade; writing to express thoughts and feelings; narrative writing; reading a variety of text types for meaning; comprehension of texts; responding to texts through directed writing.	Excellence will look like students being able to confidently read a variety of text types, applying their knowledge to questions of varying difficulty, including using comprehension and inference skills, as well as analysing texts. Students will be able to produce informative, persuasive and highly stylised pieces of directed writing which show a clear evaluation of

			their reading, as well as a high level of writing skills. Their spelling, punctuation, grammar and vocabulary will be accurate at all times and they will apply sophisticated language and structural techniques to their own writing, as well as being able to comment on these things in texts they have read.
How will th	is be assessed?	Regular teacher, peer & self-assessment. Major asses	ssment: directed writing.
Literature in Novel study: Things English Fall Apart		Show detailed knowledge of the content of literary texts, supported by reference to the text; Understand the meanings of literary texts and their contexts, and explore texts beyond surface meanings to show deeper awareness of ideas and attitudes; Recognise and appreciate ways in which writers use language, structure and form to create and shape meanings and effects; Communicate a sensitive and informed personal response to literary texts.	Excellence in this subject looks like the ability to perceptively explore writers' methods and their effects on the reader. Students will be able to construct a detailed, complex essay analysing the use of language and structure in a text and engaging with this on a personal level, being evaluative and sensitive in their understanding of the text and being able to identify nuanced meanings, linking with both the novel as a whole and its context.
How will th	is be assessed?	Regular teacher, peer & self-assessment. Major assessment: an exam-style essay question	
English as a Second Language	Holidays	Skills focus: Listening  Understand and use a range of vocabulary related to different types of holidays; identify and select relevant information from different listening texts about different types of tourism; understand the different uses of words that end in –ing; engage in a conversation by asking and answering personal questions.	Learners can respond by answering multiple-choice questions to show understanding; identify inconsistencies while listening to the speakers; listen to an interview and filling in gaps for information; giving an introduction about myself with personal questions; plan and book a holiday of choice.
How will this be assessed?		Teacher/self-assessment, presentation, speaking tasl	ks, projects, group work
English as an Additional Language (EAL)	Clothes and Leisure	Students will expand their vocabulary on clothes and accessories, and practice discussing clothing using the present simple and present continuous tenses. They will also describe hobbies using the	Students will demonstrate a strong command of vocabulary related to clothes, accessories, sports, and hobbies, using these words accurately in both written and spoken contexts. They will confidently describe clothing and hobbies using the

		past simple and past continuous tenses while learning new vocabulary related to sports and hobbies. Students will enhance their language skills by finding the meanings of these new words in their home language and constructing their own sentences. They will practice extracting information from texts and complete a listening activity for comprehension. The unit will also introduce review writing and techniques, followed by intermediate vocabulary and grammar tests to assess their English proficiency.	present simple, present continuous, past simple, and past continuous tenses with grammatical accuracy. They will show initiative by effectively translating new vocabulary into their home language and creating meaningful sentences. In reading and listening activities, they will efficiently extract key information and display a clear understanding of the texts. Their review writing will be well-organized, engaging, and utilize appropriate techniques. Finally, their performance on the vocabulary and grammar tests will reflect a high level of proficiency and a deep understanding of the language concepts covered in the unit.
How will this be assessed?		Teacher/self-assessment, presentation, speaking tasks, projects, group work	
Combined Science	P1 Motion, forces & energy (Part 2) C3 Stoichiometry C4 Electrochemistry	In Unit 1 of Physics, students will learn to define and calculate work done, power and pressure. Students will also explore how factors affecting pressure, work done and power. In Unit 3 & 4 of Chemistry, students will learn to form chemical formulas, chemical equation including state symbols, balancing equation, define electrolysis, identify anode, cathode, anion and cation. Students will also explore on identifying products that will be formed on cathode and anode for aqueous and molten ionic compound.	<ol> <li>Understand that mechanical or electrical work done is equal to the energy transferred</li> <li>Recall and use the equation for mechanical working W = Fd = ΔE</li> <li>Define power as work done per unit time and also as energy transferred per unit time; recall and use the equations         <ul> <li>(a) P=Wt</li> <li>(b) P= ΔEt</li> </ul> </li> <li>Describe how pressure varies with force and area in the context of everyday examples</li> <li>Define pressure as force per unit area; recall and use the equation p= FA</li> <li>State the formulas of the elements and compounds named in the subject content</li> <li>Define the molecular formula of a compound as the number and type of atoms in one molecule</li> </ol>

			<ol> <li>Deduce the formula of a simple molecular compound from the relative numbers of atoms present in a model or a diagrammatic representation</li> <li>Construct word equations to show how reactants form products</li> <li>Balance and interpret simple symbol equations, including state symbols</li> <li>Define electrolysis as the decomposition of an ionic compound, when molten or in aqueous solution, by the passage of an electric current</li> <li>Identify in simple electrolytic cells:         <ul> <li>(a) the anode as the positive electrode</li> <li>(b) the cathode as the negative electrode</li> <li>(c) the electrolyte as the molten or aqueous substance that undergoes electrolysis</li> </ul> </li> <li>Identify the products formed at the electrodes and describe the observations, made during the electrolysis of:         <ul> <li>(a) molten lead(II) bromide</li> <li>(b) concentrated aqueous sodium chloride</li> <li>(c) dilute sulfuric acid using inert electrodes made of platinum or carbon/graphite</li> </ul> </li> </ol>
How will th	is be assessed?	Quiz, groupwork and major assessment	
Biology	Biological molecules  Enzymes	Studying the topic of biological molecules and enzymes will provide you with a foundational understanding of the structure and function of key biomolecules, such as carbohydrates, proteins, lipids, and nucleic acids. You will gain insights into the chemical properties and interactions that enable these molecules to perform vital roles in living organisms. Additionally, you will learn about	Excellence in the study of biological molecules and enzymes will be characterised by a comprehensive understanding of the intricate relationships between structure and function in biomolecules, alongside a nuanced grasp of enzyme mechanisms and kinetics. An exemplary student will be able to critically analyse experimental data, effectively communicate complex concepts, and apply knowledge to real-world biological systems. Mastery will also be evident in the ability to

		enzyme kinetics, mechanisms, and the factors affecting enzyme activity, equipping you with skills to analyse biochemical reactions and their significance in metabolic pathways. This knowledge will deepen your appreciation of how molecular biology underpins physiological processes and impacts health and disease.	design and interpret experiments, draw connections between metabolic pathways, and recognise the implications of enzyme activity in health and disease. Overall, excellence will manifest as both theoretical knowledge and practical skills, enabling a deep engagement with the subject matter.
How will this be assessed?		Including written examinations that test theoretical cassessments that evaluate laboratory techniques and	concepts and problem-solving skills, alongside practical experimental design.
Chemistry	Stoichiometry  Oxidation &  Reduction	Studying stoichiometry and redox reactions will provide you with a solid understanding of the quantitative relationships in chemical reactions, including the principles of mole ratios and conservation of mass. You will learn to calculate the quantities of reactants and products, interpret balanced equations, and apply stoichiometric principles to real-world scenarios. In the context of redox reactions, you will gain insights into oxidation and reduction processes, identifying oxidising and reducing agents, and balancing redox equations. Additionally, you will develop practical skills in laboratory techniques, such as titration and electrochemical measurements, enhancing your ability to analyse and interpret experimental data related to these fundamental chemical concepts.	Excellence in the study of stoichiometry and redox reactions will be characterised by a thorough understanding of quantitative chemical relationships and the ability to apply these principles with precision. An exemplary student will demonstrate mastery in balancing complex chemical equations, calculating reactant and product quantities accurately, and effectively solving real-world problems using stoichiometric concepts. In terms of redox reactions, excellence will involve a clear identification of oxidising and reducing agents, as well as proficient balancing of redox equations using appropriate methods. Furthermore, outstanding practical skills in laboratory techniques, coupled with the ability to critically analyse and interpret experimental data, will reflect a high level of engagement and comprehension in the subject matter.
How will th	is be assessed?		anding and problem-solving skills, focusing on the ability to ations. Practical assessments will evaluate laboratory skills,

		including techniques such as titration and the execution of redox experiments, alongside the analysis and interpretation of data obtained.	
Physics	P1 Motion, forces & energy (Part 2) P2 Thermal Physics	Students will learn different energy sources, energy transfer, principle of conservation of energy, work done, different energy resources, efficiency, power, pressure, states of matter and particle model.	<ol> <li>Understand that mechanical or electrical work done is equal to the energy transferred</li> <li>Describe how useful energy may be obtained, or electrical power generated, from:         <ul> <li>(a) chemical energy stored in fossil fuels</li> <li>(b) chemical energy stored in biofuels</li> <li>(c) water, including the energy stored in waves, in tides and in water behind hydroelectric dams</li> <li>(d) geothermal resources</li> <li>(e) nuclear fuel</li> <li>(f) light from the Sun to generate electrical power (solar cells)</li> <li>(g) infrared and other electromagnetic waves from the Sun to heat water (solar panels) and be the source of wind energy including references to a boiler, turbine and generator where they are used</li> </ul> </li> <li>Describe advantages and disadvantages of each method in terms of renewability, availability, reliability, scale and environmental impact</li> <li>Understand, qualitatively, the concept of efficiency of energy transfer</li> <li>Define pressure as force per unit area; recall and use the equation p = F/A</li> <li>Recall and use the equation for the change in pressure beneath the surface of a liquid Δp=pgΔh</li> <li>Know the distinguishing properties of solids, liquids and gases</li> <li>Know the terms for the changes in state between solids, liquids and gases</li> </ol>

			<ol> <li>Describe the relationship between the motion of particles and temperature</li> <li>Describe the pressure and the changes in pressure of a gas in terms of the motion of its particles and their collisions with a surface</li> <li>Know that the random motion of microscopic particles in a suspension is evidence for the kinetic particle model of matter</li> <li>Describe and explain this Brownian motion in terms of random collisions between the microscopic particles in a suspension and the particles of the gas or liquid</li> <li>13.</li> </ol>
How will thi	is be assessed?	Quiz, group work, presentation and major assessment	
History		By studying the League of Nations in the 1930s, students gain knowledge of its failures in dealing with international conflicts like the Manchurian and Abyssinian crises, which exposed its weaknesses in preventing aggression. They also explore how aggressive German nationalism, led by Hitler, contributed to the breakdown of international order, leading to the outbreak of World War II. Students develop the ability to analyse key events, understand the causes and consequences of diplomatic failures, and assess the impact of political ideologies on international relations	Excellence in this topic is shown through a strong grasp of how the League's failures contributed to global instability and how Germany's actions were part of a broader context of rising tensions. Students will confidently explain complex interactions between nations and provide well-supported evaluations of the causes of conflict. They can also critically assess the significance of the League's response in contrast to aggressive nationalism.
How will thi	is be assessed?	Structured Paper 1 Questions, Source analysis and th	e Major Assessment

Business	Classification of businesses	Knowledge - Students will learn about different types of businesses, and understand the different categories of business size, such as small, medium, and large enterprises.  Understanding - Students will understand the factors that influence the classification of businesses. Students will be able to evaluate the advantages and disadvantages of different business types and legal structures.  Skills - Students will develop the ability to analyze and evaluate different types of businesses and their characteristics. Students will learn how to identify the most suitable business type or legal structure for a given situation.	Students can clearly define and explain different types of businesses, business sizes, industry sectors, and legal structures. They can provide relevant examples of businesses from each category and explain why they fit into those classifications. They can analyze the factors that influence the classification of businesses and evaluate the advantages and disadvantages of different types.
How will this	be assessed?	Quiz, worksheets, presentation, individual tasks, projects, group work & written assessments	
Economics	Income elasticity of demand	Knowledge - Students will understand the concept of income elasticity of demand and how it is calculated. They will learn about different types of income elasticity, including normal goods, inferior goods, and luxury goods.  Understanding - Students will gain a better understanding of consumer behavior and how income changes affect purchasing decisions. They will learn how income elasticity of demand is used as an economic indicator to measure consumer confidence and economic growth.	Students can clearly define income elasticity of demand, calculate it accurately, and explain the different types of income elasticity. They can provide relevant examples of goods with different income elasticities and explain the implications for businesses and consumers. They can use income elasticity of demand to develop effective pricing and marketing strategies for businesses.

		Skills - Students will develop the ability to analyze and interpret economic data related to income elasticity of demand. They will practice making informed decisions based on their understanding of income elasticity of demand.	
How will th	is be assessed?	Quiz, worksheets, presentation, individual tasks, proj	jects, group work & written assessments
ICT	Unit 13 to 17	Knowledge: Students will learn the key concepts of input and output devices, document layout and styles, proofing techniques, and the use of graphs and charts in presenting information.  Understanding: Students will understand how different input and output devices are used in real-world scenarios, the importance of effective document layout and consistent styles, and the role of graphs and charts in visually communicating data.  Skills: Students will develop skills in selecting appropriate input and output devices, creating well-structured documents with consistent formatting, proofing work for accuracy, and using graphs and charts to represent data effectively	Excellence is measured by the student's ability to choose suitable devices for specific tasks, create professional-looking documents with consistent layout and styles, produce error-free work, and use graphs and charts to convey data in a clear, insightful manner.
How will th	is be assessed?	Quiz on input and output devices Produce a documentation using a proper styles, layo Major Assessment	ut and proofing

Malay Language	Unit 20: Persekitaran Geografi Unit 21: Cuaca	In Unit 20 and Unit 21, students will gain knowledge of key geographical features, ecosystems, and weather patterns, along with vocabulary related to geography and meteorology. They will develop an understanding of how human activities like deforestation and urbanization impact the environment, as well as how weather patterns and climate zones affect daily life, agriculture, and safety. Through these units, students will enhance their skills in describing geographical and weather-related phenomena, analyzing the relationship between human activities and the environment, interpreting weather forecasts, and solving environmental and weather-related challenges, such as managing pollution or responding to extreme weather events like floods and droughts.	<ul> <li>Accurate use of geographical and weather-related vocabulary in discussions and written tasks.</li> <li>understanding of the impact of human activities on geographical environments</li> <li>Strong analysis of how geographical features influence human settlement and activities.</li> <li>Ability to interpret weather forecasts and explain weather patterns with confidence.</li> <li>Well-structured written work with detailed explanations of geographical and weather-related topics, showing minimal errors.</li> <li>Engaging and insightful participation in discussions about the environmental and social impacts of geography and weather.</li> </ul>
How will th	is be assessed?	Speaking Assessments, Written Tasks, Comprehension Tests, Class Discussions	
Mandarin	Foreign Language: Health and fitness Home-life Shopping Clothing Home environment  第二语言: 同侪压力 代沟  第一语言: 价值观 念	Foreign Language: Students will learn topics related to health and fitness, home life, shopping, clothing, and the home environment. Students will acquire knowledge of the content and vocabulary by reading various articles. They will also master the knowledge through the four skills of listening, speaking, reading, and writing.  第二语言: 通过学习单元同侪压力和代沟,学生能够掌握同侪压力和代沟的原因和所带来的影响。探讨如何面对或应付日常生活中遇见的同侪压力和代沟。	Foreign Language: Overall Characteristics of Excellence:  • Mastery of Vocabulary: Fluent use of topic-specific terms (health, home, shopping, clothing).  • Confidence in Communication: Engaging confidently in both every day and formal discussions about the topics.  • Critical Thinking: Demonstrating an ability to analyze and synthesize information from various sources (e.g., comparing health advice from different articles).  • Cultural Understanding: Recognizing and reflecting on cultural differences in home life, fashion, or health practices, showing respect and curiosity.  第二语言: 在此单元中,学生能够听和读懂关于同侪压力和代沟的对话,能够捕捉话语中主要的信息,运用所学的

		<b>第一语言:</b> 在本单元中, 学生通过阅读文章了解不同的价值观念, 探讨与面对生活难题有关的课题。	词汇以及句子组织自己的观点,并有自信的将同侪压力和 代沟的问题表达出来。 第一语言:学生在理解了不同的价值观念后能够对相关课 题进行讨论,有条理地发表自己的想法,并以正确的写作 手法书写出自己对课题的看法。此外,学生能够理解文言 文的内容,并根据文章回答问题。
How will th	nis be assessed?	Group discussion, homework and assessment.	
Art & Design	Prep 1	In this unit, students will continue their research while experimenting with mixed media and techniques tailored to their subject matters, enhancing their artistic expression. They can incorporate various materials such as collage elements, textured layers, and digital illustrations combined with traditional painting to create layered, dynamic works. Techniques like blending ink and watercolor, combining photography with painting, or integrating sculpture into two-dimensional art will encourage creativity and personal expression. By exploring these diverse methods, students will develop their skills in planning and refining their subject matters.	Students will manifest through originality, technical skill, and thorough research, showcasing students' unique voices and perspectives in their artwork. Mastery of various mixed media and techniques will be evident as students skillfully combine drawing, painting, and collage to create visually compelling pieces. They will document their creative processes and engage in thoughtful self-assessment, demonstrating the ability to analyze and reflect on their work. Final outcomes will be presented professionally, with attention to composition and detail, while also exhibiting creativity and innovation through inventive combinations of techniques and materials.
How will this be assessed?		Feedback on experimentation with materials and init Summative Assessment: Assessment of the final outon	come based on creativity, technical skill, and originality. esearch to final presentation. Judgement of how well students

Humanities – Travel & Tourism	Unit 2: Global Tourism	Understanding factors affecting the scale of global tourism demand; explaining reasons for the growth of sustainable tourism; understanding features of destinations and their appeal to different types of tourists; explaining the role of organisations involved in the development and management of destinations; understanding factors affecting tourism development and management; evaluating the economic, environmental and sociocultural impacts of travel and tourism; discussing sustainable practices in destinations.	Excellence will look like a thorough understanding of each area of the unit, with an ability to apply their knowledge to a variety of different situations and case studies. Students will be able to analyse the reasons for certain factors and complete thoughtful evaluations of the impacts and effects of tourism through a variety of scenarios. Students will be able to answer 6-mark questions effectively with thorough application, analysis and evaluation completed confidently to result in regularly achieving full marks on exam-style questions.		
How will this be assessed?		Regular teacher, peer & self-assessment. Major assessment: Paper 1 exam-style questions on Unit 1 & 2.			
Humanities – Global Perspectives	Written exam; individual report; team report.	Students will develop their skills in the following areas: researching, analysing and evaluating information; developing and justifying a line of reasoning; reflecting on processes and on own learning; communicating information and reasoning; collaborating to achieve a common outcome.	Excellence will look like a clear knowledge and understanding of several of the topics involved in Global Perspectives. It will look like collaborative teamwork, solid referencing, finding the best information from the best sources and being able to adapt and evaluate this for their coursework purposes. Excellence in the written exam will look like being able to adapt their knowledge and skills to any topic and any question and write an effective answer.		
How will this be assessed?		Regular teacher, peer and self-assessment. Major assessment: exam-style questions.			
Music	Alla Turca by Wolfgang Amadeus Mozart	In this unit, students will explore Mozart's "Alla Turca," focusing on its lively tempo and unique melodic structure. They will analyze key sections and learn to play them, gaining a deeper understanding of its significance in classical music and enhancing their appreciation for Mozart's contributions.	Students will enhance their listening and playing skills with their instruments to effectively collaborate in an ensemble setting. They are expected to maintain consistent pitch and intonation, tempo, articulation, and rhythm while performing alongside their classmates.		
How will this be assessed?		Ensemble, Musical Elements			

		Healthy living Teamwork, communication, decision making, spatial awareness		
	Individual sports: Yoga & table tennis Team sports: Frisbee & basketball Healthy Living- fun games	Yoga:		
		Students will develop an understanding of various fitness components such as flexibility, balance, strength, and coordination. By creating their own yoga routines, they will enhance their creativity, body awareness, and flow between movements. This process will also improve their focus, mindfulness, and ability to design a sequence that promotes overall physical well-being.		
PE		Frisbee:		
		Students will gain skills in accurately throwing and catching a frisbee, learning different techniques to control the disc. They will also develop an understanding of gameplay strategies, including positioning, teamwork, and spatial awareness. Through gameplay, students will improve their hand-eye coordination, decision-making, and ability to work within a team.		
		Table Tennis:		
		Students will learn the fundamentals of serving, receiving, and gameplay. They will develop skills in executing accurate serves, returning shots with control, and reading their opponents' movements. Through gameplay, they will enhance their hand-		

## **Healthy Living**

- **Teamwork**: Proactive collaboration, effective support, and positive team dynamics.
- **Communication**: Clear, precise, and effective verbal and non-verbal communication.
- **Decision-Making**: Quick, strategic choices with strong situational awareness.
- Body Movement/Spatial Awareness: Efficient, coordinated movement with keen spatial awareness.
- Behavior: Consistent respect, responsibility, and positive influence on others.

## Yoga (Excellence):

- Routine Creation: A well-structured, balanced routine that flows smoothly between poses, showing creativity and thoughtfulness.
- **Fitness Components**: Demonstrates superior flexibility, balance, strength, and control in each pose.
- **Flow**: Transitions are seamless and fluid, maintaining a consistent pace and focus throughout the routine.

## Frisbee (Excellence):

- **Catching**: Consistently catches difficult throws with precision and confidence, even under pressure.
- Throwing: Demonstrates accurate, powerful throws using different techniques, adjusting to various game situations.
- **Gameplay**: Shows excellent spatial awareness, strategic positioning, and teamwork. Anticipates opponents' moves, makes quick decisions, and contributes effectively to the team's success.

