



EduTrend Contents

P4C · LOGIC AND CRITICAL THINKING · PRIMARY

If This, Then That

Working out what really follows from what with if-then puzzles

Ages 8–11

Level: Developing

45 minutes

Whole class circle · up
to 30

Activity 02

Inside: activity at a glance · step-by-step session plan · facilitator notes · 3 pupil worksheets · assessment checklist

ACTIVITY 02 · AT A GLANCE

If This, Then That

Pupils hear if-then sentences: if it rains, the playground gets wet; if you are in Class 4, you have a blue book. Then they test tricky conclusions: the playground is wet, so did it rain? Someone has a blue book, so are they in Class 4? Pairs decide which conclusions must be true, which might be and which do not follow, then enquire into how we can tell.

Learning outcomes

By the end of the session pupils can:

- reason with if-then statements;
- distinguish must, might and does not follow;
- give alternative explanations;
- explain reasoning clearly.

KEY WORDS

if · then · follow · must · might · conclusion

CURRICULUM LINKS

Maths: logic and reasoning.
Science: cause and effect. English: connectives.

1

STIMULUS

Share something to think about

2

THINK

Quiet thinking time

3

QUESTION

Create and choose a question

4

ENQUIRE

Reason together

5

BUILD

Agree, disagree, add

6

REFLECT

Last words

Materials (per class)

- If-then puzzle cards
- Question and thinking-move cards
- Worksheets 1, 2 and 3

Before the session

- Read the stimulus and note possible concepts.
- Prepare question and thinking-move cards.
- Set out a circle so everyone can see each other.
- Print the worksheets.

SAFETY

Everyone may pass. Discuss ideas, not people, and use the story or invented examples rather than personal situations.

ACTIVITY 02 · SESSION PLAN

Step by step

Stay neutral: ask for reasons, examples and counter-examples rather than giving your own view.

Time	What happens	Say or ask
0–8 min Stimulus	Share the if-then puzzle cards.	<i>“What did you notice?”</i>
8–18 min Questions	Pupils create questions in pairs and vote on one.	<i>“Which question is most interesting to talk about?”</i>
18–40 min Enquiry	Enquire into the chosen question, building on each other’s ideas.	<i>“If something happens, does it always mean the reason is what we think?”</i>
40–45 min Last words	Each person says one last thought or passes.	<i>“Has your thinking changed?”</i>

CHALLENGE CARD (print or copy onto the board)

Explain why “the playground is wet” does not prove it rained.

ACTIVITY 02 · FACILITATOR NOTES

The philosophy in brief

In logic, “if A then B” does not mean “if B then A”; confusing the two is a common error.

Asking for other explanations helps pupils avoid jumping to conclusions.

Common ideas to listen for

- “If B happened, A must have caused it.” Other causes are possible.
- “Might and must are the same.” Must is certain.
- “Logic is only for maths.” It is everywhere.

Adapting the activity

Support

Use pictures for each puzzle.

Stretch

Write a puzzle that tricks a classmate.

WORKSHEET 1

Must, might or no?

Name: _____

Class: _____ Date: _____

Decide.

Must, might or no?

Puzzle	Must, might or does not follow	Why

WORKSHEET 2

Thinking moves

Use these in the enquiry.

Thinking moves

Thinking move	My example
I agree with... because...	
I disagree with... because...	
An example is...	
A counter-example is...	
Building on what... said...	

WORKSHEET 3

Last words

Before and after.

How can we tell if a conclusion must be true? Before the enquiry I thought...
Now I think... because...

FOR THE TEACHER

Assessment checklist

Use during the session. One sheet covers up to eight pupils; copy as needed.

Pupil	Asks a philosophical question	Gives reasons and examples	Listens and builds on others

Suggested codes: W = working towards · E = expected · G = greater depth

ABOUT THIS ACTIVITY

If This, Then That is a sample activity from the EduTrend Contents P4C Logic and Critical Thinking programme (primary, level: developing). Every activity in the programme follows the same format: a practical challenge, a clear session plan, facilitator notes and ready-to-print worksheets, so that teachers, club leaders and parents can run it without extra preparation.

Full 15-, 20- and 32-week programmes are available from EduStore at edutrend.org.

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