

**Hardin County Schools Combined Curriculum Guide
Mathematics -- Fifth Grade – Algebraic Thinking
DRAFT**

Big Idea	ALGEBRAIC THINKING			
Academic Expectations	2.8 Students understand various mathematical procedures and use them appropriately and accurately. 2.11 Students understand mathematical change concepts and use them appropriately and accurately. 2.12 Students understand mathematical structure concepts including the properties and logic of various mathematical systems.			
POS Understandings	MA-5-AT-U-1 Students will understand that patterns, relations and functions are tools that help explain or predict real-world phenomena.	9 Weeks Taught	1 2 3 4	
POS Skills & Concepts	Date(s) Taught	Core Content for Assessment	Objective	Essential Vocabulary
MA-5-AT-S-PRF1 Students will create, recognize, extend, find and write rules for patterns.		MA-05-5.1.1 Students will extend patterns, find the missing term(s) in a pattern or describe rules for patterns (numbers, pictures, tables, words) from real-world and mathematical problems. <div style="text-align: right;">DOK 3</div>	I can use functions to create, recognize, extend, find, and write rules for patterns to solve real-world problems.	
Strategies & Activities		Resources		Common Assessments
		Essential Questions		Higher Order Questions

**Hardin County Schools Combined Curriculum Guide
Mathematics -- Fifth Grade – Algebraic Thinking
DRAFT**

POS Understandings	MA-5-AT-U-2 Students will understand that numerical patterns can be written as rules that generate the pattern.			9 Weeks Taught	1 2 3 4
POS Skills & Concepts	Date(s) Taught	Core Content for Assessment	Objective	Essential Vocabulary	
MA-5-AT-S-PRF2 Students will generalize a rule for sets of ordered pairs.		MA-05-5.1.1 Students will extend patterns, find the missing term(s) in a pattern or describe rules for patterns (numbers, pictures, tables, words) from real-world and mathematical problems. DOK 3			
Strategies & Activities		Resources	Common Assessments		
		Essential Questions	Higher Order Questions		

**Hardin County Schools Combined Curriculum Guide
Mathematics -- Fifth Grade – Algebraic Thinking
DRAFT**

POS Understandings		MA-5-AT-U-3 Students will understand that algebra represents mathematical situations and structures for analysis and problem solving.		9 Weeks Taught	1 2 3 4
POS Skills & Concepts		Date(s) Taught	Core Content for Assessment	Objective	Essential Vocabulary
<p>MA-5-AT-S-VEO1 Students will explore unknowns and open sentences to express relationships.</p> <p>MA-5-AT-S-VEO2 Students will represent real-world situations with mathematical sentences containing missing values.</p> <p>MA-5-AT-S-VEO3 Students will use variables or missing values to model verbal descriptions of real-world situations.</p> <p>MA-5-AT-S-EI1 Students will apply simple equations and simple inequalities to solve mathematical and/or real-world problems.</p>			<p>MA-05-5.3.1 Students will model real-world and mathematical problems with simple number sentences (equations and inequalities) with a variable or missing value (e.g., $4 = 2 \times N$, $__ + 5 > 14$) and apply simple number sentences to solve mathematical and real-world problems.</p> <p style="text-align: right;">DOK 2</p>	I can model real-world problems using simple number sentences with a variable or missing value.	
Strategies & Activities			Resources	Common Assessments	
			Essential Questions	Higher Order Questions	

**Hardin County Schools Combined Curriculum Guide
Mathematics -- Fifth Grade – Algebraic Thinking
DRAFT**

POS Understandings		MA-5-AT-U-4 Students will understand that real-world situations can be represented using mathematical models to analyze quantitative relationships.		9 Weeks Taught	1 2 3 4
POS Skills & Concepts		Date(s) Taught	Core Content for Assessment	Objective	Essential Vocabulary
<p>MA-5-AT-S-PRF4 Students will construct tables to analyze functions based on real-world or mathematical situations.</p> <p>MA-5-AT-S-VEO3 Students will use variables or missing values to model verbal descriptions of real-world situations.</p> <p>MA-5-AT-S-EI2 Students will model real-world situations with simple number sentences using manipulatives, numbers, variables and/or symbols.</p>			<p>MA-05-5.3.1 Students will model real-world and mathematical problems with simple number sentences (equations and inequalities) with a variable or missing value (e.g., $4 = 2 \times N$, $__ + 5 > 14$) and apply simple number sentences to solve mathematical and real-world problems.</p> <p style="text-align: right;">DOK 2</p>		
Strategies & Activities			Resources	Common Assessments	
			Essential Questions	Higher Order Questions	

**Hardin County Schools Combined Curriculum Guide
Mathematics -- Fifth Grade – Algebraic Thinking
DRAFT**

POS Understandings	MA-5-AT-U-5 Students will understand that functions are used to analyze change in various contexts and model real-world phenomena.		9 Weeks Taught	1 2 3 4
	MA-5-AT-U-6 Students will understand that functions can be written in words, as a symbolic sentence or in a table.			
POS Skills & Concepts	Date(s) Taught	Core Content for Assessment	Objective	Essential Vocabulary
MA-5-AT-S-PRF3 Students will describe input-output functions through pictures, tables and/or words MA-5-AT-S-PRF4 Students will construct tables to analyze functions based on real-world or mathematical situations		MA-05-5.2.1 Students will model verbal descriptions of real-world and mathematical problems using a variable or a missing value in an expression. <div style="text-align: right;">DOK 2</div>	I can model verbal descriptions of real-world problems using a variable or a missing value in an expression.	
Strategies & Activities		Resources	Common Assessments	
		Essential Questions	Higher Order Questions	