

GRADE 5 LEARNING PACK

Geometry: Transformations, Scale & Coordinates

Reason with angle properties, coordinates, transformations and scaled diagrams.

LEARN • PRACTISE • CREATE • REFLECT

Original BrightPencil Kids resource - adult-led where appropriate

A4 edition • 12 purposeful pages • review copy

Print. Learn. Grow.

Grown-up guide

Learning objective

Reason with angle properties, coordinates, transformations and scaled diagrams.

Use this pack well

- Model the first example aloud, then let the learner try.
- Ask “How do you know?” more often than “Are you finished?”.
- Use real objects, talk, movement or observation when the activity suggests it.
- Stop or shorten the session if attention or enjoyment drops.
- Open-ended pages can have many successful answers.

Quality note

This resource was written originally for BrightPencil Kids. Curriculum sources informed scope and progression only; no third-party worksheet or story text is reproduced.

Learn the idea

- 1** Translations, rotations and reflections preserve shape and size; enlargement changes size by a scale factor.

- 2** Coordinates describe position relative to axes and origin.

- 3** Scaled diagrams represent proportional lengths and require the scale relationship to be read carefully.

Talk about it

Explain one idea in your own words. Give an example from real life, a drawing or an object if that helps.

Plot and read points in the first quadrant.

Translate a shape by a stated vector-like movement in words.

Reflect a polygon across a grid line.

Rotate a shape by a quarter or half turn around a stated point.

Use a 1 cm : 4 m drawing scale to determine real lengths.

Try it beyond the page

Real-world / hands-on connection

Create a small coordinate-grid treasure map and give transformation clues to move a shape or marker.

Before you finish

What did you notice?

What evidence, object or example helped you?

What would you change if you tried again?

Create something

Your project

Design a scaled room or garden plan using invented dimensions and a clearly stated scale.

Use this space for planning, drawing, mapping, designing or notes.

CHALLENGE

Think deeper

1. Does translation turn a shape?

2. If 1 cm represents 5 m, what does 7 cm represent?

3. What changes under an enlargement?

Quick review

1. In one sentence, explain the big idea of “Geometry: Transformations, Scale & Coordinates”.

2. Draw or write one example that shows you understand.

3. Choose one activity from this pack and explain the strategy you used.

4. Write one question you still have.

Answer & discussion notes

Use these as guidance, not scripts. Open questions can have different successful responses when the reasoning is sensible and evidence-based.

1. Suggested response

No.

2. Suggested response

35 m.

3. Suggested response

Size changes proportionally while shape is preserved.

Review before publication

Check age fit, factual accuracy, clarity, accessibility, rights provenance and whether the activity works in practice. This file remains a review copy until those checks are signed off.

FINISH

My learning reflection

I finished this BrightPencil learning pack.

One thing I understand better now:

A strategy that helped me:

Something I created or noticed:

My next small question or goal:

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