

FROGS PUZZLE

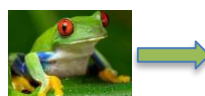


Five red-eye frogs and five orange frogs line up in a row with a space between them. They must change places.

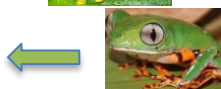
They can hop one frog over another frog or slide to an empty place next to them.



Red-eye frogs can only move to the right



Orange frogs can only move to the left



How can they change places following these rules?

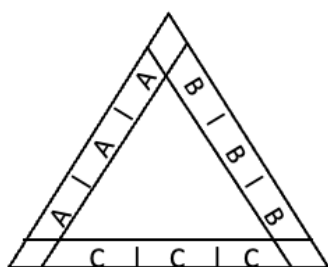
Try the puzzle with 2 frogs on each side first, then with 3 frogs on each side ...

How many moves will it take?

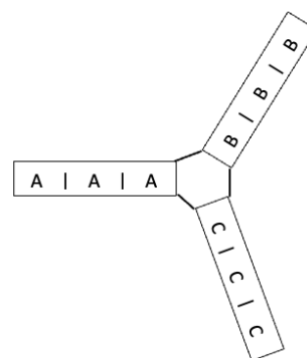
HELP

Think about the order in which the frogs should move to avoid blocking in any of the frogs so that they can't move.

NEXT TRIANGLE AND TRIBAR FROGS PUZZLES



In these puzzles, the frogs slide and hop as in the standard Frogs puzzle. For the Triangle Puzzle there are 12 cells, 3 on each edge, and one at each vertex that is empty at the start. For the Tribar puzzle there are 10 cells. For example, the A and B frogs can change places as follows:



1. Frog A slides into the empty cell leaving an empty space.
2. Frog B hops over Frog A and lands in the empty cell on the other side.

Show that there are 2 different layouts with 3 frogs on each edge. Work out how to start from the layout shown and move to the other 5 layout, and how it can be done with the smallest number of moves.

Resources: Blank frames (or draw your own). Counters or cut out paper frogs.

FROGS PUZZLE



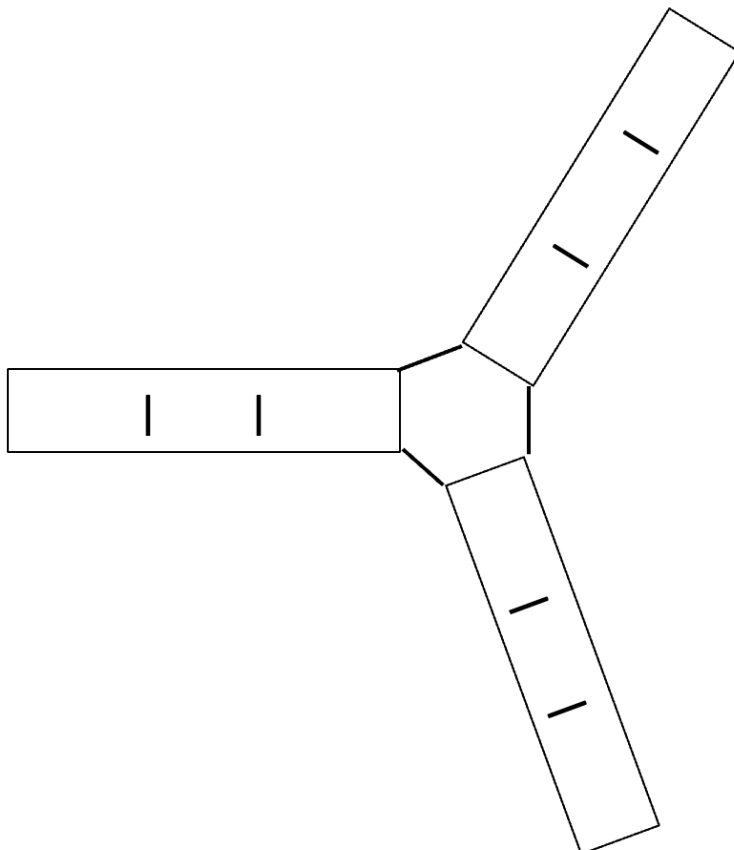
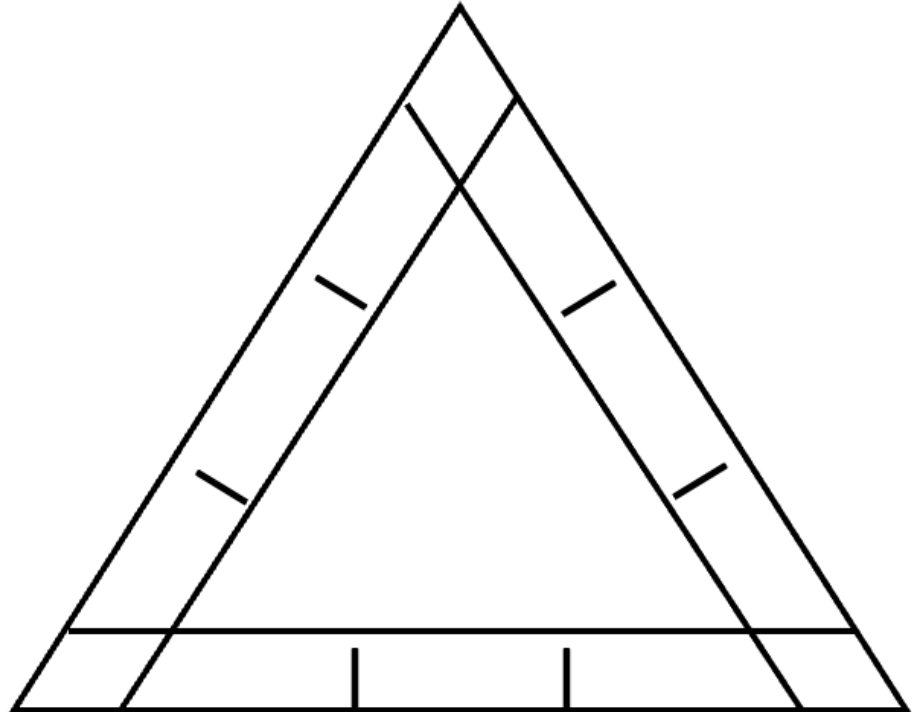
TRIANGLE FROGS PUZZLE

The frogs hop or slide according to the same rules as in the other frog puzzles. One frog can hop over another frog into an empty cell.

With differently coloured frogs on each edge, and empty cells at the vertices, there are 2 different possible starting layouts with 3 frogs on each edge, discounting other layouts arising from rotating the triangle with the frogs 'riding' in their cells.

Work out how to start from one layout and move to the other layout.

How many moves would it take?



TRIBAR FROGS PUZZLE

The frogs move according to the same rules as in the other puzzles.

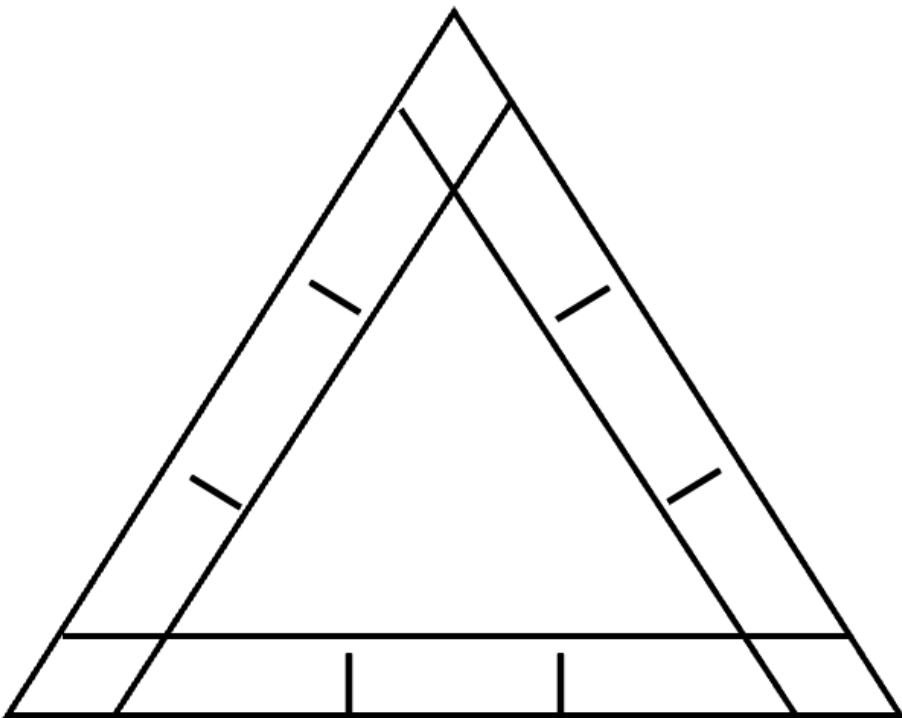
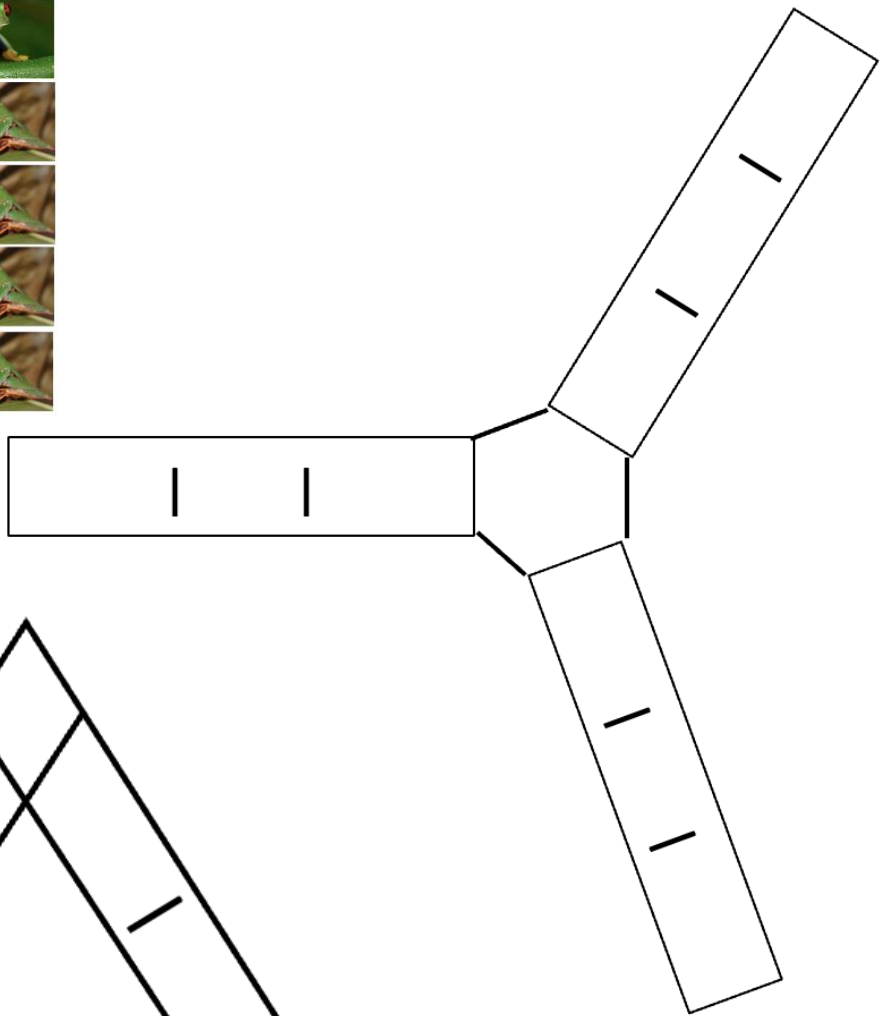
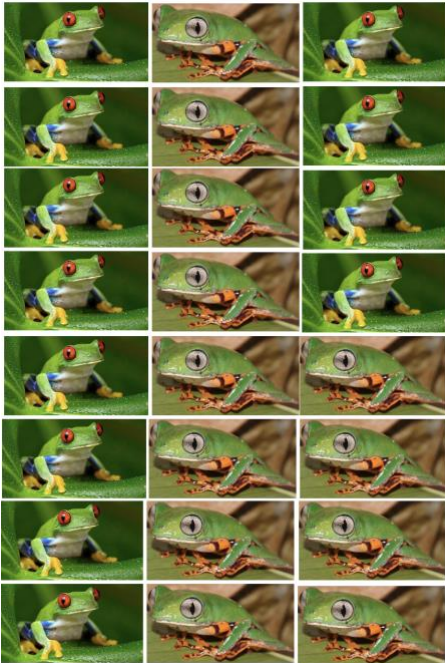
With differently coloured frogs on each bar, and an empty cell in the middle, there are 2 different possible starting layouts with 3 frogs on each bar, discounting other layouts arising from rotating the tribar with the frogs 'riding' in their cells.

Work out how to start from one layout and move to the other layout.

How many moves would it take?

SMALL FROGS

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BIG FROGS – Draw your own frames.

