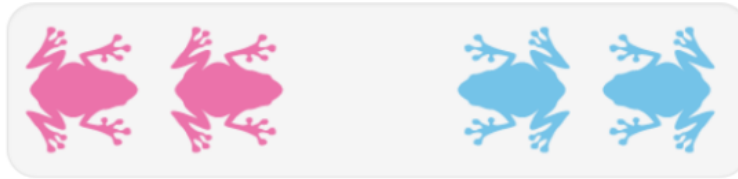


Imagine two red frogs and two blue frogs sitting on lily pads, with a spare lily pad in between them.



Frogs can slide onto adjacent lily pads or jump over a frog.  
A slide:



A jump:



Frogs can't jump over more than one frog.

### Can we swap the red frogs with the blue frogs?

Experiment with different numbers of red and blue frogs.  
Can you always swap the frogs over without having to move any frogs backwards?  
Can you predict how many moves it will take you?

Can you swap the frogs over when the number of red and blue frogs is not the same?  
Can you predict how many moves it will take you?

You might want to explore with counters.

Can you see any patterns in the sequence of moves that it takes to swap the frogs over?  
Can you explain why those patterns occur?

### Can you describe a method for swapping all the frogs over in the minimum number of moves?