Curriculum Guide for Arithmetic 6

Unit 1: Problem Solving, Numbers, & Algebra

7 Lessons

A6:1, A6:2, A6:11

<u>**Biblical Worldview Essential Questions**</u>
Where does Math come from?
Why does Math work?
How do you think God looks at Math?
Why do you think Math is important to God?
How does math help us to make sense of God's world around us?
How does order of operations compare to God's design for order?

Objectives	Methods	Resources	Assessment
The students will 1. estimate using rounding. 2. evaluate expressions using the order of operation. 3. evaluate numerical and simple algebraic expressions. 4. use powers and exponents. 5. solve equations by using mental math	• teacher lecture • teacher working examples on the board. • student guided practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework • video	• <u>Mathematics: Applications & Connections, Course,</u> Glencoe, 2001 • <u>Math-Drills.com</u> • <u>Quizizz.com</u> • <u>IXL.com</u> • Posters	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed Drills • Mid-chapter test • Final test

Curriculum Guide for Arithmetic 6

Unit 2: Statistics

9 Lessons

A6:1, A6:4, A6:7, A6:8, A6:12

<u>Essential Worldview Questions</u>
How is Math being misused or abused?
What do numbers represent and how do they help us order things in God's world?
How can objects be represented to help us understand the variety of God's creation?
How can we quantify our findings in a way that pleases God?
How are patterns used to make discoveries about God's creation/world?

Objectives	Methods	Resources	Assessment
The students will 1. make and interpret frequency tables. 2. construct bar and line graphs 3. interpret circle graphs. 4. construct stem-and-leaf plots 5. find the mean, median, mode and range to describe a set of data. 6. use ordered pairs to locate points and organize data.	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • student guided practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework • game	• <u>Mathematics: Applications & Connections, Course 1</u>, Glencoe, 2001 • <u>Math-Drills.com</u> • <u>Quizizz.com</u> • <u>IXL.com</u> • Posters • Coordinate Graph • Rulers	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed drills • Mid-chapter test • Final test

Curriculum Guide for Arithmetic 6

Unit 3: Adding & Subtracting Decimals

6 Lessons

A6:1, A6:2, A6:4, A6:12

<u>**Biblical Worldview Essential Questions**</u>
Why does Math work?
What do numbers represent and how do they help us order things in God's world?
How can objects be represented to help us understand the variety of God's creation?
How are math operations a testament to God's faithfulness and power?
How do these operations reflect God's consistency?
Who is holding Math together?
How do these concepts remind us that God created and sustains everything?

Objectives	Methods	Resources	Assessment
The students will 1. model, read, and write decimals. 2. compare decimals and order a set of decimals. 3. round decimals 4. estimate decimals, sums, and differences. 5. add and subtract decimals	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • student guided practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework	• <u>Mathematics: Applications & Connections, Course 1</u>, Glencoe, 2001 • <u>Math-Drills.com</u> • <u>Quizizz.com</u> • <u>IXL.com</u> • Posters • Grid paper	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed drills • Mid-chapter test • Final test

Curriculum Guide for Arithmetic 6

Unit 4: Multiplying & Dividing Decimals

9 Lessons

A6:1, A6:2, A6:3, A6:9

Biblical Worldview Essential Questions

Why does Math work?
What do numbers represent and how do they help us order things in God's world?
How can objects be represented to help us understand the variety of God's creation?
How are math operations a testament to God's faithfulness and power?
How do these operations reflect God's consistency?
Who is holding Math together?
How do these concepts remind us that God created and sustains everything?

Objectives	Methods	Resources	Assessment
The students will 1. compute products using the distributive property. 2. multiply decimals. 3. find the perimeters and the areas of rectangles and squares. 4. divide decimals by whole numbers and by decimals. 5. use metric units of mass and capacity. 6. change unit within the metric system	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • student guided practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework	• Mathematics: Applications & Connections, Course 1, Glencoe, 2001 • Math-Drills.com • Quizizz.com • IXL.com • Grid paper • Posters	• Completion of homework • Board work • Participations in class activities • Answering questions during classwork • Quizzes • Speed drills • Mid-chapter test • Final test

Curriculum Guide for Arithmetic 6

Unit 5: Using Number Patterns, Fractions, & Ratios

10 Lessons

A6:1, A6:5

<u>**Biblical Worldview Essential Questions**</u>
How does this show math as an integral part of God's creation?
How do these mathematical principles reflect God's spiritual processes?
Why do you think order, accuracy, precision, and balance are important to God?
How are these concepts utilized in daily life?
How can we use God's gift of the numerical system to understand the world and all created things?

Objectives	Methods	Resources	Assessment
The students will 1. find the prime factorization of a composite number. 2. find the greatest common factor of two or more numbers. 3. express fractions and ratios in simplest form 4. express mixed numbers as improper fractions and vice versa 5. find the least common multiple of two or more numbers. 6. express fractions as terminating and repeating decimals	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • student guided practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework	• <u>Mathematics: Applications & Connections, Course 1</u>, Glencoe, 2001 • <u>Math-Drills.com</u> • <u>Quizizz.com</u> • <u>IXL.com</u> • Posters	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed drills • Mid-chapter test • Final test

Curriculum Guide for Arithmetic 6

Unit 6: Adding & Subtracting Fractions

7 Lessons

A6:1, A6:2, A6:4, A6:5, A6:12

<u>**Biblical Worldview Essential Questions**</u>
What does numerical reasoning involve and what does it demonstrate about God's world?
How does this show math as an integral part of God's creation?
How do these mathematical principles reflect God's spiritual processes?
Why do you think order, accuracy, precision, and balance are important to God?
How are these concepts utilized in daily life?

Objectives	Methods	Resources	Assessment
The students will 1. round fractions and mixed numbers 2. add and subtract fractions with like and unlike denominators. 3. add and subtract mixed numbers. 4. add and subtract measures of time.	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • student guided practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework	• <u>Mathematics: Applications & Connections, Course 1</u>, Glencoe, 2001 • Math-Drills.com • Quizizz.com • IXL.com • Posters • Grid paper	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed drills • Mid-chapter test • Final test

Curriculum Guide for Arithmetic 6

Unit 7: Multiplying & Dividing Fractions

8 Lessons

A6:1, A6:2, A6:3, A6:4, A6:5, A6:9

<u>**Biblical Worldview Essential Questions**</u>
What does numerical reasoning involve and what does it demonstrate about God's world?
How does this show math as an integral part of God's creation?
How do these mathematical principles reflect God's spiritual processes?
Why do you think order, accuracy, precision, and balance are important to God?
How are these concepts utilized in daily life?

Objectives	Methods	Resources	Assessment
The students will 1. multiply fractions and mixed numbers. 2. find the circumference of circles. 3. divide fractions and mixed numbers. 4. change units within the customary system. 5. recognize and extend sequences	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • student guided practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework	• <u>Mathematics: Applications & Connections, Course 1</u>, Glencoe, 2001 • <u>Math-Drills.com</u> • <u>Quizizz.com</u> • <u>IXL.com</u> • Posters • Grid paper	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed drills • Mid-chapter test • Final test

Curriculum Guide for Arithmetic 6

Unit 8: Exploring Ratio, Proportion, & Percent

7 Lessons

A6:1, A6:4, A6:6, A6:12

<u>**Biblical Worldview Essential Questions**</u>

How does this show math as an integral part of God's creation?
How do these mathematical principles reflect God's spiritual processes?
Why do you think order, accuracy, precision, and balance are important to God?
How are these concepts utilized in daily life?
How can we use God's gift of the number system to understand the world and all created things?

Objectives	Methods	Resources	Assessment
The students will 1. express ratios and rates as fractions 2. solve proportions by using cross products. 3. express percents as fractions and vice versa 4. express percents as decimals and vice versa 5. find the percents of a number	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • student guided practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework	• <u>Mathematics: Applications & Connections, Course 1</u>, Glencoe, 2001 • <u>Math-Drills.com</u> • <u>Quizizz.com</u> • <u>IXL.com</u> • Posters • Grid paper	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed drills • Mid-chapter test • Final test

Unit 9: Geometry: Investigating Patterns

6 Lessons

A6:1, A6:9, A6:12

Biblical Worldview Essential Questions
What geometric shapes do you see in nature?
How does geometry reveal God?
Are shapes in nature purposeful?
How does the study of geometrical principles help us to better understand God's creation?
How is symmetry reflected throughout God's creation?

Objectives	Methods	Resources	Assessment
The students will 1. classify and measure angles. 2. draw angles and estimate measures of angles. 3. name two-dimensional figures 4. describe and define lines of symmetry. 5. determine congruence and similarity	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework	• Mathematics: Applications & Connections, Course 1, Glencoe, 2001 • Math-Drills.com • Quizizz.com • IXL.com • Posters • Protractor • Compass	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed drills • Mid-chapter test • Final test

Curriculum Guide for Arithmetic 6

Unit 10: Geometry: Understanding Area & Volume

6 Lessons

A6:1, A6:9

Biblical Worldview Essential Questions
What geometric shapes do you see in nature?
How does geometry reveal God?
How does the study of geometrical principles help us to better understand God's creation?
When does man use his knowledge of shapes for evil purposes?
How do shapes and their parts help us appreciate God's creation?

Objectives	Methods	Resources	Assessment
The students will 1. find the area of parallelograms. 2. find the area of triangles. 3. find the area of circle. 4. identify three-dimensional figures. 5. find the volume of rectangular prisms. 6. find the surface area of rectangular prisms	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • student guided practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework	• Mathematics: Applications & Connections, Course 1, Glencoe, 2001 • Math-Drills.com • Quizizz.com • IXL.com • Posters • Grid paper • Geometric solids	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed drills • Mid-chapter test • Final test

Curriculum Guide for Arithmetic 6

Unit 11: Algebra: Investigating Integers

8 Lessons

A6:1, A6:2, A6:4, A6:10, A6:12

<u>**Biblical Worldview Essential Questions**</u>
What do these mathematical principles demonstrate about God?
How do these principles demonstrate God's orderliness?
How do these principles demonstrate God's precision?
How can objects be represented to help us understand the variety of God's creation?
How do numerical patterns link us to an infinite God?

Objectives	Methods	Resources	Assessment
The students will 1. identify, name and graph integers. 2. compare and order integers. 3. add and subtract integers using models. 4. multiply and divide integers using models. 5. graph ordered pairs of numbers on a coordinate grid	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • student practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework	• <u>Mathematics: Applications & Connections, Course 1</u>, Glencoe, 2001 • <u>Math-Drills.com</u> • <u>Quizizz.com</u> • <u>IXL.com</u> • Posters • Grid paper • Counters • Integer Mats • Number line	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed drills • Mid-chapter test • Final test

Unit 12: Algebra: Exploring Equations

6 Lessons

A6:1, A6:2, A6:4, A6:10, A6:11, A6:12

<u>Biblical Worldview Essential Questions</u>

What do these mathematical principles demonstrate about God?
How do these principles demonstrate God's orderliness?
How do these principles demonstrate God's precision?
How can objects be represented to help us understand the variety of God's creation?
How do numerical patterns link us to an infinite God?

Objectives	Methods	Resources	Assessment
The students will 1. solve addition and subtraction equations using models. 2. solve multiplication and division equations using models. 3. solve two-step equations using models. 4. complete function tables 5. graph functions from function tables	• teacher lecture • teacher working examples on the board. • teacher showing problems with ELMO. • student guided practice of problems in book • cooperative learning groups • individual assistance • partner work • worksheets • homework	• <u>Mathematics: Applications & Connections, Course 1</u>, Glencoe, 2001 • <u>Math-Drills.com</u> • <u>Quizizz.com</u> • <u>IXL.com</u> • Posters • Grid paper	• Completion of homework • Board work • Participations in class activities • Answering questions during class work • Quizzes • Speed drills • Mid-chapter test • Final test