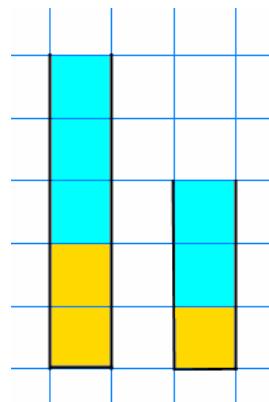I mixed up some lemonade in two glasses.

The first glass had 200ml of lemon juice and 300ml of water. The second glass had 100ml of lemon juice and 200ml of water.

Which mixture has the stronger tasting lemonade? How do you know?

Compare these mixtures of lemonade. Can you develop a strategy for deciding which is stronger each time?

Glass A	Glass B	Glass A	Glass B
Lemon 10	Lemon 70	Lemon 150	Lemon 20
Water 30	Water 180	Water 320	Water 50
Glass A	Glass B	Glass A	Glass B
Lemon 50	Lemon 10	Lemon 10	Lemon 270
Water 240	Water 60	Water 30	Water 640

Once you are confident that you can always work out which mixture is stronger, **here are some questions to consider:**

- How might you use fractions to help you to work out which mixture is stronger?
- How might you use ratios?
- How about a graphical approach?
- Do you always use the same strategy?
- Describe some occasions when one strategy might be more efficient than another.

In the original example, the first glass had 200ml of lemon juice and 300ml of water, and the second glass had 100ml of lemon juice and 200ml of water.
If I mix the two glasses of lemonade together, the mixture is weaker than the first glass was, but stronger than the second glass.

Try the same with some other mixtures.
Is the strength of the combined mixture always between the strengths of the originals? Can you justify your findings?