

Logic Statements: Always, Sometimes, Never

Classify mathematical and everyday statements as always, sometimes or never true using examples and counterexamples.

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

Classify mathematical and everyday statements as always, sometimes or never true using examples and counterexamples.

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 One counterexample disproves an “always” claim.

2 A “sometimes” claim needs at least one true case and one false case.

3 Definitions determine whether examples qualify.

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: One counterexample disproves an “always” claim.

Use supplied evidence to test this idea: A “sometimes” claim needs at least one true case and one false case.

Compare two cases and explain where this principle matters: Definitions determine whether examples qualify.

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

Test statements about multiples, shapes and simple patterns.

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

Write three statements and supply proof examples/counterexamples.

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

CHALLENGE

Think deeper

1. How do you disprove “always”?

2. What does “sometimes” require?

3. Why are definitions important?

Quick review

1. In one sentence, explain the big idea of “Logic Statements: Always, Sometimes, Never”.

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

Give one valid counterexample.

2. Suggested response

At least one true and one false case.

3. Suggested response

They determine which cases belong.

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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