# Diagrams and fractions – lesson 2.4 – Word problems

**Summary**

This is the final lesson of this sequence and the goal is to expose the students to word problems involving addition and subtraction of fractions.

**Material:** worksheets

## Outline of the lesson

**Starter**

The goal of this starter is to create an opportunity to all the students to solve “special cases” that appeared only as extensions in the previous lessons.
It is important that the teacher discuss the questions after they solve it.

*The first is a simple sum, to warm up.*
*The second sum is bigger than 1. Show them that you can draw a second square in case you need. Also, avoid “attach” extra rectangles to the original square because you end up “losing” the unit.*
*The third sum involves whole numbers and fractions. If you consider appropriate, you can talk about mixed numbers or just stay with 7/4 as final answer.*
*The fourth sum uses twentieths, which is a new fraction for them. Before draw any diagram, ask them “how many twentieths would fit into a fifth?”. This is the step towards a more numerical approach that will be explored in the next sequence of lessons.*

**Task 1, 2, 3 and 4**

Word problems involving fractions.

*The mixture of fractions presented textually, symbolically and visually is intentional. Pay attention to this issue: are they interpreting the information properly?*
*Also, are the context of the problems affecting the visual representation they choose? For instance, are they using diagrams that looks like a cookie in task 2?*

**Task 5 and 6**

More word problem to be used as an extension.

*The combination of denominators on task 5 was not explored by them before and the question on Task 6 is also new for them.*

**Extension**

In case students finish all the problems, I would suggest sums with new denominators. Such as:

$$\frac{1}{7}+\frac{1}{14} \qquad \frac{1}{4}+\frac{3}{20} \qquad \frac{5}{18}+\frac{1}{2}$$