

# Weekly Challenge #8: Human Towers of Hanoi and Frogs

Welcome to the Count on Us Secondary Challenge's eighth weekly challenge. There are two rounds we had in the first years of the challenge but were removed, because teams just got too good at them! This challenge and next week's will introduce you to them. See how good you can get!

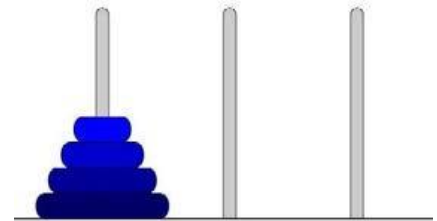
## The Tower of Hanoi

A puzzle consisting of 4 discs each smaller than the next, placed in a stack on the end one of three vertical pegs.

The aim is to move all the discs to the other end column.

The rules are:

1. Move discs one at a time onto *any other* column.
2. Never put a larger disc on top of a smaller disc.



Cut out 4 paper circles and practice using dots on a piece of paper for the pegs.

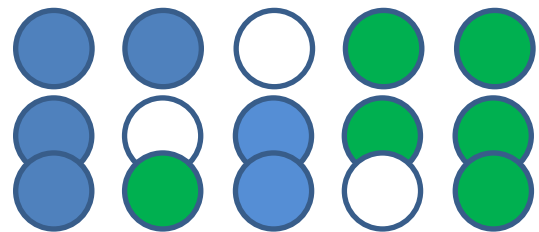
*In the tournament this was done with people acting as the discs! With 4 people at home you should do this (3 is enough, 5 is hard but good). Work out how to do it in the fewest moves. Make a video to show how quickly you can complete the puzzle with people!*

**Make a team of 4 people (use cushions or anything else if you need more people). Each one is a disc. Stand in height order or hold a piece of numbered paper to remember which size 'disc' you are. Put three chairs in a row. All stand in order in front of one end chair. Now make the moves to solve the puzzle. No-one moves until the previous person has stopped. Practice to move smoothly and quickly.**

## The Frogs Puzzle

There are five lily pads. Two frogs sit at one end and two at the other. They need to swap sides. There are two possible moves:

1. Move into an empty space away from your starting position.
2. Jump over one frog into an empty space, away from your start



Solve the puzzle with counters and spaces marked on paper. Then do it again. Then make sure you have done it in the most efficient way.

*Again, in the tournament this was done with people acting as the frogs! Practice until you can do this fast and accurately. No-one moves until the previous person is sat down. Make a video to show your best time.*

**Make a team of 4 people. Use five chairs or any markers for the lily pads. Practice until you can make the moves perfectly, as quickly as possible. If you can, do this with 5 frogs (6 lily pads/chairs) and even 6 people (7 lily pads/chairs ... this is the full puzzle and the hardest challenge).**



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**#CountOnUs @mayorsfund @JPFoundation**