

Free Detective Logic Puzzles

Five original mysteries for ages 8 to 12 and the grown-ups who help them

How to solve a case

1. Read the story. It tells you who and what is in the case, and what you need to find out.
2. Read the clues. Every clue is true. A clue can say what something is, what it is not, or the order things came in.
3. Use the table on the notes page. Write in an answer as soon as a clue makes it certain, and cross out choices that cannot be right.
4. Never guess. Each case has one answer that the clues prove. If you are stuck, read the clues again with your new facts in mind.
5. When you are done, check every clue against your answer. Then look at the answer key, a separate file.

The five cases

Case	Title	Level	Main skill
DL-01	The Moon Rock Mix-Up	Beginner	Elimination
DL-02	The Muddled Timetable	Easy	Ordering and timelines
DL-03	The Green Ink Note	Easy	Matching clues to suspects
DL-04	The Raffle Drum Mix-Up	Medium	Combining several constraints
DL-05	The Vanishing Manuscript	Medium	Multi-step deduction

Each case has two pages: the story with its clues, and a notes page with a table to fill in. The answer key is a separate PDF so nobody sees the solution by accident.

For parents and teachers: let children try the first case alone, then talk through how they got there. Ask "Which clue told you that?" rather than giving the answer.

The Moon Rock Mix-Up

DL-01 · Beginner · Elimination

Hillside Science Museum has four rooms: the Dinosaur Hall, the Gem Gallery, the Space Room and the Gift Shop. At 3 o'clock a shiny moon rock was taken out of its glass case in the Space Room by mistake. Four classmates were visiting: Ava, Bruno, Cleo and Dev. At 3 o'clock each of them was in a different room, so every room held exactly one classmate. Only someone standing in the Space Room could have moved the moon rock.

Who and what

Classmate: Ava, Bruno, Cleo, Dev

Room: Dinosaur Hall, Gem Gallery, Space Room, Gift Shop

Clues

1. Cleo was in the Gem Gallery.
2. Dev was not in the Gift Shop.
3. Dev was not in the Space Room.
4. Bruno was not in the Gift Shop.

Your question: Who was in the Space Room at 3 o'clock?

Tip: Start with the clue that names a room for one person. Once a room is taken, nobody else can be in it.

Detective notes: The Moon Rock Mix-Up

DL-01 · Beginner · Elimination

Name: _____

Date: _____

Fill in the table as you work out each answer. Use a pencil so you can change your mind.

Classmate	Room
Ava	
Bruno	
Cleo	
Dev	

The choices

Classmate: Ava, Bruno, Cleo, Dev

Room: Dinosaur Hall, Gem Gallery, Space Room, Gift Shop

My deductions

My answer: Who was in the Space Room at 3 o'clock?

The Muddled Timetable

DL-02 · Easy · Ordering and timelines

The big timetable board at Riverside Station fell off the wall and the morning trains got mixed up. Five trains arrived, called the Comet, the Falcon, the Rocket, the Swift and the Arrow. They came in one at a time, every 15 minutes: at 9:00, 9:15, 9:30, 9:45 and 10:00. A traveller left a bag on the train that arrived at 9:45 and wants to know which train that was.

Who and what

Train: Comet, Falcon, Rocket, Swift, Arrow

Arrival time: 9:00, 9:15, 9:30, 9:45, 10:00

Clues

1. The Arrow arrived exactly 15 minutes after the Comet.
2. The Comet arrived before the Rocket.
3. The Falcon arrived before the Comet.
4. The Falcon and the Comet did not arrive 15 minutes apart.

Your question: Which train arrived at 9:45?

Tip: Draw a line with five spaces for the five times. Which trains must come before others?

Detective notes: The Muddled Timetable

DL-02 · Easy · Ordering and timelines

Name: _____

Date: _____

Fill in the table as you work out each answer. Use a pencil so you can change your mind.

Train	Arrival time
Comet	
Falcon	
Rocket	
Swift	
Arrow	

The choices

Train: Comet, Falcon, Rocket, Swift, Arrow

Arrival time: 9:00, 9:15, 9:30, 9:45, 10:00

My deductions

My answer: Which train arrived at 9:45?

The Green Ink Note

DL-03 · Easy · Matching clues to suspects

At the Cedar Park School Science Fair, the first-prize ribbon disappeared from the judges' table. In its place was a note: "I borrowed this for a photo. Sorry! Back soon." The note was written in green ink. Four students have stands at the fair: Priya, Marco, Hana and Leo. Each built a different project (a weather station, a solar oven, a robot arm and a crystal garden) and each writes in a different colour of ink (green ink, purple ink, red ink and black ink).

Who and what

Student: Priya, Marco, Hana, Leo

Project: weather station, solar oven, robot arm, crystal garden

Ink colour: green ink, purple ink, red ink, black ink

Clues

1. Hana's project is either the solar oven or the robot arm.
2. The student who built the weather station writes in green ink.
3. Priya built the robot arm.
4. The crystal garden was built by the student who writes in red ink.
5. Marco does not write in red ink.
6. Priya does not write in purple ink.

Your question: Which student writes in green ink?
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Tip: Make a small table with the four students down the side. Fill in a project or an ink colour as soon as a clue lets you.

Detective notes: The Green Ink Note

DL-03 · Easy · Matching clues to suspects

Name: _____

Date: _____

Fill in the table as you work out each answer. Use a pencil so you can change your mind.

Student	Project	Ink colour
Priya		
Marco		
Hana		
Leo		

The choices

Student: Priya, Marco, Hana, Leo

Project: weather station, solar oven, robot arm, crystal garden

Ink colour: green ink, purple ink, red ink, black ink

My deductions

My answer: Which student writes in green ink?

The Raffle Drum Mix-Up

DL-04 · Medium · Combining several constraints

On the night of the Linden Town Lantern Festival, five stalls stand in a row along Main Street. They are numbered stall 1 to stall 5, starting at the fountain. Five vendors run them: Ines, Jamal, Kofi, Luisa and Mei. Each stall sells one different thing: lemonade, popcorn, lanterns, balloons or toffee apples. The big raffle drum was tucked behind the lanterns by mistake, and the organiser needs to find the person who runs that stall to get it back.

Who and what

Vendor: Ines, Jamal, Kofi, Luisa, Mei

Stall number: stall 1, stall 2, stall 3, stall 4, stall 5

Sells: lemonade, popcorn, lanterns, balloons, toffee apples

Clues

1. Jamal sells lemonade.
2. The stall that sells lanterns is not right next to the stall that sells lemonade.
3. The stall that sells toffee apples has a number exactly 2 higher than the stall that sells lanterns.
4. Ines does not sell popcorn.
5. Kofi's stall is either stall 4 or stall 5.
6. Kofi's stall has a lower number than Luisa's stall.
7. Kofi sells balloons.

Your question: Who runs the stall that sells lanterns?

Tip: Make a row of five boxes for the five stalls. Write what you learn about each stall in its box.

Detective notes: The Raffle Drum Mix-Up

DL-04 · Medium · Combining several constraints

Name: _____

Date: _____

Fill in the table as you work out each answer. Use a pencil so you can change your mind.

Vendor	Stall number	Sells
Ines		
Jamal		
Kofi		
Luisa		
Mei		

The choices

Vendor: Ines, Jamal, Kofi, Luisa, Mei

Stall number: stall 1, stall 2, stall 3, stall 4, stall 5

Sells: lemonade, popcorn, lanterns, balloons, toffee apples

My deductions

My answer: Who runs the stall that sells lanterns?

The Vanishing Manuscript

DL-05 · Medium · Multi-step deduction

Four visitors came to the reading room of Willow Lane Library one afternoon: Nadia, Oscar, Petra and Quinn. They came in one at a time, at 2:00, 2:15, 2:30 and 2:45. Each sat at a different desk (the Oak desk, the Pine desk, the Elm desk and the Maple desk) and each read a different book (an atlas, a diary, poems and recipes). Afterwards the librarian found that a rare handwritten manuscript had been put back in the wrong place. It was last seen on the Oak desk, so she wants to ask the person who sat there.

Who and what

Visitor: Nadia, Oscar, Petra, Quinn

Arrival time: 2:00, 2:15, 2:30, 2:45

Desk: Oak desk, Pine desk, Elm desk, Maple desk

Book: atlas, diary, poems, recipes

Clues

1. The person who read the diary arrived exactly 30 minutes before the person who read the recipes.
2. Nadia and Quinn did not arrive 15 minutes apart.
3. Petra read the poems.
4. Exactly one of these is true: Petra arrived at 2:15, or Petra sat at the Oak desk.
5. Nadia did not sit at the Pine desk.
6. Exactly one of these is true: Nadia arrived at 2:00, or Nadia sat at the Pine desk.
7. Oscar sat at the Maple desk.
8. The person who read the atlas arrived exactly 15 minutes before the person at the Maple desk.

Your question: Who sat at the Oak desk?

Tip: Some clues say "exactly one of these is true". If you can show that one part is false, the other part must be true.

Detective notes: The Vanishing Manuscript

DL-05 · Medium · Multi-step deduction

Name: _____

Date: _____

Fill in the table as you work out each answer. Use a pencil so you can change your mind.

Visitor	Arrival time	Desk	Book
Nadia			
Oscar			
Petra			
Quinn			

The choices

Visitor: Nadia, Oscar, Petra, Quinn

Arrival time: 2:00, 2:15, 2:30, 2:45

Desk: Oak desk, Pine desk, Elm desk, Maple desk

Book: atlas, diary, poems, recipes

My deductions

My answer: Who sat at the Oak desk?