

# TEACHER'S NOTES & LESSON IDEAS



## Focus on...Fractions, Decimals & Percentages Kit

Cement pupils knowledge of fraction, decimal and percentage equivalences with the resources in this unique kit. Ideal for Key Stage 2 pupils and older pupils with Special Educational Needs, these resources provide the much needed hands-on and visual support to master fractions, decimals and percentages.

### Curriculum Links

These resources support the Maths curriculum as pupils are required to understand unit fractions, then fractions that are several parts of one whole, locate them on a number line and use them to find fractions of shapes and quantities. Pupils should learn simple equivalent fractions and simplify; compare and order simple fractions by converting them to fractions with a common denominator, explaining their methods and reasoning. Pupils should recognise the equivalence between the decimal and fraction forms of one half, quarters, tenths and hundredths; understand that 'percentage' means the 'number of parts per 100' and that it can be used for comparisons and find percentages of whole number quantities. Pupils should recognise approximate proportions of a whole and use simple fractions and percentages to describe them, explaining their methods and reasoning.



### Suitable for:

- \* **Primary Schools (KS2+)**
- \* **Secondary Schools SEN**
- \* **Parents to support pupils at home**
- \* **One to One Tutors**

### Stock Code: SB100

- Magnetic Fraction Builders
- Magnetic Decimal Builders
- Magnetic Percentage Builders
- Fraction Fill
- Percentage Expansion Pack
- Decimal Expansion Pack
- Percentage, Decimal & Fraction Bingo
- Fraction, Decimal & Percentage Flipstand

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## Lesson Ideas using...

### Magnetic Fraction Builders

*Ideal for use with Key Stage 2 pupils or SEN*, this set of fraction pieces represents fractions in two different ways. The circular pieces show how fractions can describe part of a group while the rectangular pieces show how fractions can describe part of a length. The magnetic fractions can be used at the front of the class on a magnetic whiteboard to visually introduce fractions and model comparing fractions. They can also be used on smaller whiteboards for pupils to use individually. The fraction builders use the same colour-coding as the magnetic decimal and percentage builders.

### 1. Add/ Subtract Fractions – Whole Class, Small Group, Independent Learning

Use the fraction builders to visually teach children how fractions can be added together in different ways to make a whole. E.g.  $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$ .

### 2. Compare Fractions - Whole Class, Small Group,

*Use the fraction builders to compare the size of different fractions* E.g. Which fraction is bigger,  $\frac{1}{8}$  or  $\frac{1}{3}$ ?

### 3. Equivalent Fractions

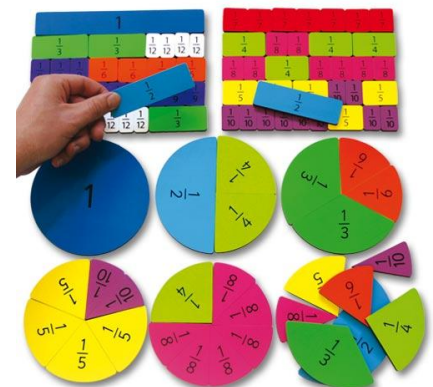
*Use the fraction builders to understand equivalent fraction values* by using either the circular or rectangular pieces. E.g.  $\frac{1}{6}$  and  $\frac{2}{12}$  is equal to  $\frac{1}{3}$ . *Use with the whole class when introducing fractions or for small groups who benefit from visual, hands-on stimulus.*

### 4. Make a Whole – Whole Class Activity

Give each pupil in the class a fraction piece. Set a timer at the front of the class and ask children to travel around the room to find partners with fraction pieces that when put together will make one whole e.g.  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{1}{4}$ . Once the timer stops ask groups to share the different ways that they have made a whole. *Ideal for a lively interactive maths fraction lesson.*

### Magnetic Decimal and Percentage Builders

*Ideal for developing pupils' confidence with fraction, decimal and percentage comparisons and equivalences.* Both the Magnetic Decimal Builders and Percentage Builders sets use the same colour-coding to enable them to be used together. The activities for use with the Magnetic Fraction Builders can be used with these sets to teach pupils the same skills when working with decimals and percentages and to develop their confidence with comparisons and equivalency. *Ideal for use with Key Stage 2 pupils or SEN.*



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## Lesson Ideas using...

### 1. Make a Match Game - Whole Class Activity

Give each pupil in the class a magnetic fraction, decimal or percentage piece. Set a timer at the front of the class and ask children to travel around the room to find partners with equivalent pieces e.g.  $\frac{1}{4}$ , 25% and 0.25. Once the timer stops ask groups to share the different equivalences they have found. *Ideal for a fun interactive maths lesson.*

### 2. Equivalent Adding - Whole Class Activity

Give each pupil in the class a magnetic fraction, decimal or percentage piece. Set a timer at the front of the class and ask children to travel around the room to find partners with other pieces that when put together will make one whole e.g.  $\frac{1}{4}$ , 0.25 and 50%. Once the timer stops ask groups to share the different ways that they have made a whole.

### Fraction Fill – Small Group up to 4 Players, Whole Class Activity

This game contains 4 double sided magnetic boards (sized to fit the magnetic fraction builders) a set of playing cards and is played using the Magnetic Fraction Builders. The aim is to race opponents and see who can fill their trailer or wheel as close to 1 as possible without going over. Pupils take turns to turn over a card and decide if their fraction piece should go in your trailer or not. *Ideal for providing a fun, meaningful context to apply fraction knowledge.*

### Percentage and Decimal Expansion Packs

Use the Decimal Cards or Percentage Cards to play Fraction Fill as Decimal Fill or Percentage Fill.

### Percentage, Decimal & Fraction Bingo

*Ideal for practising equivalences across fractions, decimals and percentages.* Encourage pupils to recognise and match fractions, percentages and decimals. Each board contains 6

examples of different fractions, percentages and decimals supporting children in their understanding of equivalences across these concepts. The combination of picture and numeric symbols provides further support for learners. *Use with a small group/ independent activity for an interactive maths game or as an extension activity.*

### 1. Group Game – Up to 7 Players

6 players each take a board with 1 person as the caller. The caller either reads out the percentage decimal or fraction on the card or shows the players the card. The players check their boards and call out 'Bingo' if they can make a match. They then place that card over the matching space on their board.

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## Lesson Ideas using...



### Fraction, Decimal & Percentage Flipstand

Use the Fraction, Decimal and Percentage Flipstand as a demonstration tool to model how to compare and identify equivalent fractions.

#### 1. Teach Equivalent Fractions - Whole Class Activity, Small Group

*Ideal for comparing equivalent fractions depicted in different forms.*

Using the red side of the flipstand, turn over the cards one by one to reveal the fractions as a picture, in words, as part of a shaded shape and in fraction notation. Encourage children to predict what each card will look like before turning them over, by asking them to draw on the whiteboard or hold up a Magnetic Fraction Builder piece, then turn over the card to reveal the fraction and self-correct. *A great non-threatening assessment tool for use with the whole class.*

#### 2. Whole Class

*Ideal for use in a plenary session to assess pupils knowledge in a fun, non-threatening way.* Play the game as above, this time allocate 1 board per table for children to work together as a team, with the teacher as the caller.

#### 3. Individual Matching Activity

The child lays out up to 6 boards and matches the card to the percentage, decimal or fraction on the boards.

#### 2. Compare Fractions, Decimals & Percentages - Whole Class Activity, Small Group

*Ideal for comparing fractions, decimals and percentages of equivalent value.* Use the yellow side of the flipstand to encourage children to predict what each card will look like before turning them over. E.g. The first card shows 25%, what will this look like as a decimal? *Use with a focus group or during the plenary session to consolidate pupils' learning.*

#### 3. Show Me - Whole Class Activity, Small Group

*Secure pupils' knowledge of comparisons* by using the flipstand alongside the Magnetic Fraction, Decimal and Percentage Builders. Display the flipstand at the front of the class, using one card at a time, ask pupils to make a match using the magnetic builders. E.g. The teacher points to a 25% card, children must hold up either 0.25 Decimal Builder or  $\frac{1}{4}$  Fraction Builder. Challenge children further to show the same amount using different Decimal and Fraction Builders. E.g.  $2 \times 0.125$  and  $2 \times \frac{1}{8}$ . Use the flipstand as a checking tool to compare answers. *Ideal for whole class assessment!*