MATHEMATICAL IDEAS & CONCEPTS:

- Represent and solve problems involving addition and subtraction
- Add and subtract within 20
- Represent and interpret data
- Reason with shapes and their attributes
- Work with money

ESSENTIAL QUESTIONS:

1. *How can I represent my thinking when solving addition/subtraction problems?*
2. *How can I use charts and graphs to represent information (data)?*
3. *What are the attributes of shapes?*

STANDARDS:

Aligned to Essential Questions; Big Idea/Concept Standard (★) with supporting standards (➔) connected below

Notes in gray font are from the AR Mathematics standards; RPS instructional pacing notes are in red font

EQ 1: How can I represent my thinking when solving addition/subtraction problems?

★ **1.OA.A.1** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions (e.g., by using objects, drawings, and *equations* with a symbol for the unknown number to represent the problem)

- ➔ **1.OA.A.2** Solve word problems that call for addition of three *whole numbers* whose *sum* is less than or equal to 20 (e.g., by using objects, drawings, and *equations* with a symbol for the unknown number to represent the problem)
- ➔ **1.OA.C.5** Relate counting to addition and subtraction (e.g., by *counting on* 2 to add 2)

★ **1.OA.C.6** Add and subtract within 20, demonstrating *computational fluency* for addition and subtraction within 10

Note: 1.OA.C.6 Computational fluency is demonstrating the method of student choice. Students should understand the strategy he/she selected and be able to explain how it can efficiently produce accurate answers. Q1 Focus: Students can use a variety of strategies to compose and decompose numbers ***within 10****.*

Use strategies such as:

- Counting on
- Making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14)
- Decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9)
- Using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4)
- Creating equivalent but easier or known *sums* (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13)

➔ **1.OA.C.5** Relate counting to addition and subtraction (e.g., by *counting on* 2 to add 2)

★ **1.OA.D.7** Understand the meaning of the equal sign and determine if *equations* involving addition and subtraction are true or false. *For example:* Which of the following *equations* are true and which are false? 6 = 6, 7 = 8 - 1, 5 + 2 = 2 + 5, or 4 + 1 = 5 + 2.

EQ 2: How can I use charts and graphs to represent information (data)?

★ **1.MD.C.6** *Q1 focus: organizing and representing data*

- Organize, represent, and interpret data with up to three categories, using tally tables, picture graphs and bar graphs
- Ask and answer questions about the total number represented, how many in each category, and how many more or less are in one category than in another

Students need multiple experiences with a variety of graphs and charts. This quarter should focus on organizing and representing information in charts and graphs.
This standard directly connects to the year-long data collection for Science 1-ESS1-2 in making observations about the amount of daylight hours (recording sunrise/sunset and hours of daylight each day).

EQ 3: What are the attributes of shapes?

★ **1.G.A.1** Distinguish between defining *attributes* (e.g., triangles are closed and three-sided) versus non-defining *attributes* (e.g., color, orientation, overall size); build and draw shapes to possess defining *attributes.* *Q1 focus: understanding attributes of shapes and exploring the difference between defining and nondefining attributes.*

Additional Standards:

➔ **1.NBT.A.1** *Students need to be able to count forwards beyond 120 (in order to understand crossing decade numbers) and backwards from 120.*

- Count to 120, starting at any number less than 120
- In this range, read and write numerals and represent a number of objects with a written numeral.

➔ **1.MD.B.4** Identify and know the *value* of a penny, nickel, dime, and quarter *Q1 Expectation: Recognize both sides of a coin and know its value.*