Year 6

Multiply One-digit Numbers with Decimal Places

Challenge Cards

1. Pavel says, "I can use 4 × 23 to multiply 0.04 × 23."

   Explain how Pavel could use 4 × 23 to multiply 0.04 × 23.

   Write a real-life example to illustrate your explanation.

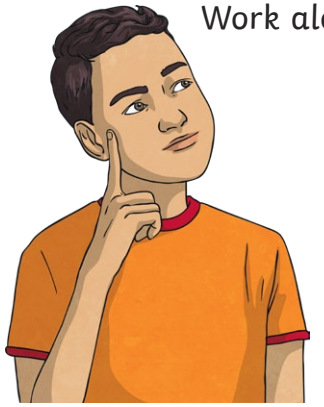
2. Nikita needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 3.6.

   Work alone or with a partner to help Nikita.

3. George needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 1.5.

   Work alone or with a partner to help George.

4. Pavel needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 6.4.



Work alone or with a partner to help Pavel.

5. Nikita says, "4.7 cannot be the product of a one-digit number up to two decimal places and a whole number because 47 is a prime number."

Work alone or with a partner to explain why Nikita is not correct.

6. George asks, "If 0.03 × 16 = 0.48, then what other numbers, with up to 2 decimal places, can I find whose product is 0.48 using this calculation?"

7. Pavel asks, "If 0.07 × 48 = 3.36, then what other numbers, with up to 2 decimal places, can I find whose product is 3.36 using this calculation?"

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8. Nikita asks, "If 0.6 × 239 = 143.4, then what other numbers, with up to 2 decimal places, can I find whose product is 143.4 using this calculation?"

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9. George has 4 digit cards.

3	5	6	8

Find the largest and smallest product using three of the above digits in the following three boxes:

0.0☐ × ☐☐

Multiply One-digit Numbers with Decimal Places

10. George has 4 digit cards.

2	4	7	9

Find the largest and smallest product using all of the above digits in the following four boxes:

0.0☐ × ☐☐☐

Year 6 Multiply Fractions **Answers**

1. Explain how Pavel could use 4 × 23 to multiply 0.04 × 23.

   4 × 23 = 92
   0.4 × 23 = 9.2
   0.04 × 23 = 0.92

   Multiple real-life examples, e.g. Pavel buys 23 pencils that cost £0.04 each. How much do they cost altogether?

   £0.04 × 23 = £0.92

2. Nikita needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 3.6.

   0.6 × 6
   0.06 × 60
   0.4 × 9
   0.04 × 90
   0.9 × 4
   0.09 × 40
   0.1 × 36
   0.01 × 360
   0.05 × 72

3. George needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 1.5.

   0.3 × 5
   0.03 × 50
   0.5 × 3
   0.05 × 30
   0.1 × 15
   0.01 × 150

4. Pavel needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 6.4.

   0.8 × 8
   0.08 × 80
   0.4 × 16
   0.04 × 160
   0.2 × 32
   0.02 × 320
   0.1 × 64
   0.01 × 640
   0.05 × 128

5. Nikita says, "4.7 cannot be the product of a one-digit number up to two decimal places and a whole number because 47 is a prime number."

   94 × 0.05 = 4.7

6. George asks, "If 0.03 × 16 = 0.48, then what other numbers, with up to 2 decimal places, can I find whose product is 0.48 using this calculation?"

   0.3 × 1.6
   3 × 0.16

7. Pavel asks, "If 0.07 × 48 = 3.36, then what other numbers, with up to 2 decimal places, can I find whose product is 3.36 using this calculation?"

   0.7 × 4.8
   7 × 0.48

8. Nikita asks, "If 0.6 × 239 = 143.4, then what other numbers, with up to 2 decimal places, can I find whose product is 143.4 using this calculation?"

   0.06 × 2390
   6 × 23.9
   60 × 2.39

9. Find the largest and smallest product using three of the above digits in the following three boxes:

   0.08 × 65 = 5.2, 0.03 × 56 = 1.68

10. Find the largest and smallest product using all of the above digits in the following four boxes:

    0.09 × 742 = 66.78, 0.02 × 479 = 9.58