

GRADE 5 LEARNING PACK

Pattern, Tessellation & Transformation

Create patterns using translation, rotation, reflection and tessellation while connecting art and geometry.

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

Create patterns using translation, rotation, reflection and tessellation while connecting art and geometry.

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 Transformations move or turn shapes while preserving defined properties.

2 Tessellations cover a surface without gaps or overlaps.

3 Pattern design balances rule, repetition and variation.

Talk about it

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

Build a clear model or organiser that shows: Transformations move or turn shapes while preserving defined properties.

Use supplied evidence to test this idea: Tessellations cover a surface without gaps or overlaps.

Compare two cases and explain where this principle matters: Pattern design balances rule, repetition and variation.

Find one weak claim or assumption and revise it so it matches the evidence.

Write a short conclusion that states evidence, limitation and next question.

Try it beyond the page

Real-world / hands-on connection

Find repeating geometric patterns in adult-selected architecture or textiles.

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 tile pattern using at least two transformations and annotate the rule.

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

CHALLENGE

Think deeper

1. What is a tessellation?

2. Does reflection change size?

3. Why annotate a pattern rule?

Quick review

1. In one sentence, explain the big idea of “Pattern, Tessellation & Transformation”.

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

A repeated tiling that covers a surface without gaps or overlaps.

2. Suggested response

No.

3. Suggested response

To make the structure explainable and repeatable.

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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