

# Yr 5 Multiplication and Division Unit 1 (5531)

## Additional teacher instructions for practice sheets

These notes indicate which practice sheets are most appropriate for which groups.

**Day 1 Finding common factors and multiples Sheet 1**  
Working towards ARE

**Day 1 Finding common factors and multiples Sheet 2**  
Working at ARE  
Greater Depth should attempt the challenge

**Day 2 Using mental strategies to multiply Sheet 1**  
Working towards ARE

**Day 2 Using mental strategies to multiply Sheet 2**  
Working at ARE  
Greater Depth should do the challenge

**Day 3 Mental strategies for division Sheet 1**  
Working towards ARE with support  
Working at ARE

**Day 3 Using mental strategies to divide Sheet 2**  
Greater Depth

# Finding common factors and multiples

## Sheet 1

Find the highest common factor of these pairs of numbers:

1. 24 and 36
2. 14 and 28
3. 16 and 20
4. 18 and 27
5. 12 and 24

Find the lowest common multiple of these pairs of numbers:

6. 2 and 5
7. 4 and 5
8. 6 and 9
9. 4 and 6
10. 4 and 8

### Challenge

Choose any three consecutive numbers between 2 and 9. Can you find the lowest common multiple of the numbers? Repeat for another three numbers.

# Finding common factors and multiples

## Sheet 2

Find the highest common factor of these sets of numbers:

1. 24, 36 and 48
2. 14, 28 and 35
3. 16, 20 and 32
4. 18, 24 and 27
5. 12, 24 and 33

Find the lowest common multiple of these sets of numbers:

1. 2, 3, 5
2. 2, 4, 5
3. 3, 6, 9
4. 3, 5, 6
5. 4, 6, 8

### Challenge

Choose any four consecutive numbers between 2 and 9. Can you find the lowest common multiple of the four numbers? Repeat for another four numbers.

# Using mental strategies to multiply

## Sheet 1

1. Solve these:

$$34 \times 10 \quad 34 \times 2 \quad 34 \times 3$$

2. Use your answers from question 1 to make it easy to solve these:

$$34 \times 5 \quad 34 \times 20 \quad 34 \times 4 \quad 34 \times 8 \quad 34 \times 6$$

3. Use similar strategies to solve the following:

$$62 \times 5$$

$$51 \times 20$$

$$43 \times 6$$

$$31 \times 4$$

$$26 \times 8$$

Note down what you did to find the answer to each question, e.g. 'Multiplied by 10 and then doubled'.

### Challenge

Does  $24 \times 30$  give the same answer as  $34 \times 20$ ? Make a prediction. Use mental strategies to solve each multiplication and test your prediction.

# Using mental strategies to multiply

## Sheet 2

1. Solve these:

$36 \times 10 \quad 36 \times 2 \quad 36 \times 3$

2. Use your answers from question 1 to easily solve:

$36 \times 5 \quad 36 \times 20 \quad 36 \times 4 \quad 36 \times 8 \quad 36 \times 6$

3. Use similar strategies to solve the following:

$76 \times 5$

$64 \times 20$

$53 \times 6$

$82 \times 4$

$37 \times 8$

$153 \times 5$

$240 \times 20$

In each case note down what you did to find the answer, e.g. 'Multiplied by 10 and then doubled'.

4. Does  $24 \times 30$  give the same answer as  $34 \times 20$ ?  
Make a prediction. Use mental strategies to solve each multiplication and test your prediction.

### Challenge

Can you find a strategy for quickly solving these:

$36 \times 50 \quad 36 \times 200 \quad 36 \times 60$

(Hint! Look at what you already know.)

## Mental strategies for division

### Sheet 1

- |     |               |               |              |
|-----|---------------|---------------|--------------|
| 1.  | $360 \div 10$ | $360 \div 20$ | $360 \div 5$ |
| 2.  | $180 \div 10$ | $180 \div 20$ | $180 \div 5$ |
| 3.  | $420 \div 10$ | $420 \div 20$ | $420 \div 5$ |
| 4.  | $540 \div 10$ | $540 \div 20$ | $540 \div 5$ |
| 5.  | $150 \div 3$  | $150 \div 6$  |              |
| 6.  | $210 \div 3$  | $210 \div 6$  |              |
| 7.  | $450 \div 3$  | $450 \div 6$  |              |
| 8.  | $200 \div 2$  | $200 \div 4$  | $200 \div 8$ |
| 9.  | $288 \div 2$  | $288 \div 4$  | $288 \div 8$ |
| 10. | $216 \div 2$  | $216 \div 4$  | $216 \div 8$ |

## Mental strategies for division

### Sheet 2

- |     |               |               |              |
|-----|---------------|---------------|--------------|
| 1.  | $780 \div 10$ | $780 \div 20$ | $780 \div 5$ |
| 2.  | $430 \div 10$ | $430 \div 20$ | $430 \div 5$ |
| 3.  | $370 \div 10$ | $370 \div 20$ | $370 \div 5$ |
| 4.  | $270 \div 3$  | $270 \div 6$  |              |
| 5.  | $312 \div 3$  | $312 \div 6$  |              |
| 6.  | $123 \div 3$  | $123 \div 6$  |              |
| 7.  | $336 \div 2$  | $336 \div 4$  | $336 \div 8$ |
| 8.  | $656 \div 2$  | $656 \div 4$  | $656 \div 8$ |
| 9.  | $172 \div 2$  | $172 \div 4$  | $172 \div 8$ |
| 10. | $260 \div 2$  | $260 \div 4$  | $260 \div 8$ |

#### Challenge

Which of these three statements is true? Estimate first then use mental strategies to check.

A.  $240 \div 6 < 480 \div 12$

B.  $240 \div 6 > 120 \div 3$

C.  $240 \div 6 < 360 \div 2$

# Multiplication and division

## Answers

### Day 1 Finding common factors and multiples Sheet 1

The highest common factors are:

1. 12
2. 14
3. 4
4. 9
5. 12

The lowest common multiples are:

6. 10
7. 20
8. 18
9. 12
10. 8

#### Challenge

Lowest 2, 3, 4 = 12

3, 4, 5 = 60

4, 5, 6 = 60

5, 6, 7 = 210

6, 7, 8 = 168

7, 8, 9 = 504

### Day 1 Finding common factors and multiples Sheet 2

The highest common factors are:

1. 12
2. 7
3. 4
4. 3
5. 3

The lowest common multiples are:

6. 2, 3, 5 = 30
7. 2, 4, 5 = 20
8. 3, 6, 9 = 18
9. 3, 5, 6 = 30
10. 4, 6, 8 = 24

#### Challenge

2, 3, 4, 5 = 60 and 3, 4, 5, 6 = 60 are lowest.

4, 5, 6, 7 = 420

5, 6, 7, 8 = 840

6, 7, 8, 9 = 504

# Multiplication and division

## Answers

### Day 2 Using mental strategies to multiply Sheet 1

1.  $34 \times 10 = 340$   
 $34 \times 2 = 68$   
 $34 \times 3 = 102$

2.  $34 \times 5 = 170$   
 $34 \times 20 = 680$   
 $34 \times 4 = 136$   
 $34 \times 8 = 272$   
 $34 \times 6 = 204$

3.  $62 \times 5 = 310$   
 $51 \times 20 = 1020$   
 $43 \times 6 = 258$   
 $31 \times 4 = 124$   
 $26 \times 8 = 208$

#### Challenge

$30 \times 24 = 720$ .  $20 \times 34 = 680$

### Day 2 Using mental strategies to multiply Sheet 2

1.  $36 \times 10 = 360$   
 $36 \times 2 = 72$   
 $36 \times 3 = 108$

2.  $36 \times 5 = 180$   
 $36 \times 20 = 720$   
 $36 \times 4 = 144$   
 $36 \times 8 = 288$   
 $36 \times 6 = 216$

3.  $76 \times 5 = 380$   
 $64 \times 20 = 1280$   
 $53 \times 6 = 318$   
 $82 \times 4 = 328$   
 $37 \times 8 = 296$   
 $153 \times 5 = 765$   
 $240 \times 20 = 4800$

4.  $30 \times 24 = 720$   $20 \times 34 = 680$

#### Challenge

$36 \times 50 = 1800$   $36 \times 200 = 7200$   $36 \times 60 = 2160$

Students should notice that these multiplications are similar to the first three multiplications in Question 2, except the second number has been multiplied by ten. This means that students simply need to add on a zero to the answers they already have.

# Multiplication and division

## Answers

### Day 3 Mental strategies for division Sheet 1

- |     |                    |                    |                    |
|-----|--------------------|--------------------|--------------------|
| 1.  | $360 \div 10 = 36$ | $360 \div 20 = 18$ | $360 \div 5 = 72$  |
| 2.  | $180 \div 10 = 18$ | $180 \div 20 = 9$  | $180 \div 5 = 36$  |
| 3.  | $420 \div 10 = 42$ | $420 \div 20 = 21$ | $420 \div 5 = 84$  |
| 4.  | $540 \div 10 = 54$ | $540 \div 20 = 27$ | $540 \div 5 = 108$ |
| 5.  | $150 \div 3 = 50$  | $150 \div 6 = 25$  |                    |
| 6.  | $210 \div 3 = 70$  | $210 \div 6 = 35$  |                    |
| 7.  | $450 \div 3 = 150$ | $450 \div 6 = 75$  |                    |
| 8.  | $200 \div 2 = 100$ | $200 \div 4 = 50$  | $200 \div 8 = 25$  |
| 9.  | $288 \div 2 = 144$ | $288 \div 4 = 72$  | $288 \div 8 = 36$  |
| 10. | $216 \div 2 = 108$ | $216 \div 4 = 54$  | $216 \div 8 = 27$  |

### Day 3 Using mental strategies to divide Sheet 2

- |     |                    |                      |                     |
|-----|--------------------|----------------------|---------------------|
| 1.  | $780 \div 10 = 78$ | $780 \div 20 = 39$   | $780 \div 5 = 156$  |
| 2.  | $430 \div 10 = 43$ | $430 \div 20 = 21.5$ | $430 \div 5 = 86$   |
| 3.  | $370 \div 10 = 37$ | $370 \div 20 = 18.5$ | $370 \div 5 = 74$   |
| 4.  | $270 \div 3 = 90$  | $270 \div 6 = 45$    |                     |
| 5.  | $312 \div 3 = 104$ | $312 \div 6 = 52$    |                     |
| 6.  | $123 \div 3 = 41$  | $123 \div 6 = 20.5$  |                     |
| 7.  | $336 \div 2 = 168$ | $336 \div 4 = 84$    | $336 \div 8 = 42$   |
| 8.  | $656 \div 2 = 328$ | $656 \div 4 = 164$   | $656 \div 8 = 82$   |
| 9.  | $172 \div 2 = 86$  | $172 \div 4 = 43$    | $172 \div 8 = 21.5$ |
| 10. | $260 \div 2 = 130$ | $260 \div 4 = 65$    | $260 \div 8 = 32.5$ |

### Challenge

A is false as  $240 \div 6 = 40$  and  $480 \div 12 = 40$     B is false as  $240 \div 6 = 40$  and  $120 \div 3 = 40$   
C is true.  $240 \div 6 = 40$  and  $360 \div 2 = 180$