

Fraction Fun

Use the 100 square to answer the questions below.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

What **fraction** of the numbers in the 100 square:

- are odd?
- lie **between** 33 and 54?
- have at least one 3 as a digit?
- are multiples of 5?
- are less than 76?
- are in the four times table?
- have only odd digits?
- have only one digit?
- have two digits that are the same?

If you are in Years Five and Six, write these answers as percentages as well.

Challenge

Write questions of your own where the answer is $\frac{1}{10}$ or 10%. How many can you find?

Support for Parents and Carers

Encourage your child to use the 100 square to help them identify the numbers which have the properties in each question. For example, when finding the fraction of odd numbers, children may like to mark these on the 100 square to help them count, although they should spot a pattern after the first couple of rows, so they shouldn't need to mark on each number.

When finding the fraction, they should realise that the number counted is the numerator (top number) of the fraction, and the total numbers in the 100 square is the denominator (bottom number) of the fraction.

In the odd number example there are 50 odd numbers out of 100 numbers altogether, so this makes the fraction $\frac{50}{100}$.

Ask your child whether the fraction is in its simplest form. They can convert a fraction to its simplest form by using common factors. In the odd numbers example, 50 is a common factor of the numerator (50) and denominator (100). Dividing each by this common factor, changes the fraction to $\frac{1}{2}$, which is the simplest form.

For children in Years 5 and 6, they should also write the answer as a percentage. Percentage means out of every 100. Children should use their knowledge of writing fractions to help them with this.

Solutions

	Fraction of the Numbers	Percentage of the Numbers
are odd?	$\frac{50}{100}$ or $\frac{25}{50}$ or $\frac{5}{10}$ or $\frac{1}{2}$	50%
lie between 33 and 54?	$\frac{20}{100}$ or $\frac{2}{10}$ or $\frac{1}{5}$	20%
have at least one 3 as a digit?	$\frac{19}{100}$	19%
are multiples of 5?	$\frac{20}{100}$ or $\frac{10}{50}$ or $\frac{5}{25}$ or $\frac{1}{5}$	20%
are less than 76?	$\frac{75}{100}$ or $\frac{3}{4}$	75%
are in the four times table?	$\frac{25}{100}$ or $\frac{1}{4}$	25%
have only odd digits?	$\frac{30}{100}$ or $\frac{3}{10}$	30%
have only one digit?	$\frac{9}{100}$	9%
have two digits that are the same?	$\frac{9}{100}$	9%

KS2 Problem

Challenge

Questions where the answer is $\frac{1}{10}$ or 10% are any where there are 10 numbers in the set, such as:

What fraction or percentage of the numbers are multiples of 10?

What fraction or percentage of the numbers are 2-digit multiples of 9?

What fraction or percentage of the numbers have 3 ones?

What fraction or percentage of the numbers have 2 tens?