

Notes for 2024-25 planning

Term 1 – 1 st half	Term 1 – 2 nd half	Term 2 – 1 st half	Term 2 – 2 nd half	Term 3	
8 weeks	6 weeks	5.5 weeks	6 weeks	9 weeks	2 weeks
1 st Sept to 24 th Oct	3 rd Nov to 12 th Dec	5 th Jan to 10 th Feb	16 th Feb to 27 th March	6 th April to 4 th June	15 th June to 26 th June

Qatar National Identity

- **Sustainability** : self esteem and participation
- **Sustainability**: responsibility and creativity
- **Conscious thinking** about my **Actions**
- **Conscious thinking** about my **Future**
- **Conscious thinking** about my **Family**
- **Conscious thinking** about my **Country**
- **Conscious thinking** about my **Environment**
- **Conscious thinking** about my **Hobbies**
- **Conscious thinking** about my **Health**
- **Conscious thinking** about my **Role Models**

Global Citizenship

PHES Global Citizenship definition

“Promoting PRIDE to Empower, Unite & Thrive: Park House Global Citizens Embrace Diversity and Shape the Future”

Global citizens at Park House embrace cultural diversity, foster equality, and prepare for future challenges with open-mindedness and respect. Our **PRIDE values** - **Perseverance, Responsibility, Independence, Dedication, and Engagement** - guide us beyond academics to develop skills that enable us to thrive in an interconnected world. As well-rounded individuals, we understand our impact, promote justice, and take responsibility for a sustainable future and shared environment.

Curriculum Map Year 11 - Mathematics

Topic Name	Term	Content / skills developed with link to NC / exam board subject content (if applicable)	Reflection on previous learning	Progress to future learning	Global Citizenship links	Qatar National Identity links
The nth term of a sequence (linear) "	1	3.1A understand and use common difference (d) and first term (a) in an arithmetic sequence 3.1B know and use nth term = $a + (n - 1)d$ 3.1C find the sum of the first n terms of an arithmetic series (S_n)	Linear graphs Patterns in sequence	Linear programming	PRIDE values Prepare for challenge. Developing skills for the future	Sustain ability: self esteem and participa tion Sustain ability: responsi bility and creativit y
Sine rule, cosine rule and area rule	1	"3.1A understand and use common difference (d) and first term (a) in an arithmetic sequence 3.1B know and use nth term = $a + (n - 1)d$ 3.1C find the sum of the first n terms of an arithmetic series (S_n) "	Sine ratio's Pythagoras	Trig identities	PRIDE values Prepare for challenge. Developin g skills for the future	Sustain ability: self esteem and participa tion Sustain ability: responsi bility and creativit y
Reciprocal graphs	1	Sketching/ plotting reciprocal graphs	Plotting linear, quadratic and cubic graphs	Interpreting graphs, working out the gradient, differentiation	PRIDE values Prepare for challenge.	Sustain ability: self esteem and

					Developing skills for the future	participation Sustainability: responsibility and creativity
"More graphs and properties of graphs	1	<p>3.3A recognise, plot and draw graphs with equation:</p> $y = Ax^3 + Bx^2 + Cx + D$ <p>in which:</p> <p>(i) the constants are integers and some could be zero (ii) the letters x and y can be replaced with any other two letters or:</p> $y = Ax^3 + Bx^2 + Cx + D + \frac{E}{x} + \frac{F}{x^2}$ <p>in which:</p> <p>(i) the constants are numerical and at least three of them are zero (ii) the letters x and y can be replaced with any other two letters or:</p> $y = \sin x, y = \cos x, y = \tan x$ <p>for angles of any size (in degrees)</p> <p>3.3D find the gradients of non-linear graphs 3.3E find the intersection points of two graphs, one linear (y1) and one non-linear (y2), and recognise that the</p>	Plotting linear, quadratic and cubic graphs	Interpreting graphs, working out the gradient, differentiation	PRIDE values Prepare for challenge. Developing skills for the future	Sustainability: self esteem and participation Sustainability: responsibility and creativity

		solutions correspond to the solutions of $y^2 - y_1 = 0$ "				
Vectors	1	"5.1A understand that a vector has both magnitude and direction 5.1B understand and use vector notation including column vectors 5.1C multiply vectors by scalar quantities 5.1D add and subtract vectors 5.1E calculate the modulus (magnitude) of a vector 5.1F find the resultant of two or more vectors 5.1G apply vector methods for simple geometrical proofs "	Understanding the use of column vectors	Combining skills to answer more complex vector questions	PRIDE values Prepare for challenge. Developing skills for the future	Sustain ability: self esteem and participation Sustain ability: responsibility and creativity
Functions	2	"3.2A understand the concept that a function is a mapping between elements of two sets 3.2B use function notations of the form $f(x) = \dots$ and $f : x \dots$ 3.2C understand the terms 'domain' and 'range' and which values may need to be excluded from a domain 3.2D understand and find the composite function fg and the inverse function f^{-1} "	Substitution, Sets	Graphing functions Transformation of functions	PRIDE values Prepare for challenge. Developing skills for the future	Sustain ability: self esteem and participation Sustain ability: responsibility and creativity
Solving linear and non-linear simultaneous equations	2	"2.7D solve simultaneous equations in two unknowns, one equation being linear and the other being quadratic".	Solving linear simultaneous equations	To apply concept to any type of graphs	PRIDE values Prepare for challenge.	Sustain ability: self esteem and participation

					Developing skills for the future	Sustainability: responsibility and creativity
Circle theorems-intersecting lines	2	"4.6A understand and use the internal and external intersecting chord properties"	Angle facts linked to triangles, quadrilateral, parallel line and other circle theorems	Combining all circle theorems to solve problems	PRIDE values Prepare for challenge. Developing skills for the future	Sustainability: self esteem and participation Sustainability: responsibility and creativity
Quadratic inequalities	2	2.8A solve quadratic inequalities in one unknown and represent the solution set on a number line"	Plotting quadratic graphs	Linear programming	PRIDE values Prepare for challenge. Developing skills for the future	Sustainability: self esteem and participation Sustainability: responsibility and creativity
Volume and surface area of a pyramids, cones, spheres- recap	2	4.10A find the surface area and volume of pyramids, cones and spheres using relevant formulae.	Volume of cubes, cuboids, cones,	Combining different objects	PRIDE values	Sustainability: self

		Apply these to solve problems"" Problem solving with shapes that combine, spheres, cones , hemispheres etc. "	pyramids, sphere's etc	to solve harder problems	Prepare for challenge. Developin g skills for the future	esteem and participa tion Sustain ability: responsi bility and creativ ity
Graphs in practical situations	3	3.3A interpret information presented in a range of linear and non-linear graphs"	Reading different types of graphs	Accurately interpreting real life graphs	PRIDE values Prepare for challenge. Developin g skills for the future	Sustain ability: self esteem and participa tion Sustain ability: responsi bility and creativ ity
Differentiation	3	3.4A understand the concept of a variable rate of change 3.4B differentiate integer powers of x 3.4C determine gradients, rates of change, stationary points, turning points (maxima and minima) by differentiation and relate these to graphs 3.4D distinguish between maxima and minima by considering the general shape of the graph only 3.4E apply calculus to linear kinematics and to other simple practical problems "	Calculating the gradient from a tangent	Integration	PRIDE values Prepare for challenge. Developin g skills for the future	Sustain ability: self esteem and participa tion Sustain ability: responsi bility and creativ ity

Proof	3	"2.2E use algebra to support and construct proofs"	Solving equations Rearranging formula Substitution	Practice using mathematical literacy to communicate mathematical arguments	PRIDE values Prepare for challenge. Developing skills for the future	Sustain ability: self esteem and participation Sustain ability: responsibility and creativity
Transformation of functions	3	3.3B apply to the graph of $y = f(x)$ the transformations $y = f(x) + a$, $y = f(ax)$, $y = f(x + a)$, $y = af(x)$ for linear, quadratic, sine and cosine functions	Rotation Reflection Translation Enlargement	Combining transformations	PRIDE values Prepare for challenge. Developing skills for the future	Sustain ability: self esteem and participation Sustain ability: responsibility and creativity
Completing the square	3	2.7B solve quadratic equations by using the quadratic formula or completing the square Note: practice required to manipulate to different formats using completing the square"	Factoring quadratics Solving equations	Understanding the best method to use to solve quadratics.	PRIDE values Prepare for challenge. Developing skills for the future	Sustain ability: self esteem and participation Sustain ability: responsibility

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Revision