THIRD SPACE LEARNING

Specialist 1-to-1 maths interventions and curriculum resources

Sentence Stems

Fractions, Decimals, Percentages, Ratio

Years 1-6

Sentence Stems in a Nutshell

A sentence stem provides pupils with a way to communicate their ideas with mathematical precision and clarity. A sentence stem is a very structured sentence that often expresses a key conceptual idea or generalisation. The structure of a sentence stem provides a framework to embed conceptual knowledge and build understanding.

To use sentence stems in lessons, first introduce the sentence stem and explain how and when to use it. It is very important that the pupils understand the sentence stem otherwise it will not embed their learning. After this, the teacher should model the sentence stem and the pupils chant it back. Encourage repetition of the sentence stem throughout the lesson or lessons to come.

Sentence stems can be a whole sentence, for example:

A half is one of two equal parts.

Or with missing parts to be filled, for example:

A (fraction) is (numerator) out of (denominator) parts.

Where there is a missing part, we have given an example of a completed sentence as shown below.

There are (number/ items). Half of (whole) is (half).

- *There are 8 counters. Half of 8 is 4.*

By providing the pupils with a structure to follow, they will have an accurate way to discuss the given topic. By using repetition, the concepts expressed in the sentence stems will become embedded.

Year 1 | Fractions

1

Sentence Stems

Fractions General

A fraction is a number that represents equal parts of a whole.

Equal parts look exactly the same.

Parts and Wholes

A whole is the total number of parts.

A whole is always bigger than a part of the whole.

A part is always smaller than the whole.

This is a whole (item) because I have all of it.
OR This is a whole group of (items) because I have all of them.

- *This is a whole circle because I have all of it.* **OR** *This is a whole group of circles because I have all of them.*

This is a not whole (item) because I don't have all of it.
OR This is not a whole group of (items) because I don't have all of them.

- *This is not a whole circle because I don't have all of it.* **OR** *This is not a whole group of circles because I don't have all of them.*

If (item/ number) is the whole then (item/ number) is part of the whole.

- *If 4 is the whole then 2 is part of the whole.*

Half

A half is one of two **equal parts**.

There are (number/ items). Half of (whole) is (half).

- *There are 8 counters. Half of 8 is 4.*

Quarter

A quarter is one of four **equal parts**.

Vocabulary

Fraction	Equal sharing
Whole	Parts of a whole
Equal part	Half
Equal grouping	Quarter

Year 2 | Fractions

2

Sentence Stems

Fractions General

A unit fraction is one equal part of a whole.

The denominator is the total number of equal parts that make up a whole.

The numerator shows the number of equal parts being looked at.

If the numerators are the same, the (larger/smaller) the denominator, the (smaller/ larger) the fraction.

- *If the numerators are the same, the larger the denominator the smaller the fraction.*

If the denominators are the same, the (larger/smaller) the numerator, the (larger/ smaller) the fraction.

- *If the denominators are the same, the larger the numerator the larger the fraction.*

Writing fractions

The (whole) is split into (number of) equal parts, we are looking at (number) part(s). This can be written as (fraction).

- *The square is split into four equal parts, we are looking at one part. This can be written as ¼.*

Half/ Quarters/ Thirds

To find one half/ quarter/ third of (number), you share it into (denominator) equal groups and look at (numerator) equal groups.

- *To find one half of 4, you share it into 2 equal group and look at 1 equal group.*

The whole is (total). Half/ quarter/ third of (total) is (answer).

- *The whole is 10. One half of 10 is 5.*

Equivalent Fractions

Equivalent means equal value.

Vocabulary

Equivalent
Numerator
Denominator
Two halves/ quarters
Third
Unit fraction

Year 3 | Fractions

3

Sentence Stems

Tenths

(number) tenth(s) is/are the same as (number) out of ten equal parts.

- *3 tenths are the same as 3 out of ten equal parts.*

Comparison

(fraction) is greater than (fraction).

- *½ is greater than ¼.*

(fraction) is less than (fraction).

- *¼ is less than ½.*

Fraction of a Set of Objects

To find (fraction) of a set of objects, you divide the objects into (denominator) equal groups and count the amount in (numerator) equal part(s).

- *To find ⅕ of a set of objects, you divide the objects into 5 equal groups and count the amount in 1 equal part.*

OR

- *To find ¾ of a set of objects, you divide the objects into 4 equal groups and count the amount in 3 equal parts.*

Adding/ Subtracting

When the denominators are the same, add the numerators.

When the denominators are the same, subtract the numerators.

Equivalent Fractions

(fraction) is equivalent to (fraction) because they are of equal value.

- *2/4 is equivalent to ½ because they are of equal value.*

Vocabulary

Tenths
Sixths
Sevenths
Eights

Year 4 | Fractions, Decimals

4

Sentence Stems

Hundredths (Fractions)

(number) hundredth(s) is/are the same as (number) out of one hundred equal parts.

- *46 hundredths are the same as 46 out of one hundred equal parts.*

Equivalent Fractions

To find an equivalent of a given fraction, multiply the numerator and denominator by the same number.

Tenths and Hundredths (Decimals)

There are (number) ones and (number) tenths. We can write this as (decimal).

(number) ones + (number) tenths = (decimal)

- *(For 3.2) There are 3 ones and 2 tenths. We can write this as 3.2.*
- *3 ones + 2 tenths = 3.2*

Each square is one out of ten equal squares. The coloured section is (fraction). This is (decimal).

- *Each square is one out of one ten equal squares. The coloured section is $^{5}/_{10}$. This is 0.5*

Each square is one out of one hundred equal squares. The coloured section is (fraction). This is (decimal).

- *Each square is one out of one hundred equal squares. The coloured section is $^{15}/_{100}$. This is 0.15*

(number) tenths is/are larger than (number) hundredths.

- *2 tenths are larger than 2 hundredths.*

There are (number) ones, (number) tenths and (number) hundredths.
I can write this as (decimal).

(number) ones + (number) tenths + (number) hundredths = (decimal)

- *(For 3.21) There are 3 ones, 2 tenths and 1 hundredth. I can write this as 3.21.*
- *3 ones + 2 tenths + 1 hundredth = 3.21*

Vocabulary

Hundredths
Decimal
Decimal point
Decimal place
Tenths
Hundredths
Place holder (zero)

Sentence Stems continued

Dividing by 10 or 100 (Decimals)

When dividing by (10 or 100), the number is being split into (10 or 100) equal parts.

The number is (10 or 100) times smaller.

When dividing by 10, we move the digits one place to the right.

When dividing by 100, we move the digits two places to the right.

Making a whole (Decimals)

(tenths/ hundredths) + (tenths/ hundredths) = one whole.

- *0.45 + 0.55 = one whole*

Comparing Decimals

When comparing numbers, always start by comparing the highest value columns.

Rounding Decimals

This can be adapted for rounding to other decimal places.

When rounding to the nearest whole, if the tenths digit is four or less, round to the previous whole number.

If the ones digit is five or more, round to the next whole number.

(number) is closer to (number) than (number).

(number) rounds to (number) when rounded to the nearest whole.

- *1.7 is closer to 2 than 1.*
- *1.7 rounds to 2 when rounded to the nearest whole number.*

Year 5 | Fractions, Decimals, Percentages

5

Sentence Stems

Thousandths (Fractions)

(number) thousandth(s) is/are the same as (number) out of one thousand equal parts.

- *321 thousandths are the same as 321 out of one thousand equal parts.*

Improper and Mixed Number Fractions

An improper fraction is a fraction with a numerator is greater than the denominator.

A mixed number contains an integer and a proper fraction.

In the fraction (fraction), (number) equal parts make one whole.

- *In the fraction ⅘, 5 equal parts make one whole.*

Finding Common Multiples (Fractions)

(denominator) and (denominator) have a lowest common multiple of (number). The fractions can both have a denominator of (lowest common multiple).

- *(For ½ and ⅕) 2 and 5 have a lowest common multiple of 10. The fractions can both have a denominator of 10.*

General Decimals

Zero is a place holder. Zero has no value.

Fractions to Decimals

The fraction (fraction) is the same as (decimal).

- *The fraction $^{15}/_{1000}$ is the same as 0.015.*

Hundredths and Thousandths (Decimals)

(number) hundredths is/are larger than (number) thousandths.

- *2 hundredths are larger than 2 thousandths.*

Adding/ Subtracting (Decimals)

When adding/ subtracting decimals using the formal written method, align the decimal points.

Vocabulary

Mixed number
Improper fraction
Thousandths
Lowest common multiple
Thousandths
Percentage
Per cent
%

Sentence Stems continued

Multiplying by 10/ 100/ 1,000 (Decimals)

When multiplying by (10/ 100/ 1,000), the number is (10/ 100/ 1,000) times bigger.

When multiplying by (10/ 100/ 1,000), we move the digits (one/ two/ three) places to the left.

When dividing by (10/ 100/ 1,000), the number is (10/ 100/ 1,000) times smaller.

When dividing by (10/ 100/ 1,000), we move the digits (one/ two/ three) places to the right.

Percentages

Percentage or percent means how many parts per hundred.

Cent means hundred.

Year 6 | Fractions, Decimals, Percentages, Ratio

6

Sentence Stems

Simplify Fractions

To simplify a fraction, divide the numerator and denominator by their highest common factor.

Compare Fractions

To compare fractions, find a common denominator or common numerator.

Add and Subtract Fractions

To add or subtract fractions with different denominators, first find the lowest common multiple.

Percentages

(percentage) is equivalent to (fraction). To find (percentage) of an amount, divide by (denominator).

- *50% is equivalent to ½. To find 50% of an amount, divide by 2.*

Ratio

Ratios shows the relationship between two amounts.

For every (number/ item) there are (number/ item).

- *For every 3 red cubes there are 2 yellow cubes.*

The notation of a ratio relates to the order of the parts.

The ratio of (item) to (item) is (number) : (number).

- *The ratio of red counters to blue counters is 1 : 2.*

Scale Factor

(item) is (number) times as big as (item).

- *Shape A is 2 times as big as shape B.*

Vocabulary

Enlarged
Enlargement
For every
Highest common factor
Proportion
Ratio
Scale factor
Scale factor of
Similar
Simplify