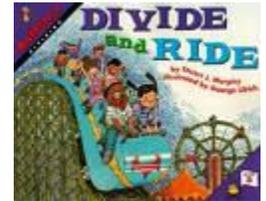


Division Lesson – Divide and Ride

by Stuart Murphy

Grade Levels: 4 -5



Learning Outcomes:

Grade 4

A4 Explain the properties of 0 and 1 for multiplication, & the property of 1 for division.

- Explain the property for determining the answer when dividing numbers by one

A7 Demonstrate an understanding of division (1-digit divisor and up to 2-digit dividend) to solve problems by:

(a) using personal strategies for dividing with and without concrete materials

(b) estimating quotients (c) relating division to multiplication.

- Solve a division problem without a remainder using arrays or base ten materials
- Solve a given division problem with a remainder using arrays or base ten materials
- Solve a given division problem using a personal strategy and record the process
- Created and solve a word problem involving a 1 or 2 digit dividend

Grade 5

A3 Apply mental mathematics strategies and number properties, to determine (RECALL) answers for basic multiplication facts to 81 and related division facts.

- Explain why division by zero is not possible or undefined

A6: Demonstrate, with and without concrete materials, an understanding of division (3-digit by 1-digit) and interpret remainders to solve problems.

- Model the division process as equal sharing using base ten blocks and record it symbolically
- Explain that the interpretation of a remainder depends on the context
- Ignore the remainder
- Solve a given division problem in context using personal strategies and record the process

Materials:

- Colour Tiles and Base Ten materials
- Books: Divide and Ride by Stuart Murphy, Esio Trot by Roald Dahl and A Remainder of One by Elinor J. Pinzes
- Professional Resources: Math and Literature (4-6) Rusty Bresser and Teaching Children Mathematics, J. VandeWalle
- Worksheets

Vocabulary:

Division – une division
Dividend – une dividende
Divisor – un diviseur
Quotient – un quotient
Remainder – un reste
Array – un jeton
Base 10 materials – materiel de base dix
Hundreds - centaines
Tens - dizaines
Ones – unites
Expanded form – la forme décomposée
Distributive property – la propriété de la distributivité

Lesson Ideas:

1. Pre-assessment: Write a journal or a complete a web that uses words, pictures and/or symbols to explain division. (Use Division Journal student sheet – save for the end of the lessons for students to add to this sheet using a second colour.)
2. Learning Intention:
I can accurately use division words and will understand the meaning of the remainder when dividing.
3. Distribute colour tiles for students. As you read through the book, 'Divide and Ride', have students model the situation on their desks with the tiles.
For example: Dare Devil Ride- students have 11 tiles – pair them up and identify that there is one child without a partner. Show symbolically how that is recorded in several ways, using the following language: 11 is the dividend, 2 is the divisor, 5 is the quotient and 1 (child) is the remainder. Ask the students, what is needed for the ride to leave – 12 children and 6 seats. Continue this for several more pages (the entire book if needed).
4. When appropriate, distribute Division Think Board and have children record each 'ride' situation. Turn and Talk to share ideas prior to debriefing with whole class.
5. Provide discussion time for examples that have a divisor of 1 and for the grade 5s division of 0.
6. Repeat some of the questions using Base-10 materials to represent the situation – regrouping the 10s as needed.
7. In partners have the children develop their own questions – establishing the number of friends at the carnival and the number of people needed to fit on each seat (keep this less than 10 unless an extension to a 2 digit divisor is desired.)
8. Distribute Divide and Ride student sheet for independent activity.