6th Grade Mathematics

Willows Preparatory School 2020-2021

Subject Aims

- Students appreciate the intrinsic fascination of mathematics and explore the world through its unique perceptions.
- Develop confidence, perseverance and independence in Mathematical thinking and problem solving.
- Communicate confidently and clearly in a variety of contexts.
- Appreciate the contribution of Mathematics in other areas.
- Reflect critically and constructively on their work and the work of others.
- Nurture the skills and knowledge required for students to take their studies in Mathematics beyond the MYP.

Keys to Class

- **OneNote –** We use OneNote to distribute course assignments, readings, links, and reflections. We also use OneNote as means of collaboration and project work.
- **Homework** – Our homework assignments revolve primarily around guiding students through the course material using a combination of applied contexts and practice drills. On average, students should be spending 20- 30 minutes on Math homework a day. This may fluctuate depending on projects taking place in class.
- **Collaborative learning environment** – Students are encouraged to engage the class and one another in discussion of principles and their implications.
- **Learning:** Students will learn mathematics with understanding and actively build new knowledge from experience and prior knowledge.
- **Technology:** Use different online sources, to enhance students' learning and productively challenge highly achieving students.

IB Grading Criteria

Objective A: Knowing and Understanding	• Do we have access to a selection of methods, processes and techniques? Can we apply them to challenging and unfamiliar problems?
Objective B: Investigating Patterns	• Can we generalize patterns and investigate their properties?
Objective C: Communicating	• Can we link together the different forms of Maths to produce accurate, coherent solutions?
Objective D: Applying Mathematics in content	• How do we identify what is relevant? Can we justify our answers and reflect on the accuracy of our solutions?

Content Brief

Unit 1. Integers (Algebra) **Chapter 1. Integers** **Chapter 2. Operations of Integers** **Unit 2. Algebraic Expressions (Algebra)** **Chapter 1. Variables in Expressions** **Chapter 2. Simplifying Variable Expressions** **Unit 3. Linear Equations and Functions (Algebra)** **Chapter 1. Solving Equations** **Chapter 2. Linear Functions and Graphs** **Unit 4. Systems of Equations (Algebra)** **Chapter 1. Solving Systems of Equations** **Chapter 2. Applications of Systems of Equations**	**Unit 5. Proportions (Algebra)** **Chapter 1. Proportions** **Chapter 2. Inverse Proportions** **Chapter 3. Applications of Proportions** **Unit 6. Plane Figures (Geometry)** **Chapter 1. Transformations** **Chapter 2. Constructions** **Unit 7. 3-D Figures (Geometry)** **Chapter 1. Solids** **Chapter 2. Surface Area and Volume** **Unit 8. Data (Statistics)** **Chapter 1. Variation in Data and Representative Values** **Chapter 2. Approximate Values**