

WALT show a better understanding of place value including decimals

Success Criteria I can...

- Understand the place value of each number including decimal places
- Add and subtract numbers involving decimal numbers
- Order decimal numbers
- Use the interactive place value chart to place the given numbers correctly using place value houses.
- [Interactive Place Value Chart](#)

Some of the **place values** for numbers involving decimals are shown in this chart below.

100 hundreds	10 tens	1 ones (units)	•	$\frac{1}{10}$ tenths	$\frac{1}{100}$ hundredths	$\frac{1}{1000}$ thousandths
------------------------	-------------------	-----------------------------	---	--------------------------	-------------------------------	---------------------------------

Task 7

What is the **place value** of the digit that is **high-lighted** and what does it mean?

Example: In 2.5**6**9, the **6** has a place value of hundredths and it means 6 hundredths.

1. 2.5**6**9
2. 49.91**3**
3. 36.**4**86
4. 369.**1**66
5. 3.9**5**7
6. 27**2**8.23
7. 3.6**5**9
8. 96.**5**08
9. 36.**2**89
10. 692.**3**69
11. **2**86.214
12. 78.**5**94
13. 471.**0**4
14. **5**78.45
15. 2781.**3**47
16. 31.**1**66

Adding and subtracting decimal numbers:

Jillian was asked to add up these decimal numbers, 1.23, 15.6, 0.365 & 125.7. So that she does not make a mistake, she writes the numbers one under each other, lining up the digits with the same place value. The decimal points will also be in line. Adding zeros after the decimal point can be helpful.

Example:



$$\begin{array}{r} 1.230 \\ 15.600 \\ 0.365 \\ 125.700 \\ \hline 142.895 \end{array}$$

When Jillian does a subtraction problem, she also lines up the digits with the same place value and the decimal points.

Example: $15.9 - 2.36$ would be written as ...

$$\begin{array}{r} 15.90 \\ - 2.36 \\ \hline 13.54 \end{array}$$

Where is the decimal point for the number 154?

Answer: After the number 4, so the number 154 could be written as 154.0

Task 8

Rewrite each of the problems as above, lining up the decimal points before you work out the answers.

1. $25.9 + 53.7 = ?$
2. $102.3 + 5.3 + 15.8 = ?$
3. $56.9 - 8.7 = ?$
4. $2.68 + 14.38 = ?$
5. $257.68 - 63.57 = ?$
6. $12.56 + 9.3 + 4.35 = ?$
7. $126.56 + 15.68 = ?$
8. $5.32 + 9.7 + 15.96 = ?$
9. $562.65 - 46.8 = ?$
10. $1.368 + 6.8 + 24 = ?$
11. $125.5 - 25.31 = ?$
12. $5.23 + 12 + 8.6 + 2.354 = ?$
13. $8.4 + 9.23 + 124 + 0.9 = ?$
14. $0.125 + 125.6 + 5.37 = ?$
15. $36.901 + 0.08 + 9.7 + 8 = ?$
16. $45.625 - 9.45 = ?$
17. $15 + 1.068 + 1.6 + 4.68 = ?$
18. $369.85 - 256.7 = ?$

Answer:

Ordering decimal numbers:

Jack measured four lengths of string. They measured 5.23m, 5.27m, 5.28m & 5.21m. Order these lengths of string, from shortest to longest.



Answer: 5.21m, 5.23m, 5.27m & 5.28m



Jenny weighed five coins. They weighed 1.037g, 1.046g, 1.057g, 1.032g, 1.049g & 1.051g. Order these weights from heaviest to lightest.

Answer: 1.057g, 1.051g, 1.049g, 1.046g, 1.037 & 1.032g

Task 9

Order these decimals from smallest to largest.

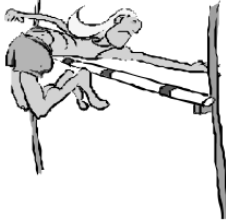
1. 2.6, 5.7, 1.9, 8.4, 7.3, 4.9, 6.7, 7.7
2. 1.2, 2.4, 1.6, 2.0, 1.8, 0.9, 2.1, 1.9
3. 5.7, 5.8, 5.3, 5.6, 5.4, 5.9, 5.1
4. 1.08, 1.07, 1.02, 1.06, 1.01, 1.05, 1.09
5. 2.34, 2.45, 2.16, 2.75, 2.47, 2.27, 2.54
6. 12.56, 13.75, 11.98, 12.84, 13.24, 12.67
7. 1126, 1.352, 1.245, 1.342, 1.049, 1.276, 1 Search documents and file names for text ?8, 9.468

The results of a 100m race is shown in this table.

9. What was Shane's time?
10. Name the runners who came 1st, 2nd and 3rd.
11. Order these times from fastest to slowest time.
12. What was the difference between the fastest and slowest time?

Runner	Time (seconds)
David	13.6
Andrew	13.7
Rangi	12.6
John	13.9
Quentin	12.9
Shane	13.0
Bevan	13.4
Sam	14.1





Karen competed in a high jump competition. She was allowed six jumps and these were her results, 1.53m, 1.27m, 1.61m, 1.42m, 1.35m & 1.50m.

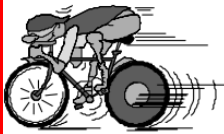
13. What was the height of her worst jump?
14. What was the height of her 5th jump?
15. Place her jump heights in order of highest to lowest jump.
16. What was the difference between her best and worst jump?

In a tomato growing competition, pupils were allowed to enter three tomatoes. Each tomato was weighed and the results are shown in this table.



Name	1	2	3
Miri	15.3g	14.7g	12.9g
James	14.8g	13.2g	15.0g
Fred	13.6g	13.9g	14.9g
Kim	16.2g	11.5g	13.4g

17. What was the weight of the heaviest tomato?
18. What was the weight of the lightest tomato?
19. List all the tomato weights in order from lightest to heaviest.
20. For each pupil, add up their three tomato weights.
21. List your four totals in order of largest to smallest.



In a cycling race, the following times were recorded for the 1 kilometre distance.

1min 5.6sec, 1min 7.2sec, 1min 6.

Search documents and file names for text

22. List these times in order from slowest to fastest.

Check your answers

Task 7

- 6, place value hundredths, means 6 hundredths
- 3, place value thousandths, means 3 thousandths
- 4, place value tenths, means 4 tenths
- 6, place value hundredths, means 6 hundredths
- 7, place value thousandths, means 7 thousandths
- 2, place value tens, means 20
- 9, place value thousandths, means 9 thousandths
- 0, place value hundredths, means 0 hundredths
- 2, place value tenths, means 2 tenths
- 9, place value thousandths, means 9 thousandths
- 0, place value hundredths, means 0 hundredths
- 2, place value hundreds, means 200
- 9, place value hundredths, means 9 hundredths
- 0, place value tenths, means 0 tenths
- 7, place value tens, means 70
- 3, place value tenths, means 3 tenths
- 1, place value units, means 1

Task 8

- | | | | | | | | | | | | |
|-----|--|-----|--|-----|---|-----|--|-----|---|-----|---|
| 1. | $\begin{array}{r} 25.9 \\ + 53.7 \\ \hline 79.6 \end{array}$ | 2. | $\begin{array}{r} 102.3 \\ 5.3 \\ + 15.8 \\ \hline 123.4 \end{array}$ | 3. | $\begin{array}{r} 56.9 \\ - 8.7 \\ \hline 48.2 \end{array}$ | 4. | $\begin{array}{r} 2.68 \\ + 14.38 \\ \hline 17.06 \end{array}$ | 5. | $\begin{array}{r} 257.68 \\ - 63.57 \\ \hline 194.11 \end{array}$ | 6. | $\begin{array}{r} 12.56 \\ 9.30 \\ + 4.35 \\ \hline 26.21 \end{array}$ |
| 7. | $\begin{array}{r} 126.56 \\ + 15.68 \\ \hline 142.24 \end{array}$ | 8. | $\begin{array}{r} 5.32 \\ 9.70 \\ + 15.96 \\ \hline 30.98 \end{array}$ | 9. | $\begin{array}{r} 562.65 \\ - 46.8 \\ \hline 515.85 \end{array}$ | 10. | $\begin{array}{r} 1.368 \\ 6.800 \\ + 24.000 \\ \hline 32.168 \end{array}$ | 11. | $\begin{array}{r} 125.50 \\ - 25.31 \\ \hline 100.19 \end{array}$ | 12. | $\begin{array}{r} 5.230 \\ 12.000 \\ 8.600 \\ + 2.354 \\ \hline 28.184 \end{array}$ |
| 13. | $\begin{array}{r} 8.40 \\ 9.23 \\ 124.00 \\ + 0.90 \\ \hline 142.53 \end{array}$ | 14. | $\begin{array}{r} 0.125 \\ 125.600 \\ + 5.370 \\ \hline 131.095 \end{array}$ | 15. | $\begin{array}{r} 36.901 \\ 0.080 \\ 9.700 \\ + 8.000 \\ \hline 54.681 \end{array}$ | 16. | $\begin{array}{r} 45.625 \\ - 9.450 \\ \hline 36.175 \end{array}$ | 17. | $\begin{array}{r} 15.000 \\ 1.068 \\ 1.600 \\ + 4.680 \\ \hline 22.348 \end{array}$ | 18. | $\begin{array}{r} 369.85 \\ - 256.70 \\ \hline 113.15 \end{array}$ |

Task 9

- 1.9, 2.6, 4.9, 5.7, 6.7, 7.3, 7.3, 8.4
- 0.9, 1.2, 1.6, 1.8, 1.9, 2.0, 2.1, 2.4
- 5.1, 5.3, 5.4, 5.6, 5.7, 5.8, 5.9
- 1.01, 1.02, 1.05, 1.06, 1.07, 1.08, 1.09
- 2.16, 2.27, 2.34, 2.45, 2.47, 2.54, 2.75
- 11.98, 12.56, 12.67, 12.84, 13.24, 13.75
- 1.049, 1.126, 1.165, 1.245, 1.276, 1.342, 1.352
- 9.325, 9.348, 9.428, 9.468, 9.532, 9.842
- 13.0 seconds
- Rangi, Quentin, Shane
- 12.6, 12.9, 13.0, 13.4, 13.6, 13.7, 13.9, 14.1
- 1.5 sec
- 1.27m
- 1.35m
- 1.61m, 1.53m, 1.50m, 1.42m, 1.35m, 1.27m
- 0.34m or 34cm
- 16.2g
- 11.5g
- 11.5g, 12.9g, 13.2g, 13.4g, 13.6g, 13.9g, 14.7g, 14.8g, 14.9g, 15.0g, 15.3g, 16.2g
- Miri 42.9g, James 43.0g, Fred 42.4g, Kim 41.1g
- 43.0g, 42.9g, 42.4g, 41.1g
- 1min 7.2sec, 1min 7.0sec, 1min 6.7sec, 1min 6.4sec, 1min 5.9sec, 1min 5.6sec