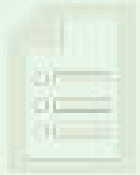# Eureka Math

4th Grade Module 1 Lesson 1

NOTES ON FLUENCY PRACTICE:

Think of fluency as having three goals:

1. Maintenance (staying sharp on previously learned skills).
2. Preparation (targeted practice for the current lesson).
3. Anticipation (skills that ensure that students are ready for the in-depth work of upcoming lessons).

NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

For the Place Value fluency activity, students may represent ones, etc., using counters rather than drawing.

Others may benefit from the opportunity to practice simultaneously speaking and showing units (e.g., tens).

Provide sentence frames to support oral response, such as "_____ tens _____ ones is _____ (standard form) _____."
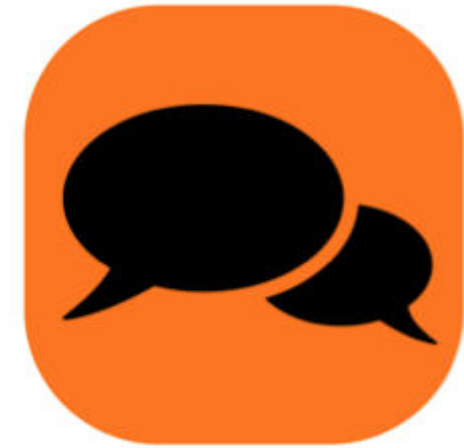
Think-Pair-Share

Think quietly to yourself.

Pair up with a partner.

Share your thinking with your partner.

Listen respectfully.

Politely share additional thoughts.

Small Group Work

Sit with your assigned group.

Assign group roles.

Add on to another's response.

Share your strategy.

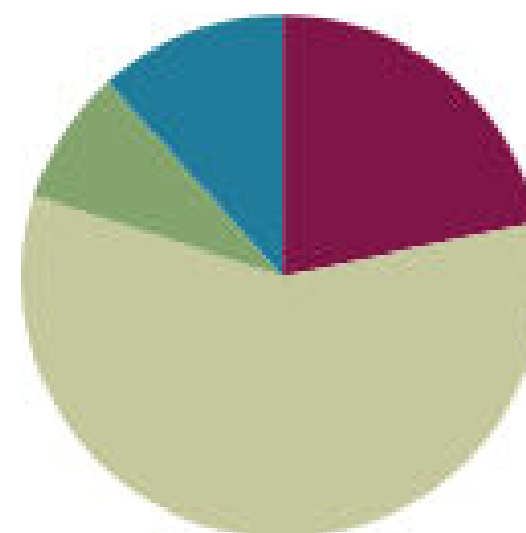Listen respectfully.

Summarize learning.

Lesson 1

Objective: Interpret a multiplication equation as a comparison.

Suggested Lesson Structure

- Fluency Practice   (13 minutes)
- Application Problem   (5 minutes)
- Concept Development   (35 minutes)
- Student Debrief   (7 minutes)

Total Time   **(60 minutes)**

I can interpret a multiplication equation as a comparison.

Sprints

Spring procedures:
- Pass Sprint A out quickly (might be back to back)
- Students have 60 seconds to do as many problems as they can. They are not expected to complete them all. Do as many as you can.
- Sprints are meant to be fun, energetic, and engaging.
- Prepare to start
  - On your mark! Get Set! THINK!

Students work for 60 seconds.

After 1 minute
- Stop! Circle the last problem you did. I will read the answer. If correct, call out YES!
- Rapid-fire the first answer.
  - Student response "YES"
- Rapid-fire second answer; continue till finished.

When done students mark the number they got correct

Repeat previous steps for SIDE B.

Sprint

Put your name on side A.

Hold your pencil in the air to show you are ready.

When your teacher says, "Go", begin solving.

Keep working to solve as many problems as you can.

When your teacher says, "Stop", stop answering problems and hold your pencil in the air.

Listen and check your work as your teacher reads the correct answers.

Count how many problems you answered correctly and write them in the circle.

Follow the same steps for side B. On side B, try to solve more problems than you did on side A.

Place Value

- Show 4 ones as place value disks. Write the number below it.
- Show 4 ten disks and write the number below it.
- Say the number in UNIT form
- Say the number in STANDARD form.

thousands	hundreds	tens	ones

Place Value

- Show 2 tens and 3 ones. Write the number below each column.
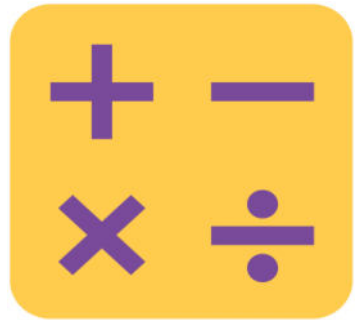- Say the number in UNIT form
- Say the number in STANDARD form.

thousands	hundreds	tens	ones

Place Value

- Show 2 hundreds 3 ones. Write the number below each column.
- Say the number in UNIT form
- Say the number in STANDARD form.

thousands	hundreds	tens	ones

Place Value

- Show 2 thousands 3 hundreds. Write the number below each column.
- Say the number in UNIT form
- Say the number in STANDARD form.

thousands	hundreds	tens	ones

Place Value

- Show 2 thousands 3 tens. Write the number below each column.
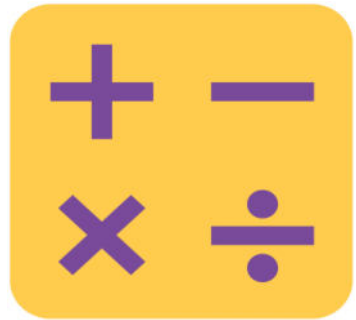- Say the number in UNIT form
- Say the number in STANDARD form.

thousands	hundreds	tens	ones

Place Value

- Show 2 thousands 3 hundreds 5 tens and 4 ones. Write the number below each column.
- Say the number in UNIT form
- Say the number in STANDARD form.

thousands	hundreds	tens	ones

RDW Protocol

READ, DRAW, WRITE

- **Read**: What do you need to know in order to solve the problem? Find keywords to determine the operation.
- **Draw**: What model will BEST help students solve this problem.
- **Write**: Make a number sentence and put final answer into a written sentence.

RDW Read Draw Write

Read the problem.

Draw and Label.

Write a number sentence.

Write a word sentence.

RDW Application Problem

Ben has a rectangular area 9 meters long and 6 meters wide. He wants a fence that will go around it as well as grass sod to cover it. How many meters of fence will he need? How many square meters of grass sod will he need to cover the entire area?

Materials

Teacher (optional): Place Value disks: ones, tens, hundreds, and thousands; unlabeled thousands place value chart (template)

Student: Personal white boards, unlabeled thousands place value chart (same as teacher)

10 times as many

- Draw 1 unit in the ones place
- How many units do I have?
- What is the NAME of this unit?
- Count the ones with me (draw ones and have them count)
- I now have 10 ones. What larger unit can I make?
- I change 10 ones for 1 ten.
- We say, "1 ten is **10 TIMES AS MUCH (MANY) AS 1 one**."
- Tell your partner what we say AND what it means.

10 times as many

- Draw 1 unit in the tens place
- How many units do I have?
- What is the NAME of this unit?
- Count the tens with me (draw tens and have them count)
- I now have 10 tens. What larger unit can I make?
- I change 10 tens for 1 hundred.
- We say, "1 hundred is **10 TIMES AS MUCH (MANY) AS** 1 ten."
- Tell your partner what we say AND what it means.

10 times as many

- Draw 1 unit in the hundreds place
- How many units do I have?
- What is the NAME of this unit?
- Count the hundreds with me (draw hundreds and have them count)
- I now have 10 hundreds. What larger unit can I make?
- I change 10 hundreds for 1 thousand.
- We say, "1 thousand is **10 TIMES AS MUCH (MANY) AS** 1 hundred."
- Tell your partner what we say AND what it means.

10 times as many

Think back to the previous problem.

- What patterns did you notice?
- Let's review, in words, the multiplication pattern that matches our models and 10 times and many statements.

10 times as many

- Draw place value disks as dots. Because you are using dots, label your columns with the unit value.
- Represent 2 ones. Solve to find 10 times as many as 2 ones.

Multiplication Sentence:

thousands	hundreds	tens	ones

10 times as many

- Model 10 x 4 tens= 40 tens= 4 hundreds

thousands	hundreds	tens	ones

10 times as many

- Model 10 x 7 hundreds= 70 hundreds= 7 thousads

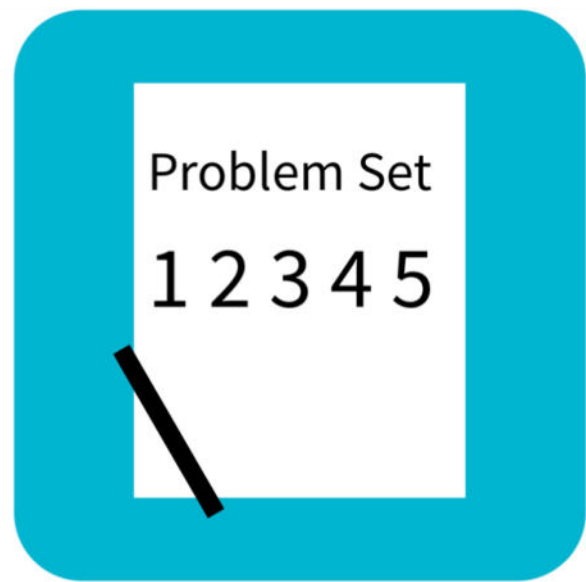| thousands	hundreds	tens	ones

10 times as many

Write an equation to find the value of 10 times as many as 9 hundreds. Show on your place value chart.

thousands	hundreds	tens	ones

Procedures

- Students have 10 minutes to complete as many problems as they can.
  - This can be done in small group, partner work, or individually.
- Problems are sequenced from easiest to hardest. Make sure students have exposure to story problems.
- Fill free to choose which problems your students MUST do in order to show understanding on the Exit Ticket.

Problem Set

Name _____   Date _____

1. Label the place value charts. Fill in the blanks to make the following equations true. Draw disks in the place value chart to show how you got your answer, using arrows to show any bundling.

   a. 10×3 ones = _____ ones = _____

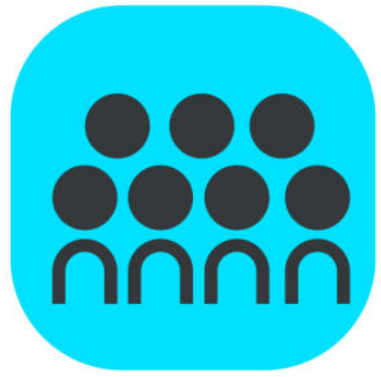2. Complete the following statements using your knowledge of place value:

   a. 10 times as many as 1 ten is _____tens.

   b. 10 times as many as _____ tens is 30 tens or _____ hundreds.
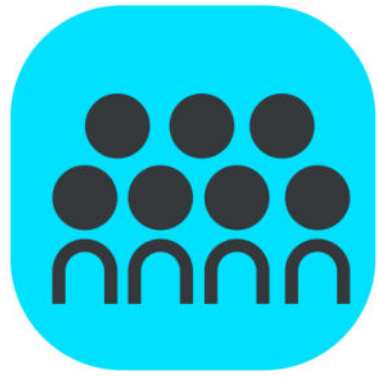
   c. _____ as 9 hundreds is 9 thousands.

   d. _____ thousands is the same as 20 hundreds.

   Use pictures, numbers, or words to explain how you got your answer for Part (d).

Debrief Procedure

The purpose of the debrief is to allow student the opportunity to synthesise their understanding of the lesson and to participate in mathematical discourse.

Debrief Procedure

Participate in the discussion by...

- Thinking about the question.
- Sharing your work.
- Explaining your strategy.
- Listening to others.

Debrief

- What relationship do you notice between the problem of Matthew's stamps and Problems 1(a) and 1(b)?
- How did Problem 1(c) help you solve Problem 4?
- In Problem 5 which solution proved most difficult to find? Why?
- How does the answer about Sarah's age and her grandfather's age related to our lesson's objective?
- What are some ways you could model 10 times as many? What are the benefits and drawbacks of each way of modeling?
- Take 2 minutes to explain to your partner what we learned about the value of each unit as it moves from right to left on the place value chart.

Exit Ticket

Name _____   Date _____

Use the disks in the place value chart below to complete the following problems:
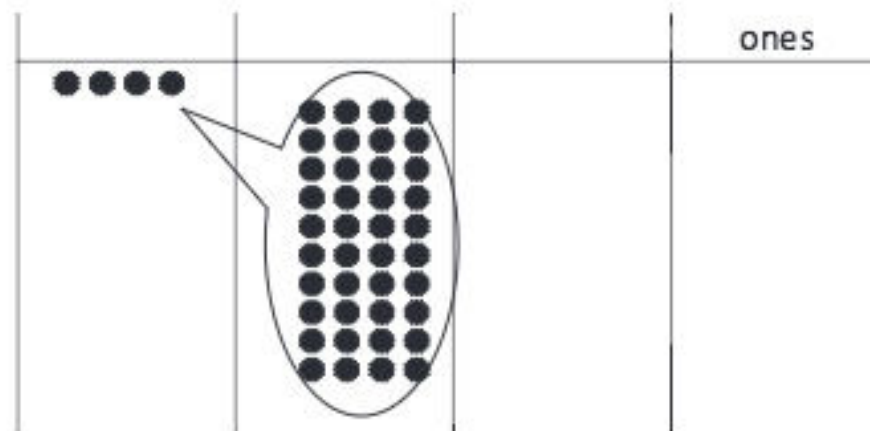
1. Label the place value chart.

2. Tell about the movement of the disks in the place value chart by filling in the blanks to make the following equation match the drawing in the place value chart:

$$\text{_____} \times 10 = \text{_____} = \text{_____}$$

3. Write a statement about this place value chart using the words *10 times as many*.