PRINTABLE DEDUCTION FOR TWO

The Lantern Workshop

Choose the right switches by comparing a wiring card and a lighting checklist.



The paper lanterns are ready for their final test. One of you knows the wiring. The other has the lighting plan. Work together to choose which switches to press before the workshop opens.

2 PLAYERS / ONE COMPLETE FREE CASE / PDF

Before you start

Give the next page only to Player A and the page after it only to Player B. Do not show sheets; speaking and shared notes are allowed. Read hints together only when needed. The final page contains the answer. One fixed-answer case; no timer or other purchase required.

CASE 01 / PRIVATE A / Wire Keeper

The window test

> **Your joint task**
> Write the switch numbers you will press to reach the requested lighting pattern. The order of the numbers does not matter.

At the start, only A, D are ON. The table lists every lamp each switch flips. Flipping changes ON to OFF or OFF to ON. If two selected switches flip the same lamp, those two flips cancel.

Switch	Lamps it flips
1	A, C, E
2	C, D
3	B, C
4	A, D, E
5	A, B, C
6	A, D

JOINT ANSWER / AGREE BEFORE CHECKING

CASE 01 / PRIVATE B / Light Checker

The window test

> **Your joint task**
> Write the switch numbers you will press to reach the requested lighting pattern. The order of the numbers does not matter.

Your partner knows the starting lights and which lamps each switch flips. Tell them this checklist.

1. At the end, only B, D, E must be ON. Every other lamp must be OFF.
2. Press exactly 2 different switches. Press each selected switch once; leave all others alone.
3. The order of presses does not matter. Work out the switch numbers before checking your answer.

JOINT ANSWER / AGREE BEFORE CHECKING

OPTIONAL HELP / SPOILERS

Hints, one at a time.

Fold this page or cover later hints with scrap paper. Both players should agree before reading a hint.

01 / The window test

Hint 1. Compare the starting and requested lights. For a lamp that changes, an odd number of selected switches must flip it. For a lamp that stays the same, the number must be even.

Hint 2. Start with lamp B. The only switches that affect it are listed here: 3, 5. Its number of flips must be odd; keep only switch sets that fit that rule.

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SOLUTION 01 / OPEN AFTER PLAY

The window test

1, 3

Only lamps A, B, E must change. Start with lamp B, using only switch sets that flip it an odd number of times. Then check each other lamp using the same odd-for-change, even-for-no-change rule. Ignoring the press limit, the complete list of sets that fit all lamps is (1, 3) / (2, 3, 4). The set (1, 3) is the only one with exactly 2 switches. It flips each of A, B, E an odd number of times, so the final lit lamps are B, D, E.

That is the complete first case.

The complete edition adds two different cases, private role pages, hints and explained answers. This sample does not require a purchase.

Find Pattern Lab at yaotao3000.itch.io. The complete edition includes English, Spanish, Brazilian Portuguese and French, each in A4 and US Letter. All versions contain the same three cases.