

Algebra Syllabus

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Objective:

- To enjoy mathematics, develop curiosity and begin to appreciate its elegance and power
- To learn the tools, language, and expressions of Algebra
- To prepare students for Geometry and Algebra 2
- To build on previous years' instruction into statistics, geometry, graphing and the number system
- To push students to the limits of their abilities by helping and scaffolding them along the way

Textbook: Glencoe Algebra 1

Road Map

Chapter 0 - Preparing for Algebra

Unit 1 - What does the equal sign really mean? (**Relationships between Quantities**)

- Expressions, equations, and functions
- Linear Equations

Unit 2 - What in our world behaves as a **Linear Relationships** and how do we model it?

- Linear Functions
- Equations of linear functions
- Linear equalities
- System of linear equations and inequalities

Unit 3 - What in our world behaves as either an **Exponential or Quadratic Relationships** and how do we model it?

- Exponents and exponential functions
- Quadratic expressions and equations
- Quadratic functions and equations

Unit 4 - Should we explore radical math? (**Advanced Functions and Equations**)

- Radical functions and geometry
- Radical functions and equations

Unit 5 - How can **Data Analysis** help us make informed judgements?

- Statistics and probability

Class Structure:

1. **Warm up** - Review concept from yesterday, apply it in an unfamiliar situation, and transfer that knowledge to the new concept for the day
 2. **Homework Review** - We go over homework from the previous day
 3. **Lesson** - New material for the day
 4. **Homework time** - Practice on new material. Due the next class day. Complete as much as possible in class.
- 20 point quiz **every** Friday
 - Your homework from the week can be used as a reference
 - 100 point test at the end of each chapter

IB in Math

- As St. Luke transitions into an IB school, IB summative assessments are going to replace traditional tests and projects.
- In math, these assessments will test students on 4 Criterion:
 - Criterion A: Knowing and Understanding
 - Criterion B: Investigating Patterns
 - Criterion C: Communication
 - Criterion D: Application in Real Life Situations
- Approaches to Learning - We will additionally be working on the following study skill areas:
 - Communication, social, self management, research, and thinking

Additional Assignments:

- 50 point ALEKS assignments due on the first of the Month
 - ALEKs requirement is 20 topics learned per Month (ALEKS will inform you when you have completed the requirement)
- 25-50 point projects occasionally

Supplies:

- Spiral Notebook for homework, note taking, and warm-up problems
- Folder for loose papers, tests, and other handouts
- Pencils and Pens
- Graphing Calculator (TI-84+ recommended)
- Computer and internet access at home