

Puzzle 1 – Stage Lights RG

A school play has 2 spotlights for its stage: **RED** and **GREEN**.
The colour of the stage depends on which lights are turned on.
The table below shows the 4 possible combinations.

RED	GREEN	STAGE light
OFF (0)	OFF (0)	BLACK
OFF (0)	ON (1)	GREEN
ON (1)	OFF (0)	RED
ON (1)	ON (1)	YELLOW

The lights for the show will repeat the sequences below from the start:



RED Light sequence

2 minutes ON, 2 minutes OFF, then repeat.

GREEN Light sequence

1 minute OFF, 2 minutes ON, then repeat.

What will the stage colour be in the 6th minute of the show?

Puzzle 2 – Charge my Car

3 friends decide to go on a trip in their new electric cars.
Their batteries are empty and need to be re-charged.
It takes 3 hours to fully charge the car battery.
The problem is there are only 2 charging points available.
The cars don't have to be charged all in one go.
How soon can they leave with fully charged batteries?



Puzzle 3 – Looking at Marriage

Jack is looking at Anne. Anne is looking at George.

Jack is married. George is not married.

Is a married person looking at an unmarried person?

Puzzle 4 – Match the Couples

Tomás, Davey, Hugh, and Fran are married to Ger, Jane, Sinéad and Bernie, though not necessarily in that order.

Jane, who is Davey's sister, has five children. Tomás and his partner want to wait a few more years before starting a family.

Tomás has never introduced his wife to Sinéad.

Sinéad works very closely with Davey. Ger is considering telling Davey's partner that they are working a bit too closely together these days.

Davey and Hugh, by the way, are twin brothers. Who is married to whom?

Problem Solving Strategies

Drawing a grid can often help solve problems in a systematic fashion or sometimes allow you to see a solution to a puzzle.

If you get stuck on these puzzles, drawing a GRID (or a two-way table) might help you get unstuck!!