

# Lesson 2: Writing decimals

→ pages 9–11

- a) 6·8                      c) 10·5  
b) 7·09                    d) 0·04
- Missing section in model: 0·4  
 $3\cdot49 = 3 \text{ ones} + 4 \text{ tenths} + 9 \text{ hundredths}$
- Image A does not represent 0·12.
- Missing elements in table completed:

|  |       |
|--|-------|
| a) 7·21                                      |       |
| b) 2 tens + 9 ones + 3 tenths + 4 hundredths | 29·34 |
| c) 1 hundred + 5 ones + 6 tenths             | 105·6 |
| d) 17·01                                     |       |
| e) 0·53                                      |       |
| f) 0·53                                      |       |

Children should notice that e) and f) are both 0·53; this is because 1 tenth equals 10 hundredths and so 5 tenths are equal to 50 hundredths, i.e.  $0\cdot53 = 5 \text{ tenths} + 3 \text{ hundredths} = 53 \text{ hundredths}$ .
- Mo = 4·27, Emma = 4·24, Danny = 8·24 (assuming that each number is chosen by only one child)
- Zac = 54·6, Ambika = 3·77, Luis = 53·96

## Reflect

Lee is not correct; the number is 30·47 which is not a 3-digit number. The number contains 4 digits, even though one of the digits is a zero.

# Lesson 3: Comparing decimals

→ pages 12–14

- Circled:  $9\cdot9$                        $9\cdot5 < 9\cdot9$
  - Circled:  $8\cdot31$                        $8\cdot13 < 8\cdot31$
  - Circled:  $20\cdot06$                        $20\cdot06 > 20\cdot05$
  - Circled:  $100\cdot52$                        $100\cdot25 < 100\cdot52$
- Richard needs to consider the position of the counters in the place value grid, not the number of counters overall. Both numbers have 3 ones, but  $3\cdot21$  has 2 tenths whereas  $3\cdot07$  has 0 tenths. So,  $3\cdot21$  is bigger than  $3\cdot07$  ( $3\cdot21 > 3\cdot07$ ).
- $0\cdot23 < 0\cdot32$
- $4\cdot56 < 4\cdot72$
  - $12\cdot9 < 18\cdot7$
  - $9\cdot45 > 9\cdot05$
  - $3\cdot18 > 3\cdot12$
  - $26\cdot39 < 27\cdot49$
  - $120\cdot26 = 120\cdot26$
  - 3 tenths + 5 hundredths < 5 tenths + 4 hundredths
- Different answers possible:  
 $6\cdot04, 6\cdot14, 6\cdot24, 6\cdot34, 6\cdot44, 6\cdot54, 6\cdot64$
  - Different answers possible; for example:  
 $2\cdot03 < 2\cdot34, 2\cdot13 < 2\cdot35, 2\cdot23 < 2\cdot36,$   
 $2\cdot33 < 2\cdot37 \dots$
  - Different answers possible but whole number part of each number must be 19; for example:  
 $19\cdot25 < 19\cdot31, 19\cdot35 < 19\cdot42, 19\cdot45 < 19\cdot53 \dots$
- Different answers possible:  
 $29\cdot93, 29\cdot94, 29\cdot95, 29\cdot96, 29\cdot97, 29\cdot98, 29\cdot99, 30\cdot00,$   
 $30\cdot01, 30\cdot02$

## Reflect

Isla should start with the tens.

Then she should look at the ones.

Then she should look at the tenths and then the hundredths.

# Lesson 4: Ordering decimals

→ pages 15–17

1. 6·7, 7·2, 7·9
2. a) 10·97 (bottom left)  
b)  $10·97 > 10·79 > 10·09 > 10·07$
3. a) 7·42, 27·24, 27·48, 72·45  
b) 5·94, 5·49, 4·59, 4·53
4. List D is not in ascending order.
5. Aki is incorrect; the numbers are ordered biggest to smallest not smallest to biggest.

6. a)

| Name  | Time<br>(in seconds) |
|-------|----------------------|
| Andy  | 27·79                |
| Mo    | 28·02                |
| Lee   | 28·24                |
| Danny | 28·42                |
| Ebo   | 29·53                |

- b) Andy was the fastest.  
c) Ebo was the slowest.
7. Different answers possible; for example:  
4·01, 4·19, 5·01, 5·02, 5·12 (check that numbers are in ascending order)

## Reflect

0·62 and 0·65 both have 6 tenths but 0·62 has 2 hundredths whereas 0·65 has 5 hundredths, so 0·65 is bigger than 0·62. 0·71 has 7 tenths which is more than 6 tenths, so 0·71 is bigger than both 0·62 and 0·65. Thus  $0·62 < 0·65 < 0·71$ .

# Lesson 5: Rounding decimals

→ pages 18–20

- a)  $2.7$  is between 2 and 3.  
 $2.7$  rounded to the nearest whole number is 3.

b)  $10.3$  is between 10 and 11.  
 $10.3$  rounded to the nearest whole number is 10.

c)  $28.3$  is between 28 and 29.  
 $28.3$  rounded to the nearest whole number is 28.
- a)  $9.6$  rounded to the nearest whole number is 10.

b)  $20.8$  rounded to the nearest whole number is 21.
- |       |        |
|-------|--------|
| a) 5  | e) 50  |
| b) 13 | f) 150 |
| c) 65 | g) 400 |
| d) 0  | h) 90  |
- Mo's number cannot be  $55.5$  since this will be 56 when rounded to the nearest whole number.
- a)  $4.9$  rounded to the nearest whole number is 5.

b)  $8.5$  rounded to the nearest whole number is 9.

c) Possible missing digit: 1, 2, 3 or 4 (or 0)

d) Possible answers:  $22.5$ ,  $22.6$ ,  $22.7$ ,  $22.8$ ,  $22.9$ ,  $23.0$ ,  $23.1$ ,  $23.2$ ,  $23.3$  or  $23.4$
- Possible answers:  $80.3$  or  $80.4$

## Reflect

Look at the tenths to see whether to round down to the nearest whole number or to round up. If there are 4 or less tenths round down and if there are 5 or more tenths round up. There are 6 tenths in  $43.6$  and since this is 5 or more tenths then  $43.6$  is rounded up to 44.

