Independent Recap

Decimals and Percentages
Week 8

Year 5

THIRD SPACE LEARNING

Arithmetic

1. 365 x 7

2. 69 ÷ 1,000

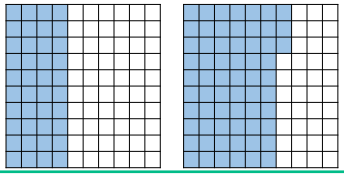
3. 5.23 – 3.81

4. 4^3

Practice: Understand the Percent Sign

5. Recap: What does percent mean?

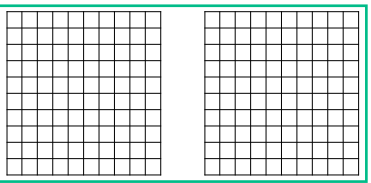
6. What percentages do these show?



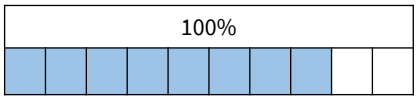
7. Write these as percentages.

a. 15 parts per hundred b. 3 parts per hundred
c. 90 parts per hundred

8. Shade the hundred squares to show
a. 30%, b. 54%

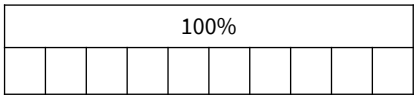


9. What percentage does this show?

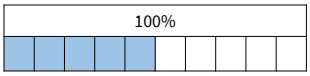


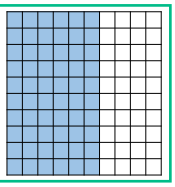
10. If a bar model is split into ten equal parts with a total of 100%, each part is equal to ?%.
How do you know?

11. Shade the bar model to show 10%.



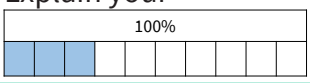
12. Which is the odd one out?
60% or 60 parts per hundred





13. Tahir says the bar model shows 3%.

Is he correct or incorrect? Explain your answer.



Challenge

14. Represent 70% in three different ways.

You might want to talk to an adult

Spot the mistake

Answers

Q no.	Question	Answer
1	365 x 7	2,555
2	69 ÷ 1,000	0.069
3	5.23 – 3.81	1.42
4	4^3	64
5	What does percent mean?	Percent means the number of parts per hundred.
6	What percentages do these show?	40%, 63%
7	Write these as percentages.	a. 15%, b. 3%, c. 90%
8	Shade the hundred squares to show a. 30%, b. 54%	30 squares coloured on one and 54 coloured on another.
9	What percentage does this show?	80%
10	If a bar model is split into ten equal parts with a total of 100%, each part is equal to ?%. How do you know?	Each part is equal to ten percent. This is because ten lots of ten percent make 100%.
11	Shade the bar model to show 10%.	One section shaded.
12	Which is the odd one out?	Bar model
13	Is Tahir correct or incorrect? Explain your answer.	Tahir is incorrect. The bar model shows 30% as each part of the bar is worth 10%.
14	Represent 70% in three different ways.	First way - 100 square with 70 coloured in. Second way - Bar model split into 10 with 7 coloured in. Third way - Written 70 parts per hundred.

Arithmetic

1. 276 x 9

2. 0.2 x 1,000

3. 32.6 + 3.45

4. 7^2

Practice: Percentages as Fractions and Decimals

5. Recap: What is 51% as a decimal and fraction. Explain your answers.

6. Write these percentages as fractions.

a. 46% b. 30% c. 2%

7. Write these percentages as decimals.

a. 59% b. 7% c. 80%

8. Write these fractions as percentages.

a. $\frac{37}{100}$ b. $\frac{4}{100}$ c. $\frac{13}{50}$

9. Write these decimals as percentages.

a. 0.01 b. 0.9 c. 0.82

10. Explain which is larger, 20% or 0.02.

11. Write these as percentages.

a. five tenths b. thirteen hundredths
c. six hundredths

12. Write these fractions as percentages.

a. $\frac{44}{200}$ b. $\frac{8}{25}$ c. $\frac{500}{1000}$ d. $\frac{2}{5}$

13. Aston says that 25% is the same as $\frac{25}{10}$. Is he correct?

Challenge

14. Write a decimal to complete the statement.

$$\frac{8}{25} < 0.\square < 56\%$$

And another...

And another...

And another...

You might want to talk to an adult

Spot the mistake

Answers

Q no.	Question	Answer
1	276 x 9	2,484
2	0.2 x 1,000	200
3	32.6 + 3.45	36.05
4	7^2	49
5	What is 51% as a decimal and fraction. Explain your answers.	51% = 0.51 and $\frac{51}{100}$ Pupils should explain that fractions, decimals and percentages are three ways to show the same number.
6	Write these percentages as fractions.	a. $\frac{46}{100}$ or $\frac{23}{50}$ b. $\frac{30}{100}$ or $\frac{3}{10}$ c. $\frac{2}{100}$ or $\frac{1}{50}$
7	Write these percentages as decimals.	a. 0.59, b. 0.07, c. 0.8
8	Write these fractions as percentages.	a. 37%, b. 4%, c. 26%
9	Write these decimals as percentages.	a. 1%, b. 90%, c. 82%
10	Explain which is larger, 20% or 0.02.	20% is larger as it is the same as 0.2 or 0.20.
11	Write these as percentages.	a. 50%, b. 13%, c. 6%
12	Write these fractions as percentages.	a. 22%, b. 32%, c. 50%, d. 40%
13	Is Aston correct?	Aston is not correct, 25% is the same as $\frac{25}{100}$ or $\frac{1}{4}$. $\frac{25}{10}$ is the same as 250% or 2.5.
14	Write a decimal to complete the statement.	Answers will vary. Accept any decimal between 0.33 and 0.55

Arithmetic

1. 782 x 37

2. 32.4 ÷ 10

3. 87.9 – 6.72

4. 9^2

Practice: Add - Same Decimal Places

5. Recap: When using the column method to add decimals, what is it important to remember?

6. Calculate these.

a. 3.2 + 2.4 b. 8.43 + 1.16 c. 5.67 + 2.31

7. Calculate these.

a. 5.7 + 2.5 b. 3.78 + 8.57 c. 6.86 + 6.87

8. Calculate these.

a. 2.3 + 5.5 + 2.8

b. 5.23 + 8.55 + 9.42

9. Calculate these.

a. 0.28 + 0.30 b. 0.28 + 0.03 c. 0.280 + 0.003

10. Explain what to do when a column contains ten or more.

For example 0.8 + 0.7

11. Calculate these.

a. 0.44 + 0.28 b. 0.14 + 0.80 c. 0.20 + 0.45

12. Calculate these.

a. 0.374 + 0.400 b. 0.230 + 0.712

c. 0.263 + 0.472

13. Filip has used column addition to solve a calculation. Explain his error.

	3 .	3	1
+	2 .	2	9
	3 .	5	10

Challenge

14. Complete the calculation in as many ways as possible.

	.		
+	.		
	1 .	0	0

You might want to talk to an adult

Spot the mistake

Answers

Q no.	Question	Answer
1	782 x 37	28,934
2	32.4 ÷ 10	3.24
3	87.9 – 6.72	81.18
4	9^2	81
5	When using the column method to add decimals, what is it important to remember?	It is important to remember to line up the decimal points when adding decimals using the column method. This is especially important when adding decimals with different numbers of decimal places.
6	Calculate these.	a. 5.6, b. 9.59, c. 7.98
7	Calculate these.	a. 8.2, b. 12.35, c. 13.73
8	Calculate these.	a. 10.6, b. 23.2
9	Calculate these.	a. 0.58, b. 0.31, c. 0.283
10	Explain what to do when a column contains ten or more.	When a column contains ten or more, you must exchange. A single column can only contain the digits 0 - 9. If the answer to a calculation goes over 9, the digits must be allocated to their appropriate column. In the example 0.8 + 0.7, the answer is 1.5.
11	Calculate these.	a. 0.72, b. 0.94, c. 0.65
12	Calculate these.	a. 0.774, b. 0.942, c. 0.735
13	Explain Filip's error.	Filip has not exchanged in the hundredths column. This has altered the rest of his answer as the first part of his calculation is incorrect. The correct answer is 5.6 or 5.60
14	Complete the calculation in as many ways as possible.	Answers should be number bonds to 1 with two decimal places. For example: 0.71 and 0.29 0.36 and 0.64 0.55 and 0.45

Arithmetic

1. 63 x 24

2. 4.8 x 10

3. 54.8 – 2.49

4. 3^3

Practice: Add - Different Decimal Places

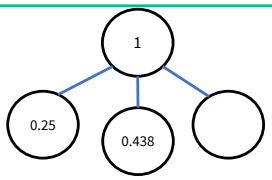
5. Recap: When using column addition to add decimals with different decimal places, why is it important to line up the decimal point?

6. Complete the missing numbers.

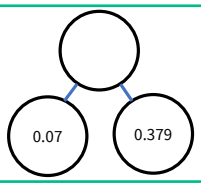
a. 0.5 + 0.22 + ☐ = 1

b. 0.6 + ☐ + 0.38 = 1

7. Complete the part-whole diagram.



8. Complete the part-whole diagram.



9. Calculate these.

a. 4.2 + 2.15 b. 3.26 + 5.712 c. 4.287 + 5.5

10. Explain how you prefer to add decimals with different decimal places.

11. Calculate these.

a. 4.7 + 3.908 b. 6.287 + 4.08 c. 3.47 + 8.9

12. Calculate these.

a. 2.44 + 5.247 + 1.2

b. 3.8 + 1.655 + 7.02

13. This is Imaani's calculation. Explain her mistake.

	7.	1	4	3
+		3.	1	9
	7.	4.	6	2
			1	

Challenge

14. What number goes in the boxes?

☐ ☐ . ☐ ☐ ☐ + 1.5 = 7. ☐ 65

Could there be different numbers?

Prove that there could/ could not be different numbers.

You might want to talk to an adult

Spot the mistake

Answers

Q no.	Question	Answer
1	63 x 24	1,512
2	4.8 x 10	48
3	54.8 – 2.49	52.31
4	3^3	27
5	Why is it important to line up the decimal point?	It is important to line up the decimal point to ensure the correct digits are added together. Many pupils struggle with this idea as they may have been told to line up the ones column and overgeneralised this to mean they must always ensure the columns are line up to the right of the calculation.
6	Complete the missing numbers.	a. 0.28, b. 0.02
7	Complete the part-whole diagram.	0.312
8	Complete the part-whole diagram.	0.449
9	Calculate these.	a. 6.35, b. 8.972, c. 9.787
10	Explain how you prefer to add decimals with different decimal places.	Answers will vary depending on the pupil and their preferences. Some pupils will solely use the column method, others will use the column method but will also add place holders so the decimals have the same number of decimal places while others will prefer to add mentally. If pupils explain that they 'remove the decimal place' encourage them to evaluate this technique and establish that this is not an accurate method to use.
11	Calculate these.	a. 8.608, b. 10.367, c. 12.37
12	Calculate these.	a. 8.887, b. 12.475
13	This is Imaani's calculation. Explain her mistake.	Imaani has not aligned the decimal places and as such has ended up with a very confusing answer. Her answer contains two decimal points, which is inaccurate. The correct answer should be 10.333
14	What number goes in the boxes?	There could be different answers depending on the digit placed in the answer box. Possible answers: 5.665 + 1.5 = 7.165 5.765 + 1.5 = 7.265 5.865 + 1.5 = 7.365 5.965 + 1.5 = 7.465 6.065 + 1.5 = 7.565 6.165 + 1.5 = 7.665 6.265 + 1.5 = 7.765 6.365 + 1.5 = 7.865 6.465 + 1.5 = 7.965