# Adding Fractions

| Stage | Strand | Strand Unit |
|---|---|---|
| 4 | Number | Fractions |

| Learning Outcomes | Maths Concepts |
|---|---|
| • Through appropriately engaging learning experiences, children should be able to explore (model, compare and convert) the relationships between fractions, decimals and percentages. | • Fractions can be more easily added / subtracted when they have a common denominator. |

## Learning Maths

This learning experience provides learners with an opportunity to explore and play with fractions.They work backwards to find the two fractions when presented with the sum. Learners use a variety of materials to represent and share their solution pathways for the open-ended problem below.

What two fractions can you add together to get a total of $3\frac{2}{5}$?

| Understanding and Connecting | Communicating | Reasoning | Applying and Problem Solving |
|---|---|---|---|
| *The learner* | | | |
| Understands that operations have the same meaning with fractions as they do with whole numbers.<br><br>Adds related fractions and mixed numbers. | Combines fractions to find a variety of solutions for the problem.<br><br>Models and represents their thinking in a variety of ways. | Argues and justifies their different solution pathways. | Investigates and explores a variety of ways to solve the problem. |

## Teaching Maths

### Fostering Productive Disposition

Engage learners in meaningful self-assessment and reflection on the task.

### Encouraging Playfulness with Mathematics

Provide a range of materials and allow time for learners to explore and experiment with possible solutions. Materials could include, but are not limited to counters, cubes, cuisenaire rods, fraction pieces and mini whiteboards.

### Emphasising Mathematical Modeling

Give learners time to test and refine their models.

### Using Cognitively Challenging Tasks

Modify the problem to stretch learners *'I've added three fractions together and got a total of 3 ⅖. What could the three fractions be?'*

Challenge learners to find a particular difference rather than a particular sum, e.g. '*You subtract two fractions and the difference is 3 ⅖. What could the fractions be?'*

### Promoting Maths Talk

Encourage learners to collectively share their strategies and ideas through the use of strategic, skilful questioning.

Key questions might include;

- Can anybody offer a possible solution?
- What strategy did you use?
- Did anyone do it a different way?
- How many solutions did you find?
- Did you notice any patterns? Tell me more.

## Assessing Maths

- Ask learners to record a solution strategy in their maths journal or digital portfolio.
- Can learners explain how they solved the problem and visually represent it using a range of concrete materials?
- Is the learner facile when modeling, comparing and converting fractions?

## Source

Adapted from:

https://www.rubiconpublishing.com/wp-content/uploads/2022/04/G4-Open-Questions-2020-ON-Curriculum_Correlation..pdf page 12