MULTI-DIGIT MULTIPLICATION AND DIVISION

Grade 5 Math | Free Study Guide | 5.NBT.B.5 and 5.NBT.B.6

START HERE Five steps and words into math

USE ALL FIVE STEPS

1 Identify math terms and units.

2 Choose the operation. Write an equation.

3 Estimate a reasonable answer.

4 Solve using the math. Check your work.

5 Eliminate and justify.

WORDS INTO MATH From this packet

MULTIPLY Product = total in equal groups

"pounds per trip" and "46 trips" -> "total catch"

1,247 pounds per trip x 46 trips = 57,362 pounds

DIVIDE Quotient = result of dividing

"12 students per van" -> find how many vans

3,850 / 12 = 320 R10

"seat all students" -> 321 vans needed

1 MULTIPLY WITH PLACE VALUE

EXAMPLE 1,247 x 46

1,247 x 6 = 7,482

1,247 x 40 = 49,880

7,482 + 49,880 = 57,362

WHAT WE DID

Found two partial products and added them.

WHY IT WORKS

The 4 in 46 means 40, so use 49,880.

TRY IT Which partial products would you use for 1,324 x 23?

2 DIVIDE WITH A PLACE VALUE MODEL

EXAMPLE 3,850 / 12

	300	20
12	3,600	240

10 left outside | Not to scale

WHAT WE DID

Made 300 groups of 12, then 20 more groups.

WHY IT WORKS

3,600 + 240 + 10 = 3,850. Answer: 320 R10.

CHECK 12 x 320 + 10 = 3,850. Remainder 10 is less than divisor 12.

TRY IT Why does 319 R22 need another step? Explain.

3 LET THE QUESTION DECIDE THE REMAINDER

EXAMPLE 3,850 students / 12 seats per van = 320 R10

"FULL" vans	Vans "NEEDED" for all	Students "LEFT OVER"
320 vans	**321 vans**	**10 students**

Why: The 10 remaining students need seats but do not fill another van. Words are clues; use the situation and what is asked to choose the math.

TRY IT For 5,200 pounds in 15-pound boxes, compare full boxes and boxes needed.

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