EUREKA MATH<sup>®</sup>

G R E A T M I N D S

# Grade 1 | Arkansas Mathematics Standards Correlation to Eureka Math®

#### About Eureka Math

Created by Great Minds®, a mission-driven Public Benefit Corporation, *Eureka Math*® helps teachers deliver unparalleled math instruction that provides students with a deep understanding and fluency in math. Crafted by teachers and math scholars, the curriculum carefully sequences the mathematical progressions to maximize coherence from Prekindergarten through Precalculus—a principle tested and proven to be essential in students' mastery of math.

Teachers and students using *Eureka Math* find the trademark "Aha!" moments in *Eureka Math* to be a source of joy and inspiration, lesson after lesson, year after year.

### **Aligned**

Great Minds offers detailed analyses that demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.

#### Data

Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at <u>greatminds.org/data</u>.

#### **Full Suite of Resources**

Great Minds offers the *Eureka Math* curriculum as PDF downloads for free, noncommercial use. Access the free PDFs at <u>greatminds.org/math/curriculum</u>.

The teacher-writers who created the curriculum have also developed essential resources, available only from Great Minds, including the following:

- Printed material in English and Spanish
- Digital resources
- · Professional development
- Classroom tools and manipulatives
- Teacher support materials
- Parent resources

### **Standards for Mathematical Practice**

#### MP.1

Make sense of problems and persevere in solving them.

#### MP.2

Reason abstractly and quantitatively.

#### **MP.3**

Construct viable arguments and critique the reasoning of others.

#### MP.4

Model with mathematics.

#### MP.5

Use appropriate tools strategically.

#### MP.6

Attend to precision.

#### MP.7

Look for and make use of structure.

#### **MP.8**

Look for and express regularity in repeated reasoning.

### Aligned Components of Eureka Math

Lessons in every module engage students in mathematical practices. These are designated in the Module Overview and labeled in lessons.

For example:

A STORY OF UNITS

Lesson 2 1 • 2



- T: So, even though they added two different numbers together first, did they get the same total?
- T: Wow! Okay. Let's try this again. Let's use Bob's strategy of making ten from two of our addends. (Write 7 + 5 + 3 =\_\_\_\_.) Write the equation. Draw to show the three amounts.
- S: (Draw to show the three quantities.)
- T: What two numbers make ten?
- T: Good. Show that 7 and 3 make ten in your drawing by circling like we did yesterday with the string.



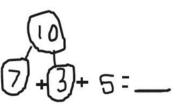
- S: (Circle the 3 and the 7, making a group of 10.)
- Here is a new number sentence that shows what numbers you added first. (Write 7 + 3 + 5 = \_\_\_\_.)
- T: I'll make a number bond to show how you made ten from two numbers. (Bond the 7 and 3 to make ten.)
- T: You just showed 10 and 5 more, which equals...?
- T: Good. I'll show how we solved for the unknown. I'll write the new number sentence explaining what we just did, starting with 10.
- S: (Solve 7 + 3 + 5 =\_\_\_ while the teacher writes 10 + 5 = 15.)
- T: Jo showed us at the beginning of the lesson that she could solve from left to right, without moving the addends around, in order to get the same answer as Bob. Work and talk with your partner to see if this is

Repeat this process using the following suggested sequence: 9 + 2 + 1, 2 + 4 + 8 (highlighting that students might begin with the 8 rather than the 2), 4 + 3 + 6, and 3 + 8 + 7. Students complete the number sentence while the teacher completes the drawing for the third example.



#### NOTES ON **MULTIPLE MEANS** OF ENGAGEMENT:

Addends should be chosen so that students can easily identify the partners to ten, recognizing that they can add these two addends first, regardless of where they are positioned within the number sentence. If students are not fluent with 7 and 3, they may be replaced with 9 and 1, respectively.



### **Number & Place Value**

#### Counting

Students extend the counting sequence.

### **Arkansas Mathematics Standards**

# Aligned Components of Eureka Math

1.NPV.1	G1 M4 Lesson 1: Compare the efficiency of counting by ones and counting by tens.
Count forward and back within 120 by ones and tens from any given whole number.	G1 M6 Lesson 7: Count and write numbers to 120. Use Hide Zero cards to relate numbers 0 to 20 to 100 to 120.
	G1 M6 Lesson 8: Count to 120 in unit form using only tens and ones. Represent numbers to 120 as tens and ones on the place value chart.
	G1 M6 Lesson 9: Represent up to 120 objects with a written numeral.
1.NPV.2	Supplemental material is necessary to address this standard.
Skip count forward by multiples of fives within 120.	

### **Number & Place Value**

#### **Place Value**

Students understand the base ten place value system.

### **Arkansas Mathematics Standards**

# Aligned Components of Eureka Math

#### 1.NPV.3

Explain the place value of ones and tens in two-digit numbers, using concrete models, diagrams, numbers, or words.

G1 M2 Topic D: Varied Problems with Decompositions of Teen Numbers as 1 Ten and Some Ones

G1 M4 Topic A: Tens and Ones

G1 M4 Lesson 23: Interpret two-digit numbers as tens and ones, including cases with more than 9 ones.

G1 M6 Lesson 3: Use the place value chart to record and name tens and ones within a two-digit number up to 100.

G1 M6 Lesson 4: Write and interpret two-digit numbers to 100 as addition sentences that combine tens and ones.

G1 M6 Lesson 24: Use dimes and pennies as representations of numbers to 120.

# Aligned Components of Eureka Math

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Read, write, and represent whole numbers up to 120, using concrete models or drawings, word form, base ten numerals, and expanded form.

G1 M6 Lesson 3: Use the place value chart to record and name tens and ones within a two-digit number up to 100.

G1 M6 Lesson 4: Write and interpret two-digit numbers to 100 as addition sentences that combine tens and ones.

G1 M6 Lesson 24: Use dimes and pennies as representations of numbers to 120.

G2 M3 Lesson 5: Write base ten three-digit numbers in unit form; show the value of each digit.

G2 M3 Lesson 6: Write base ten numbers in expanded form.

G2 M3 Lesson 7: Write, read, and relate base ten numbers in all forms.

#### 1.NPV.5

Use concrete models or drawings to subtract multiples of 10 from multiples of 10 (within the range of 10–90), relate the strategy to a written expression or equation, and explain the reasoning used to solve.

G1 M4 Lesson 11: Add and subtract tens from a multiple of 10.

G1 M6 Lesson 10: Add and subtract multiples of 10 from multiples of 10 to 100, including dimes.

#### 1.NPV.6

Use mental strategies to find  $10~\rm more$  or  $10~\rm less$  than a given two-digit number.

 ${\sf G1\,M4\,Lesson\,5:}$  Identify 10 more, 10 less, 1 more, and 1 less than a two-digit number.

G1 M4 Lesson 6: Use dimes and pennies as representations of tens and ones.

 ${\it G1\,M6\,Lesson\,5:\,Identify\,10\,more,\,10\,less,\,1\,more,\,and\,1\,less\,than\,a\,two-digit\,number\,within\,100.}$ 

### **Number & Place Value**

#### Comparison

Students use place value understanding to compare numbers.

### **Arkansas Mathematics Standards**

### Aligned Components of Eureka Math

#### 1.NPV.7

Compare two two-digit numbers using symbols (<, =, >) based on the value of tens and ones in the given numbers.

G1 M4 Topic B: Comparison of Pairs of Two-Digit Numbers

G1 M6 Lesson 6: Use the symbols >, =, and < to compare quantities and numerals to 100.

### **Number & Place Value**

#### **Fraction Foundations**

Students build a conceptual understanding of fractions.

### **Arkansas Mathematics Standards**

# Aligned Components of Eureka Math

#### 1.NPV.8

Partition circles and rectangles into two and four equal shares, describing the shares using the words halves, fourths, and quarters; understand that decomposing into more equal pieces creates smaller pieces. G1 M5 Topic C: Halves and Quarters of Rectangles and Circles

G1 M5 Lesson 11: Recognize halves within a circular clock face and tell time to the half-hour.

G1 M5 Lesson 12: Recognize halves within a circular clock face and tell time to the half-hour.

G1 M5 Lesson 13: Recognize halves within a circular clock face and tell time to the half-hour.

# **Computation & Algebraic Reasoning**

### **Operations & Properties**

Students perform operations using place value understanding and properties of operations.

### **Arkansas Mathematics Standards**

# Aligned Components of Eureka Math

#### 1.CAR.1

Add and subtract fluently within 10 with mastery by the end of first grade.

G1 M1 Topic A: Embedded Numbers and Decompositions

G1 M1 Topic B: Counting On from Embedded Numbers

G1 M1 Topic C: Addition Word Problems

G1 M1 Topic D: Strategies for Counting On

G1 M1 Topic E: The Commutative Property of Addition and the Equal Sign

G1 M1 Topic F: Development of Addition Fluency Within 10

G1 M1 Topic G: Subtraction as an Unknown Addend Problem

G1 M1 Topic I: Decomposition Strategies for Subtraction

G1 M1 Topic J: Development of Subtraction Fluency Within 10

G1 M2 Lesson 2: Use the associative and commutative properties to make ten with three addends.

G1 M2 Lesson 3: Make ten when one addend is 9.

G1 M2 Lesson 4: Make ten when one addend is 9.

G1 M2 Lesson 5: Compare efficiency of counting on and making ten when one addend is 9.

G1 M2 Lesson 6: Use the commutative property to make ten.

G1 M2 Lesson 7: Make ten when one addend is 8.

G1 M2 Lesson 8: Make ten when one addend is 8.

G1 M2 Lesson 9: Compare efficiency of counting on and making ten when one addend is 8.

G1 M2 Lesson 10: Solve problems with addends of 7, 8, and 9.

G1 M2 Lesson 11: Share and critique peer solution strategies for put together with total unknown word problems.

G1 M2 Topic B: Counting On or Taking from Ten to Solve Result Unknown and Total Unknown Problems

# Aligned Components of *Eureka Math*

1.CAR.1 continued	G1 M2 Lesson 25: Strategize and apply understanding of the equal sign to solve equivalent
	expressions.
	G1 M2 Lesson 27: Solve addition and subtraction problems decomposing and composing teen numbers as 1 ten and some ones.
	G1 M2 Lesson 28: Solve addition problems using ten as a unit, and write two-step solutions.
	G1 M2 Lesson 29: Solve subtraction problems using ten as a unit, and write two-step solutions.
	G1 M6 Topic G: Culminating Experiences
1.CAR.2	G1 M1 Topic A: Embedded Numbers and Decompositions
Use computational fluency to add and	G1 M1 Topic B: Counting On from Embedded Numbers
subtract within 20 using manipulatives and/or a variety of strategies.	G1 M1 Topic C: Addition Word Problems
and/or a variety of strategies.	G1 M1 Topic D: Strategies for Counting On
	G1 M1 Topic E: The Commutative Property of Addition and the Equal Sign
	G1 M1 Topic F: Development of Addition Fluency Within 10
	G1 M1 Topic G: Subtraction as an Unknown Addend Problem
	G1 M1 Topic I: Decomposition Strategies for Subtraction
	G1 M1 Topic J: Development of Subtraction Fluency Within 10
	G1 M2 Lesson 2: Use the associative and commutative properties to make ten with three addends
	G1 M2 Lesson 3: Make ten when one addend is 9.
	G1 M2 Lesson 4: Make ten when one addend is 9.
	G1 M2 Lesson 5: Compare efficiency of counting on and making ten when one addend is 9.
	G1 M2 Lesson 6: Use the commutative property to make ten.
	G1 M2 Lesson 7: Make ten when one addend is 8.
	G1 M2 Lesson 8: Make ten when one addend is 8.
	G1 M2 Lesson 9: Compare efficiency of counting on and making ten when one addend is 8.

# Aligned Components of Eureka Math

1.CAR.2 continued	G1 M2 Lesson 10: Solve problems with addends of 7, 8, and 9.
	G1 M2 Lesson 11: Share and critique peer solution strategies for put together with total unknown word problems.
	G1 M2 Topic B: Counting On or Taking from Ten to Solve Result Unknown and Total Unknown Problems
	G1 M2 Lesson 25: Strategize and apply understanding of the equal sign to solve equivalent expressions.
	G1 M2 Lesson 27: Solve addition and subtraction problems decomposing and composing teen numbers as 1 ten and some ones.
	G1 M2 Lesson 28: Solve addition problems using ten as a unit, and write two-step solutions.
	G1 M2 Lesson 29: Solve subtraction problems using ten as a unit, and write two-step solutions.
	G1 M6 Topic G: Culminating Experiences
1.CAR.3	G1 M1 Topic A: Embedded Numbers and Decompositions
Apply properties of operations to add and subtract within 20.	G1 M1 Topic B: Counting On from Embedded Numbers
	G1 M1 Topic C: Addition Word Problems
	G1 M1 Topic D: Strategies for Counting On
	G1 M1 Topic E: The Commutative Property of Addition and the Equal Sign
	G1 M1 Topic F: Development of Addition Fluency Within 10
	G1 M1 Topic G: Subtraction as an Unknown Addend Problem
	G1 M1 Topic I: Decomposition Strategies for Subtraction
	G1 M1 Topic J: Development of Subtraction Fluency Within 10
	G1 M2 Lesson 2: Use the associative and commutative properties to make ten with three addends.
	G1 M2 Lesson 3: Make ten when one addend is 9.
	G1 M2 Lesson 4: Make ten when one addend is 9.
	G1 M2 Lesson 5: Compare efficiency of counting on and making ten when one addend is 9.

# Aligned Components of Eureka Math

#### 1.CAR.3 continued

G1 M2 Lesson 6: Use the commutative property to make ten.

G1 M2 Lesson 7: Make ten when one addend is 8.

G1 M2 Lesson 8: Make ten when one addend is 8.

G1 M2 Lesson 9: Compare efficiency of counting on and making ten when one addend is 8.

G1 M2 Lesson 10: Solve problems with addends of 7, 8, and 9.

G1 M2 Lesson 11: Share and critique peer solution strategies for put together with total unknown word problems.

G1 M2 Topic B: Counting On or Taking from Ten to Solve Result Unknown and Total Unknown Problems

G1 M2 Lesson 25: Strategize and apply understanding of the equal sign to solve equivalent expressions.

G1 M2 Lesson 27: Solve addition and subtraction problems decomposing and composing teen numbers as 1 ten and some ones.

G1 M2 Lesson 28: Solve addition problems using ten as a unit, and write two-step solutions.

G1 M2 Lesson 29: Solve subtraction problems using ten as a unit, and write two-step solutions.

G1 M6 Topic G: Culminating Experiences

#### 1.CAR.4

Use concrete models or drawings to add within 100, including a two-digit number and a one-digit number as well as a two-digit number and a multiple of ten; relate strategy used to a written expression or equation and explain reasoning.

G1 M4 Lesson 12: Add tens to a two-digit number.

G1 M4 Topic D: Addition of Tens or Ones to a Two-Digit Number

G1 M4 Lesson 24: Add a pair of two-digit numbers when the ones digits have a sum less than or equal to 10.

G1 M4 Lesson 25: Add a pair of two-digit numbers when the ones digits have a sum less than or equal to 10.

 $\mathsf{G1}\,\mathsf{M4}\,\mathsf{Lesson}\,\mathsf{26}$ : Add a pair of two-digit numbers when the ones digits have a sum greater than 10.

G1 M4 Lesson 27: Add a pair of two-digit numbers when the ones digits have a sum greater than 10.

G1 M4 Lesson 28: Add a pair of two-digit numbers with varied sums in the ones.

# Aligned Components of Eureka Math

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1.CAR.4 continued	G1 M4 Lesson 29: Add a pair of two-digit numbers with varied sums in the ones.
	G1 M6 Topic C: Addition to 100 Using Place Value Understanding
	G1 M6 Topic D: Varied Place Value Strategies for Addition to 100
1.CAR.5	G1 M1 Topic G: Subtraction as an Unknown Addend Problem
Demonstrate the relationship between addition and subtraction by solving problems, using an inverse operation.	G1 M1 Lesson 29: Solve take apart with addend unknown math stories with math drawings, equations, and statements, circling the known part to find the unknown.
	G1 M1 Lesson 30: Solve add to with change unknown math stories with drawings, relating addition and subtraction.
	G1 M1 Lesson 31: Solve take from with change unknown math stories with drawings.
	G1 M1 Lesson 32: Solve put together/take apart with addend unknown math stories.
	G1 M2 Lesson 12: Solve word problems with subtraction of $9$ from $10$ .
	G1 M2 Lesson 13: Solve word problems with subtraction of $9$ from $10$ .
	G1 M2 Lesson 14: Model subtraction of 9 from teen numbers.
	G1 M2 Lesson 15: Model subtraction of 9 from teen numbers.
	G1 M2 Lesson 16: Relate counting on to making ten and taking from ten.
	G1 M2 Lesson 17: Model subtraction of 8 from teen numbers.
	G1 M2 Lesson 18: Model subtraction of 8 from teen numbers.
	G1 M2 Lesson 19: Compare efficiency of counting on and taking from ten.
	G1 M2 Lesson 21: Share and critique peer solution strategies for take from with result unknown and take apart with addend unknown word problems from the teens.
	G1 M2 Lesson 22: Solve put together/take apart with addend unknown word problems, and relate counting on to the take from ten strategy.
	G1 M2 Lesson 23: Solve add to with change unknown problems, relating varied addition and subtraction strategies.
	G1 M2 Lesson 24: Strategize to solve take from with change unknown problems.
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# **Computation & Algebraic Reasoning**

**Problem Solving** 

Students solve real-world problems.

### **Arkansas Mathematics Standards**

# Aligned Components of Eureka Math

#### 1.CAR.6

Solve real-world problems involving addition and subtraction within 20.

G1 M1 Topic B: Counting On from Embedded Numbers

G1 M1 Topic C: Addition Word Problems

G1 M1 Lesson 25: Solve add to with change unknown math stories with addition, and relate to subtraction. Model with materials, and write corresponding number sentences.

G1 M1 Topic H: Subtraction Word Problems

G1 M2 Lesson 1: Solve word problems with three addends, two of which make ten.

G1 M2 Lesson 3: Make ten when one addend is 9.

G1 M2 Lesson 4: Make ten when one addend is 9.

G1 M2 Lesson 7: Make ten when one addend is 8.

G1 M2 Lesson 8: Make ten when one addend is 8.

G1 M2 Lesson 11: Share and critique peer solution strategies for put together with total unknown word problems.

G1 M2 Lesson 12: Solve word problems with subtraction of 9 from 10.

G1 M2 Lesson 13: Solve word problems with subtraction of 9 from 10.

G1 M2 Lesson 21: Share and critique peer solution strategies for take from with result unknown and take apart with addend unknown word problems from the teens.

G1 M2 Lesson 22: Solve put together/take apart with addend unknown word problems, and relate counting on to the take from ten strategy.

G1 M2 Lesson 23: Solve add to with change unknown problems, relating varied addition and subtraction strategies.

G1 M2 Lesson 24: Strategize to solve take from with change unknown problems.

G1 M2 Lesson 27: Solve addition and subtraction problems decomposing and composing teen numbers as 1 ten and some ones.

# Aligned Components of Eureka Math

1.CAR.6 continued	G1 M2 Lesson 28: Solve addition problems using ten as a unit, and write two-step solutions.
	G1 M2 Lesson 29: Solve subtraction problems using ten as a unit, and write two-step solutions.
	G1 M3 Lesson 9: Answer compare with difference unknown problems about lengths of two different objects measured in centimeters.
	G1 M3 Lesson 12: Ask and answer varied word problem types about a data set with three categories.
	G1 M3 Lesson 13: Ask and answer varied word problem types about a data set with three categories.
	G1 M4 Topic E: Varied Problem Types Within 20
	G1 M6 Topic A: Comparison Word Problems
	G1 M6 Topic F: Varied Problem Types Within 20
1.CAR.7	G1 M2 Lesson 1: Solve word problems with three addends, two of which make ten.
Solve real-world problems involving addition of three whole numbers whose sum is less than or equal to 20.	G1 M2 Lesson 2: Use the associative and commutative properties to make ten with three addends.

# **Computation & Algebraic Reasoning**

### **Algebraic Concepts**

Students develop and apply understanding of foundational algebraic concepts.

### **Arkansas Mathematics Standards**

# Aligned Components of Eureka Math

#### 1.CAR.8

Apply understanding of the equal sign to determine if equations involving addition and subtraction are true or false.

G1 M1 Lesson 17: Understand the meaning of the equal sign by pairing equivalent expressions and constructing true number sentences.

G1 M1 Lesson 18: Understand the meaning of the equal sign by pairing equivalent expressions and constructing true number sentences.

G1 M2 Lesson 25: Strategize and apply understanding of the equal sign to solve equivalent expressions.

# Aligned Components of Eureka Math

#### 1.CAR.9

Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. G1 M1 Lesson 11: Solve add to with change unknown math stories as a context for counting on by drawing, writing equations, and making statements of the solution.

G1 M1 Lesson 12: Solve add to with change unknown math stories using 5-group cards.

G1 M1 Lesson 13: Tell put together with result unknown, add to with result unknown, and add to with change unknown stories from equations.

G1 M1 Lesson 16: Count on to find the unknown part in missing addend equations such as  $6 + \underline{\hspace{0.5cm}} = 9$ . Answer, "How many more to make 6, 7, 8, 9, and 10?"

G1 M1 Lesson 30: Solve add to with change unknown math stories with drawings, relating addition and subtraction.

G1 M1 Lesson 31: Solve take from with change unknown math stories with drawings.

G1 M1 Lesson 32: Solve put together/take apart with addend unknown math stories.

G1 M4 Topic E: Varied Problem Types Within 20

# **Geometry & Measurement**

### Shapes

Students analyze attributes of shapes to develop generalizations about their properties.

### **Arkansas Mathematics Standards**

# Aligned Components of Eureka Math

#### 1.GM.1

Understand the difference between defining attributes (e.g., triangles are closed and three-sided shapes) and non-defining attributes (e.g., color, orientation, overall size), using that understanding to build and draw shapes that exhibit defining attributes.

G1 M5 Topic A: Attributes of Shapes

# Aligned Components of Eureka Math

#### 1.GM.2

Create a composite shape using two-dimensional or three-dimensional shapes.

G1 M5 Topic B: Part-Whole Relationships Within Composite Shapes

# **Geometry & Measurement**

### Length & Width

Students investigate measurement with non-standard units.

### **Arkansas Mathematics Standards**

### Aligned Components of Eureka Math

#### 1.GM.3

Express the length of an object as a whole number of units by laying multiple copies of a shorter object end-to-end, understanding that the length of one object is equal to the number of same-size units that span the object with no gaps or overlaps.

G1 M3 Lesson 4: Express the length of an object using centimeter cubes as length units to measure with no gaps or overlaps.

G1 M3 Lesson 5: Rename and measure with centimeter cubes, using their standard unit name of centimeters.

G1 M3 Topic C: Non-Standard and Standard Length Units

#### 1.GM.4

Order three objects by their length, indirectly comparing the lengths of two objects by using a third object.

G1 M3 Topic A: Indirect Comparison in Length Measurement

G1 M3 Lesson 6: Order, measure, and compare the length of objects before and after measuring with centimeter cubes, solving compare with difference unknown word problems.

# **Geometry & Measurement**

Time & Money

Students explore time and money values and concepts.

# **Arkansas Mathematics Standards**

# Aligned Components of Eureka Math

1.GM.5	G1 M5 Topic D: Application of Halves to Tell Time
Tell and write time to the nearest hour and half hour using analog clocks; understand how to read hours and minutes using digital clocks.	
1.GM.6	G1 M6 Topic E: Coins and Their Values
Identify coins by name and value, including penny, nickel, dime, and quarter.	
1.GM.7	G1 M6 Topic E: Coins and Their Values
Count collections of like coins including pennies, nickels, and dimes to determine their total value up to 100 cents.	

# **Data Analysis**

Charts, Graphs, & Tables Students organize and analyze data.

### **Arkansas Mathematics Standards**

# Aligned Components of Eureka Math

1.DA.1	G1 M3 Topic D: Data Interpretation
Organize, represent, and interpret data with up to three categories (e.g., tally tables, picture graphs, bar graphs).	

# Aligned Components of Eureka Math

#### 1.DA.2

Ask and answer questions about the total number represented such as how many in each category and how many more or less in one category compared to another.

G1 M3 Topic D: Data Interpretation