Yes it is, no it's not

Reasoning in the classroom
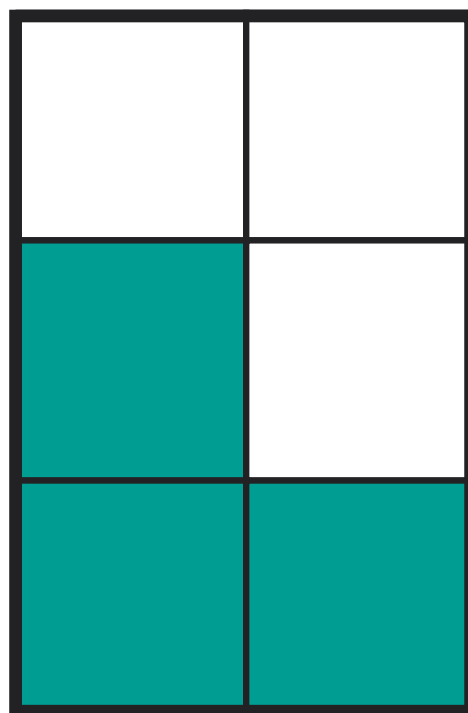
Support materials for teachers

Year 2

Llywodraeth Cymru
Welsh Government

Year 2 Reasoning in the classroom – Yes it is, no it's not

These Year 2 activities focus on the ability to communicate effectively.

Activity 1

Yes it is, no it's not
Learners decide whether a statement about the fraction $\frac{1}{2}$
is true or false, then explain why.
Includes:
- Yes it is, no it's not question
- Markscheme

Activity 2

Is it true?
They work in groups to create 'Is it true?' questions to present to other groups.
Includes:
- Explain and question – instructions for teachers
- Whiteboard – Is it true?
- Whiteboard – No it's not!

Reasoning skills required

Identify

Learners create their own questions.

Communicate

They explain their reasoning, in writing and orally.

Review

They check their own work and that of others.

Procedural skills

- **Fractions (half)**

Numerical language

- **Half**
- **Rectangle**

Yes it is, no it's not

Activity 1 – Yes it is, no it's not

Outline

Learners decide whether a statement about the fraction $\frac{1}{2}$ is true or false, then explain why.
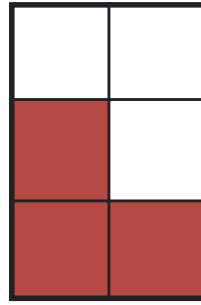
You will need

Q

Yes it is, no it's not question
One page for each learner

M

Markscheme

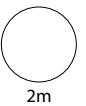Exactly **half** of the rectangle is shaded.

No, it is **not** half.

Pedr

Lin

Who is correct? Pedr or Lin?

Explain how you know.

2m

Activity 1 – Yes it is, no it's not – Markscheme

Marks	Answer
2m	Chooses or implies **Pedr** and gives an explanation that refers to both **3** and **6**, e.g. • Pedr, half of 6 is 3 • He is, 3 out of 6 Or Chooses or implies **Pedr** and gives an explanation that refers to the shapes being the **same number** of squares, e.g. • 3 are red, 3 aren't, with the name Pedr ringed • Both have 3 so Lin is wrong • Pedr, both the same
Or 1m	Chooses Pedr and gives a partial justification referring to only 3 or only 6 squares, e.g. • Pedr, 3 are red • 3 is half, he is right • 6 altogether so P

Activity 1 – Yes it is, no it's not – Exemplars

✎ I counted the squares and it was 6 and then I did half of 6 what is 3 so I know he is right.	**Correct; 2 marks** • This explanation shows clear understanding, referring to both 3 and 6.
✎ Pedr is rit because 3 of thum are red and the 3 up the top is wit.	**Correct; 2 marks** • This explanation refers to the shapes being the same number of squares.
✎ I think Peter is right becase he does have three	**Partially correct; 1 mark** • 'Peter' is clearly intended to be 'Pedr'. Had this learner also said that Lin had three, both marks would have been given.
✎ Pedr is correct because the line in the midle is the half	**Incomplete; 0 marks** • This learner understands that the vertical line divides the shape into two halves, but they have not linked this understanding to the shading shown on the diagram.
✎ The boy is rite becos half is shaded	**Incomplete; 0 marks** **Common error** This learner does not explain how they know that half is shaded.
✎ Pedr	**Incomplete; 0 marks** **Common error** No evidence is given.
✎ Lyn is write because half is same both sides like this	**Incorrect; 0 marks** **Common error** It is a very common error for learners to think that halves must be like reflections, i.e. 'same both sides'.

Is it true?

Activity 2 – Is it true?

Outline

This activity focuses on learners' ability to communicate their reasoning. They create 'Is it true?' questions to present to the rest of the class, and justify their responses.

Some learners may need support in creating their questions.

You will need

WB **Whiteboard – Is it true?**

WB **Whiteboard – No it's not!**

Activity 2 – Is it true?

Explain

Show **Is it true?** on the whiteboard. Ask learners whether it is true that half of 12 is 7. How do they know? Show **No it's not!** and discuss how the picture shows that it is not true.

Tell them that in their groups, they are going to write 'Is it true?' questions to give to other groups. The questions can deal with any topic and learners can be as creative as they like – but they must be able to show not just whether something is true or not, but why.

Give as much support as necessary *(while some learners will seize on this with excitement, others may struggle)*. Encourage them to consider a range of questions, e.g. 'Is it true that (…) weighs more than (…)?' or 'Is it true that there are 10 more beans in this pot than that one?'

The essence of this activity is numerical communication, so the questions they write are less important than the explanation that follows. It is very important, therefore, to make sure that when the class is going through the questions and responses, there is always attention on 'why'.

Question

- How are you going to decide on your questions?

- Could you write questions that use things you can find in the classroom, like playdough?

- Are you working together, so everyone contributes?

- Have you made sure you know **why** each question is true or not? Can you explain it to other people? Have you practised?

- Are there some questions that are harder to explain than others? Why/why not?

- If you are stuck in finding an explanation, even though you know something is true or not, what can you do? *(Ask! An important part of numerical reasoning is to seek solutions.)*

Is it true?

Half of 12 is 7

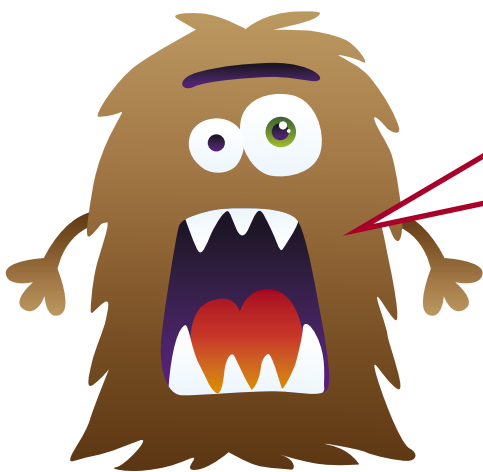# Is it true?

Half of 12 is 7

No, it's not true!
I can see half of 12
is **6** because