Activity 19 Assessment
Dividing Larger Numbers

Multiplying and Dividing Larger Numbers

| Uses divisibility tests to identify numbers that are divisible by 2, 3, and 5.	Models multiplication and division situations concretely and pictorially (i.e., using Base Ten Blocks, arrays, open arrays)	Uses standard algorithms to multiply and divide

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"Not divisible by 2 as the ones digit is not even. Divisible by 3 because the sum of the digits, 15, is divisible by 3. Divisible by 5 as the ones digit is 5."
(« Non divisible par 2 car le chiffre des unités n'est pas pair. Divisible par 3 car la somme des chiffres, 15, est divisible par 3. Divisible par 5 car le chiffre des unités est 5. »)
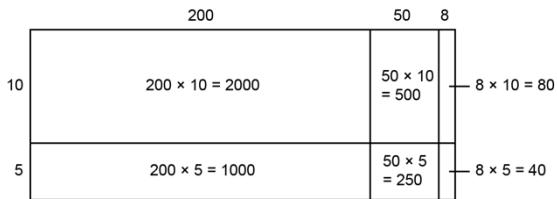
$258 \times 15 = ?$

"I used an open array and added all the areas: 2000 + 1000 + 500 + 250 + 80 + 40 = 3870. So, $258 \times 15 = 3870$."
(« J'ai utilisé une matrice ouverte et additionné toutes les sections. »)

$258 \times 15 = ?$

$$\begin{array}{r} 2\ 4 \\ 258 \\ \times\ 15 \\ \hline 1 \\ 1290 \\ +2580 \\ \hline 3870 \end{array}$$

Multiply: 258×5 → 1290
Multiply: 258×10 → +2580

"I used the standard algorithm to multiply."
(« J'ai utilisé l'algorithme usuel pour multiplier. »)

Observations/Documentation

Mathologie 5 Alberta
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Activity 19 Assessment
Dividing Larger Numbers

Multiplying and Dividing Larger Numbers (cont'd)

Estimates to determine if answer to multiplication or division problem is reasonable	Expresses a quotient with or without a remainder according to context	Creates and solves multiplication and division problems flexibly using a variety of strategies
$258 \times 15 = 3870$	There are 114 students going on field trip. Each bus holds 9 students. How many buses are needed?	5 elephants share 748 kg of food. How much food does each elephant get?

Column 1:

$258 \times 15 = 3870$

"258 is close to 250.
$250 \times 15 = (250 \times 10) + (250 \times 5)$
$= 2500 + 1250$
$= 3750$
3870 is close to 3750.
So, my answer is reasonable."
(« *258 est proche de 250.*
$250 \times 15 = (250 \times 10) + (250 \times 5)$
$= 2\,500 + 1\,250$
$= 3\,750$
3 870 est proche de 3750.
Donc, ma réponse est vraisemblable. »)

Column 2:

There are 114 students going on field trip.
Each bus holds 9 students.
How many buses are needed?

$$\begin{array}{r} 12 \\ 9\overline{)114} \\ -9 \\ \hline 24 \\ -18 \\ \hline 6 \end{array}$$

$114 \div 9 = 12 \text{ R}6$

"Since 6 students cannot be left behind, 13 buses are needed."
(« *Puisque 6 élèves ne peuvent pas être laissés derrière, il faut 13 autobus.* »)

Column 3:

5 elephants share 748 kg of food.
How much food does each elephant get?

$748 \div 5 = (500 \div 5) + (200 \div 5) + (45 \div 5) + (3 \div 5)$
$= 100 + 40 + 9 + (3 \div 5)$
$= 149 \text{ R}3, \text{ or } 149\frac{3}{5} \text{ or } 149\frac{6}{10}, \text{ or } 149.6$

Each elephant got 149.6 kg of food.
(« *Chaque éléphant a obtenu 149,6 kg de nourriture.* »)

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