

# Pattern Rules: Describe, Test, Generalise

Identify numerical or visual pattern rules and distinguish a rule that fits early terms from a rule that continues consistently.

**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

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## Learning objective

Identify numerical or visual pattern rules and distinguish a rule that fits early terms from a rule that continues consistently.

## 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

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**1** A pattern rule should explain how terms are generated.

**2** Several rules can fit a short sequence, so more evidence may be needed.

**3** Generalising means describing what continues beyond the examples shown.

## Talk about it

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

Continue arithmetic and geometric-style simple sequences.

Compare “add 3” with a rule that only happens to match the first two terms.

Describe a visual growing pattern using position number.

Find the 10th term of a simple linear pattern using repeated reasoning.

Create a counterexample to a weak pattern claim.

## Try it beyond the page

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### Real-world / hands-on connection

Build a growing pattern with counters and record term number versus total pieces.

### Before you finish

What did you notice?

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What evidence, object or example helped you?

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What would you change if you tried again?

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# Create something

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## Your project

**Design a visual pattern whose growth can be explained in words and a table.**

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



CHALLENGE

# Think deeper

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1. Can several rules fit a very short sequence?

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2. What is a counterexample?

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3. Why describe the rule, not only the next term?

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# Quick review

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1. In one sentence, explain the big idea of “Pattern Rules: Describe, Test, Generalise”.

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

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

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4. Write one question you still have.

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# Answer & discussion notes

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

## 1. Suggested response

Yes.

## 2. Suggested response

An example showing a claim is not always true.

## 3. Suggested response

A rule explains the structure and future terms.

### 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

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**I finished this BrightPencil learning pack.**

**One thing I understand better now:**

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**A strategy that helped me:**

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**Something I created or noticed:**

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**My next small question or goal:**

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