

CREATIVE SESSION 6

OBSTRUCTION RIP

ABOUT OBSTRUCTION RIPS

When a swell approaches shallow water near the coast, the lower (underwater) part of waves are compressed and slow down, causing the upper parts to topple over and 'break'. When this happens, waves push water all the way up the beach and the purpose of rips is to take that water back to sea.

There are two main types of rip current; 'Obstruction Rips' that flow along obstructions that face out to sea, and 'Deepwater Rips' that race through deeper sections of the seabed. In this Creative Session you will be making a turning-wheel model that shows the four stages of an Obstruction Rip; water surging to the beach with waves, a 'Longshore Current' flowing along the beach, the Obstruction Rip flowing along the seawall and then the rip fizzling out beyond the surf zone

Obstruction Rips flowing along seawalls like the one in this model are the most powerful type of rip and can form when waves are as little as 0.5m (knee high), which means they are common in low-energy seas and even large lakes such as North America's Great Lakes. A single, long structure will make the most powerful rip and it can extend twice the length of the wall beyond the surf zone, reaching speeds of 5mph. That is faster than an Olympic swimmer so never, ever try and swim against a Obstruction Rip. Those who try become exhausted without getting any closer to shore, panic and then drown.

To find out what to do if caught in a rip, see 'How to Survive a Rip'

INSTRUCTIONS


Step 1

Cut out the white from pages 4/5/6 so you have three pieces. Remember to cut the 'windows' of the Front - especially the arrow. It can be fiddly, but you'll see why they are important once the model is assembled. A stanley knife or scalpel is ideal for this task.

Step 2

Make a pin prick in the central  of each piece

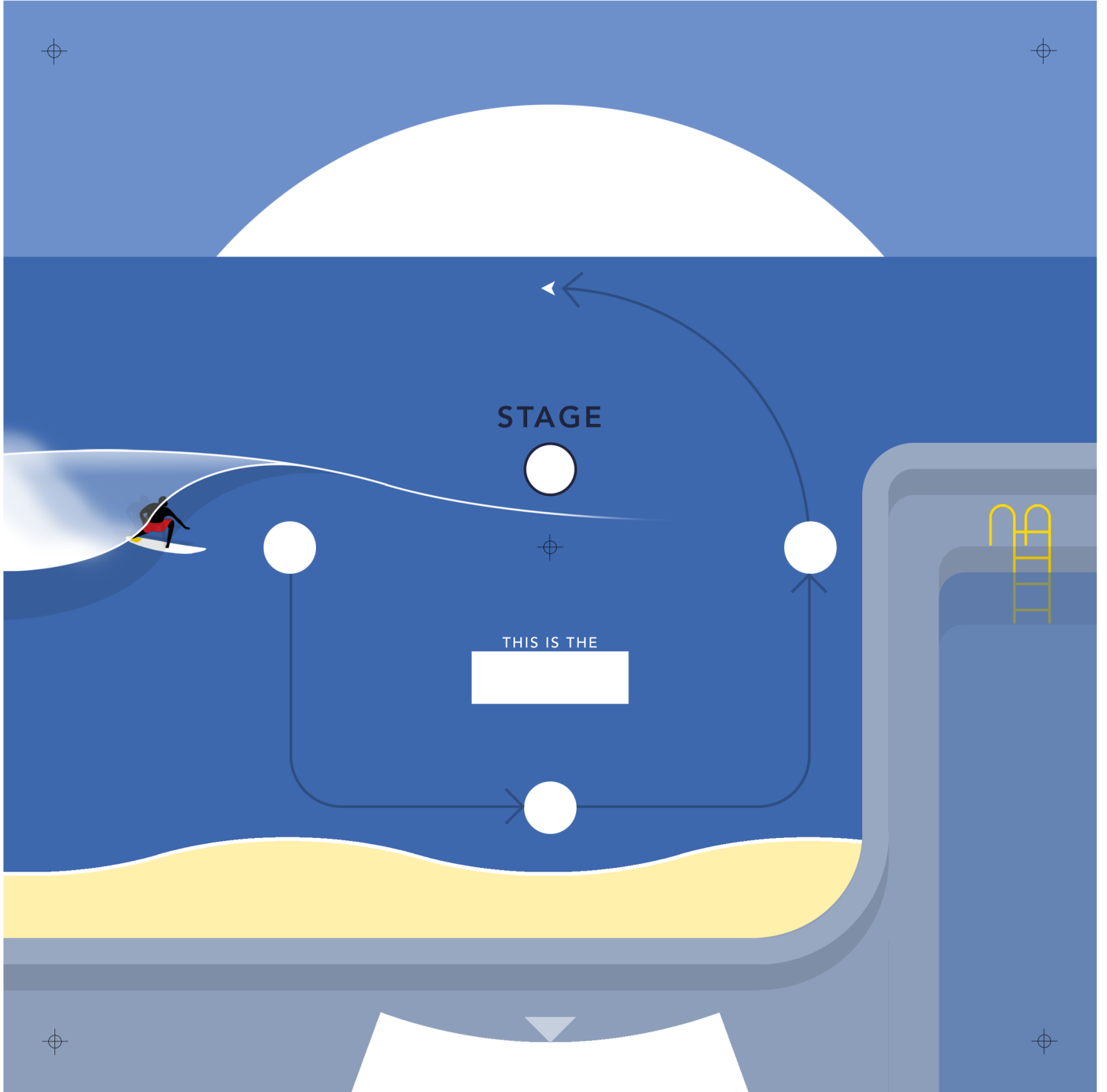
Step 3

Lay the three pieces in order. The 'Back' goes on the bottom (facing down), the 'Middle Wheel' is in the middle (facing up) and the 'Front' goes on top (facing up). Now put a single pin through the central  holes of all three pieces.

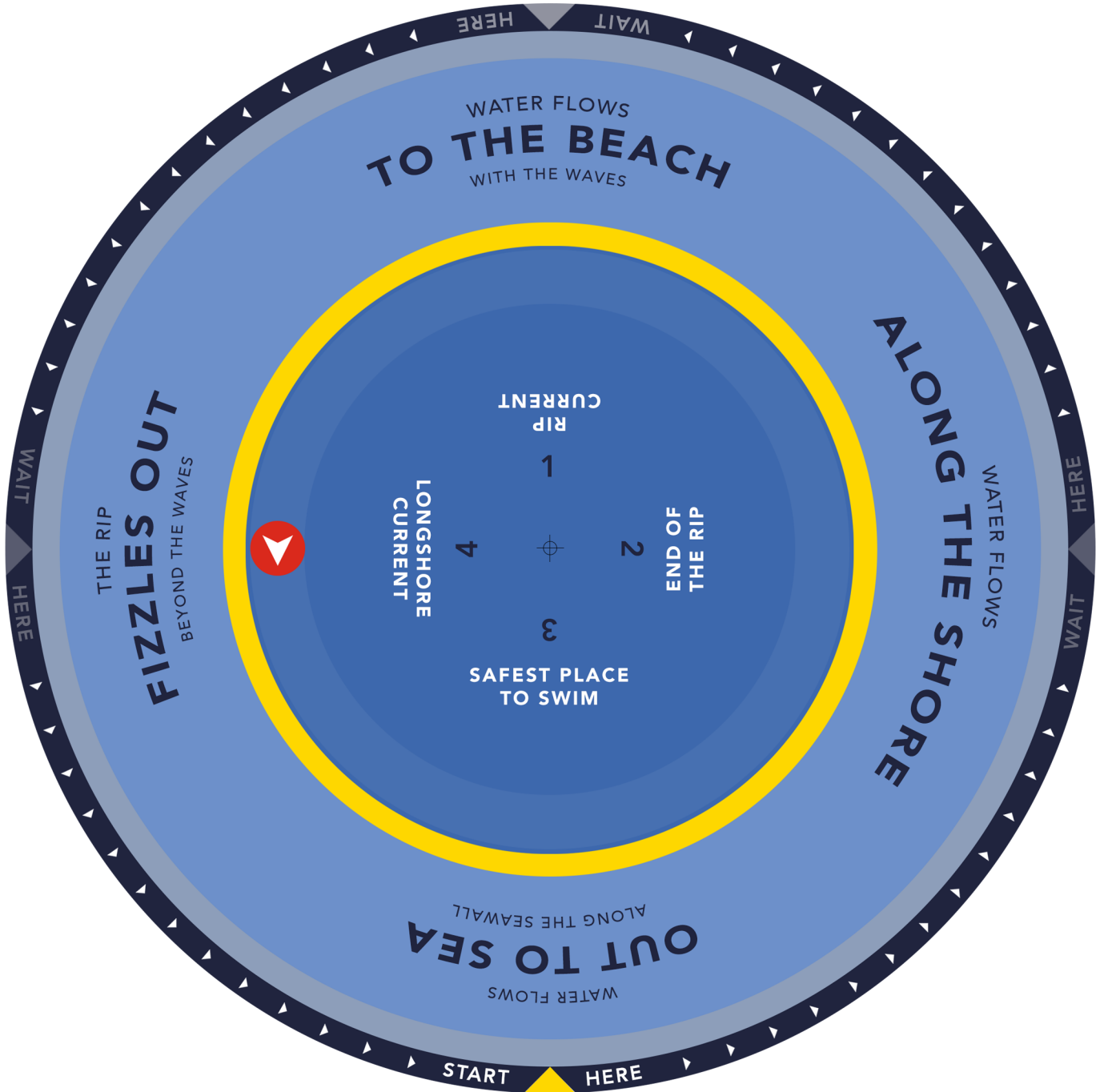
Step 4

Attach the front and back. This can either be done with celotape or pins in the corners. Once attached, you will be able to spin the wheel freely and see the four main stages of an obstruction rip.

Tip Turn the wheel so the yellow arrow 'Start Here' lines up with the arrow on the front. Turn the wheel counter-clockwise (as shown by the arrows) to see the red circle move around the beach, simulating the movement of water particles with waves and rips.



Above: The Front



Above: Middle 'Wheel'

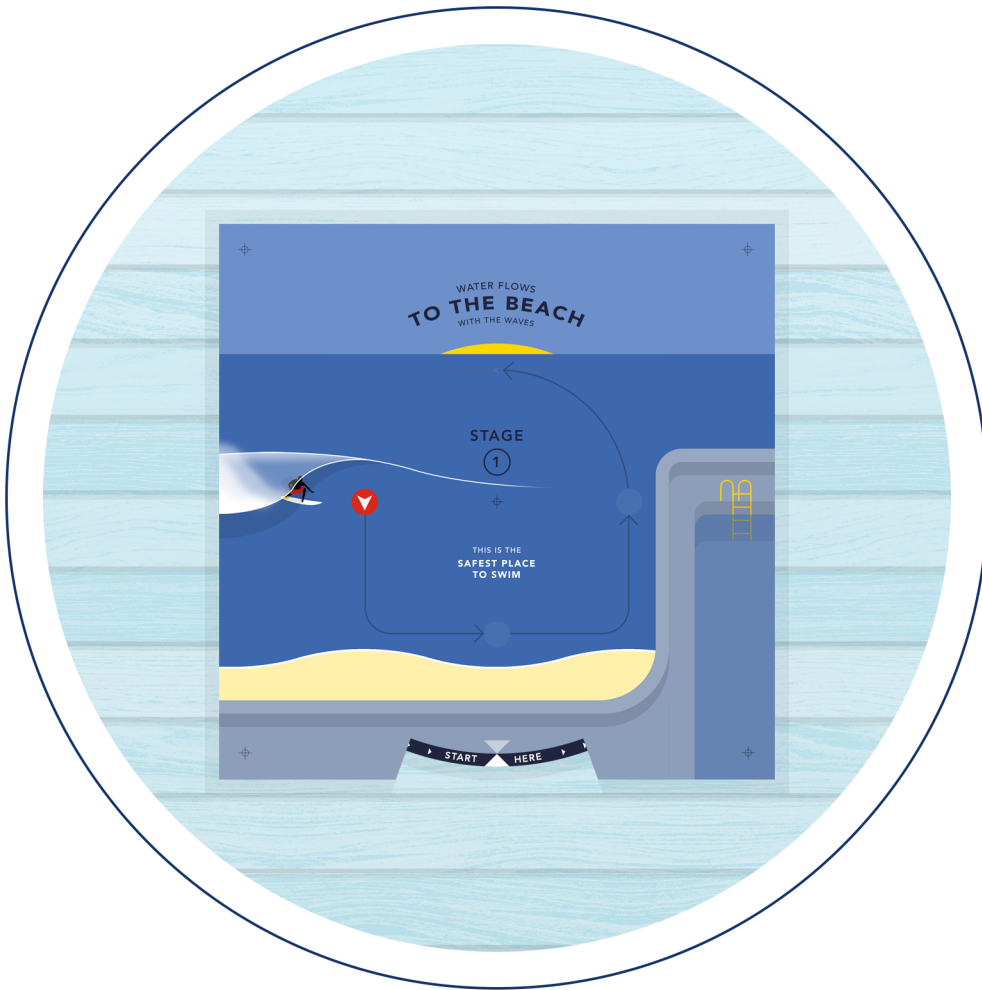
THE OBSTRUCTION RIP

When a swell approaches shallow water near the coast, the lower (underwater) part of waves are compressed and slow down, causing the upper parts to topple over and 'break'. When this happens, waves push water all the way up the beach and the purpose of Obstruction Rips is to take that water back to sea along a structure that runs out to sea.

Obstructions Rips can be made by natural features like cliffs and rocks at the edges of bays, or man-made structures like harbours, groynes and jetties. They can form when waves are as little as 0.5m (knee high), which means they are common in low-energy seas. A single, long structure will make the most powerful rip that can extend twice the length of the wall beyond the surf zone and reach speeds of 5mph. That is faster than an Olympic swimmer which is why the number one rule if caught in a rip is to **never try and swim against it!**

For more knowledge about rips, visit:
www.tide-school.com

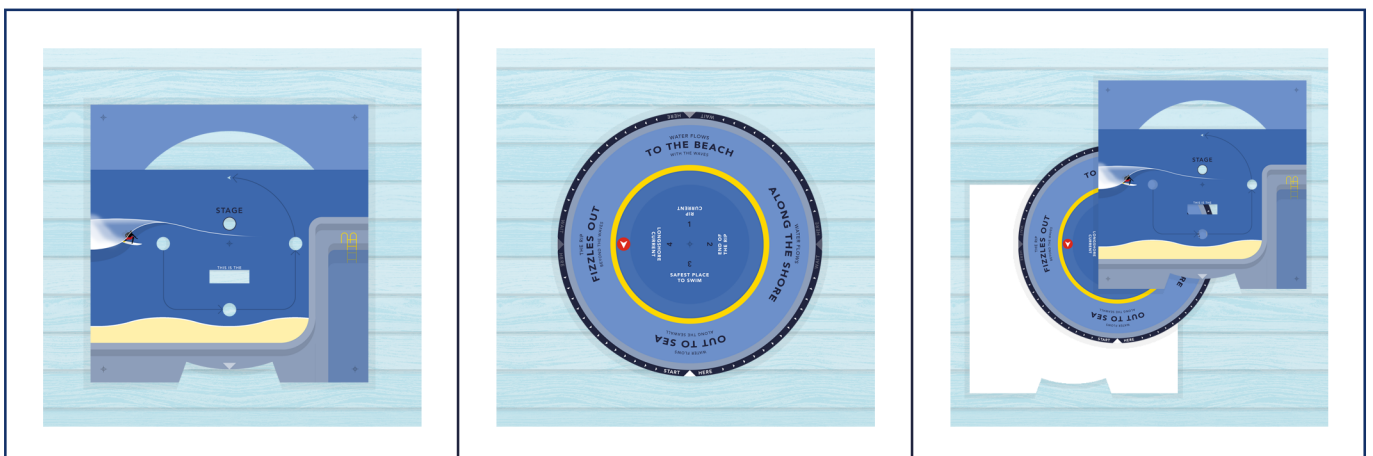
Above: The Back



STEP 1

STEP 1

STEP 3



Share photos of your model!
 Tag us on social media @tideschool