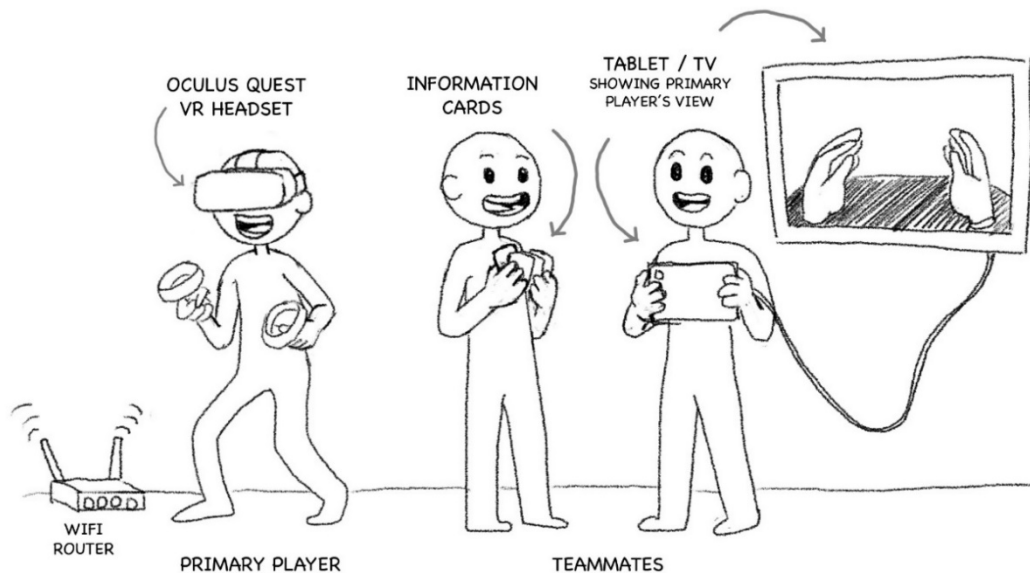




## Facilitator Tips



### App Guide

A team of 3-4 is ideal, with players swapping the headset in between the different tables.

Encourage players to work together by communicating with each other.

Players not in VR shouldn't rely too closely on the screen showing the VR headset's view, encourage them to talk with the person in VR and ask them to describe what they see.

Players should be able to figure out which clues are relevant to the task they are trying to solve.

#### Tips:

Try to let your players figure out things for themselves by discussing together, but if they do get stuck, encourage them to consider:

- What do they know?
- What are they trying to achieve?
- What information are they missing?
- Can they spot any clues on the cards, or by looking around in VR?

Encourage them to examine everything around them and to communicate with one another.

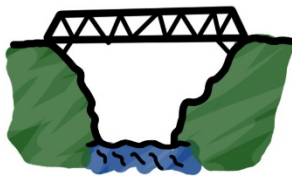


# THE BRIEF



## THE PROBLEM

CHILDREN IN THIS AREA CURRENTLY NEED TO DRIVEN MILES AROUND A RIVER IN ORDER TO GET TO SCHOOL.



## THE SOLUTION

CONSTRUCT A FOOTBRIDGE THAT WILL ALLOW CHILDREN TO SAFELY WALK TO SCHOOL.



## BENEFIT TO SOCIETY

REDUCED EMISSIONS AND LOWER PETROL COSTS DUE TO FEWER CAR JOURNEYS.

HEALTHIER KIDS THANKS TO THE EXERCISE OF WALKING TO AND FROM SCHOOL EACH DAY.



# Hardware Setup

## Using the Oculus Quest VR headset

### General setup and use

Take the time to familiarise yourself with the Quest, setting up the guardian and browser and be sure to play the 'First Steps' tutorial experience.

Ensure there is a clear space for the headset wearer to stand.

Make sure you have spare AA batteries to hand for the controllers.

The Quest automatically pauses and turns the screen off when it's not being worn.

### Oculus Menu Button

Tap this button at any time to bring up the navigation menu if you want to Quit the game, adjust settings or start a different app.

Press and hold this button when in-game to **reset the view**. Do this when standing in the centre of your play space to ensure that you can easily reach everything in the game without bumping into anything.

## Casting from the Quest to a TV or a dedicated laptop

You can cast from the Quest to a compatible TV using a Chromecast device, just follow the Chromecast instructions to do this and link to your Quest.

Alternatively, you can cast to a dedicated laptop simply by using a Wi-Fi router. Plug in the router and switch it on (it doesn't need any internet connection).

Ensure that the Quest and laptop are connected to the router's 5G Wi-Fi network.

If desired, connect the laptop to a TV using a HDMI cable.

Plug the Quest into the laptop using a suitable USB-A to USB-C USB cable. You will need to run a casting app on the laptop.

Adjust the settings as required (experiment with different settings to find out what works best).

Start casting.

Once the casting is running, you can disconnect the USB cable and casting will continue.

TIP: Casting will work even when you're not in-game but will cut out when certain system messages are on-screen on the Quest.



# SOLUTION, no peeking!

**Planning Table** - Place hazards markers and bridge in the correct position on the map grid

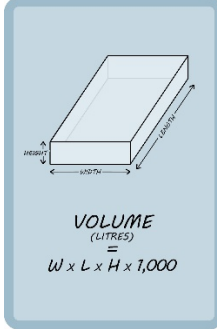
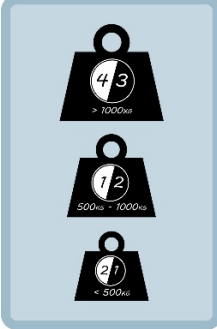
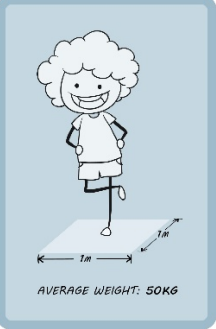
Process	Solution
<p>Players must line up details from the grid clue card to identify the positions of all the hazards. They can then use the other two cards to deduce the correct position for the bridge (there is only one position). The bridge must be placed squarely onto the grid, not overlap any hazards and must span the river.</p>	

**Factory Table** – Correctly assemble and submit the correct number of bridge sections

Process	Solution
<p>Players must first identify the correct base and arch parts required for a single section, by using the diagram and colour clue cards. To work out how many sections to build, they must figure out the width and length of the bridge (by looking at the scale on the map on the Planning Table in VR) and the dimensions on the diagram card.</p>	<p>Bridge length: 6m          Bridge width: 2m          Section length: 1.5m          Section width: 2m</p> <p>Two arches and one base make a section          Correct base: Crosshatch, circular bolts, red.          Correct arch: Two hexagonal bolts, yellow          Sections required to build bridge: 4</p>



# SOLUTION, no peeking!

Concrete Mixing – Pour the correct amount of the two ingredients into the mixer	
Process	Solution
 <p>VOLUME (LITRES) = <math>W \times L \times H \times 1,000</math></p>   <p>This is the longest problem to solve, with several steps to get to the right answers. Players may need some clues or prompting if they get stuck – or a correction if they’re along the right lines but have just made a basic calculation error.</p> <p>Players must work out the total volume of concrete required to form the base of the bridge. They must refer to the scale on the map on the Planning Table in VR to figure out the width and length of the bridge.</p> <p>Once they’ve figured out the total litres, they need to know the ratio of the two ingredients, for which they must find the bridge load bearing requirement. The ratios are given on the clue card and also on the bottom of the weights on the table in VR.</p> <p>To find the load bearing requirement, they must calculate how many children could fit on the bridge at one time and multiply that by the average weight of a child.</p>	<p><b>Volume:</b></p> <p>Bridge width: 2m          Bridge length: 6m          Bridge depth: 0.5m          Total Volume: 6000 litres</p> <p><b>Ratio:</b></p> <p>Bridge area: 12msq          Child per square metre: 1          Bridge child capacity: 12          Weight of child: 50kg          Bridge load bearing requirement: 600kg          Ratio of aggregate to cement: 1:2</p> <p><b>Ingredient Quantities:</b></p> <p>Cement: 2000 litres ( 2 bags )          Aggregate: 4000 litres ( 4 bags )</p>