Division Strategies

I can find whole-number quotients and remainders with up to 4-digit dividends and 1-digit divisors! (4.NBT.6)

① Relate to Multiplication:

total / dividend → $18 \div 3 = d$ → number in each group / quotient

number of groups / divisor

number in each group $d \times 3 = 18$ total

number of groups

$d = 6$

② Use Partitioning and Multiplication:

see → $84 \div 6 = \boxed{?}$ $? = 14$

Think → 6×10 PLUS 24 LEFT OVER
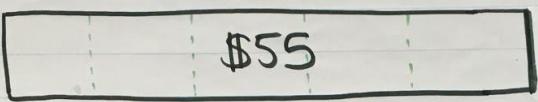
6×10 PLUS 6×4

$6 \times 14 = 84$

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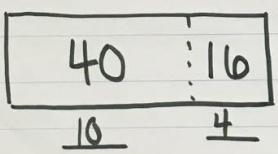
③ Tape Diagrams:

ex) Liam earned $55 in one month. He earned 5 times as much as his sister. How much did his sister earn?

Liam: | | | $55 | | |

Sister: | $11 |

$$55 \div 5 = 11$$
$$11 \times 5 = 55 \checkmark$$

④ Partial Quotients Strategy:

ex) $$56 \div 4 = \underline{\ ?\ }$$

4 | 40 | 16 |
  | 10 | 4 |

$$40 \div 4 = 10$$
$$16 \div 4 = {}^+\ 4$$
$$\underline{\quad}$$
$$\widehat{14}$$

My area model will be set up just like my area models from the partial products strategy. This time my total will be inside the area model and I will be solving for the number along the bottom.

ex) $$1,926 \div 6 = \underline{\ ?\ }$$

$$1,800 \div 6 = \underline{300}$$
$$120 \div 6 = {}^+\ \underline{20}$$
$$6 \div 6 = \underline{\quad 1}$$
$$\overline{\qquad}$$
$$\widehat{321}$$

I know that if I partition 1,926 into 1000 + 900 + 20 + 6, I will not get whole number quotients because 6 is not divisibal by 1000, or 20. So instead I will partition 1,926 into 1800 + 120 + 6 because they are all divisibal by 6.