SLOW THE FLOW

Board Game

CULMHEAD

HEMYOCK

CULMSTOCK

UFFCULME

The River Culm

MILL

WILLAND

Connecting the Culm
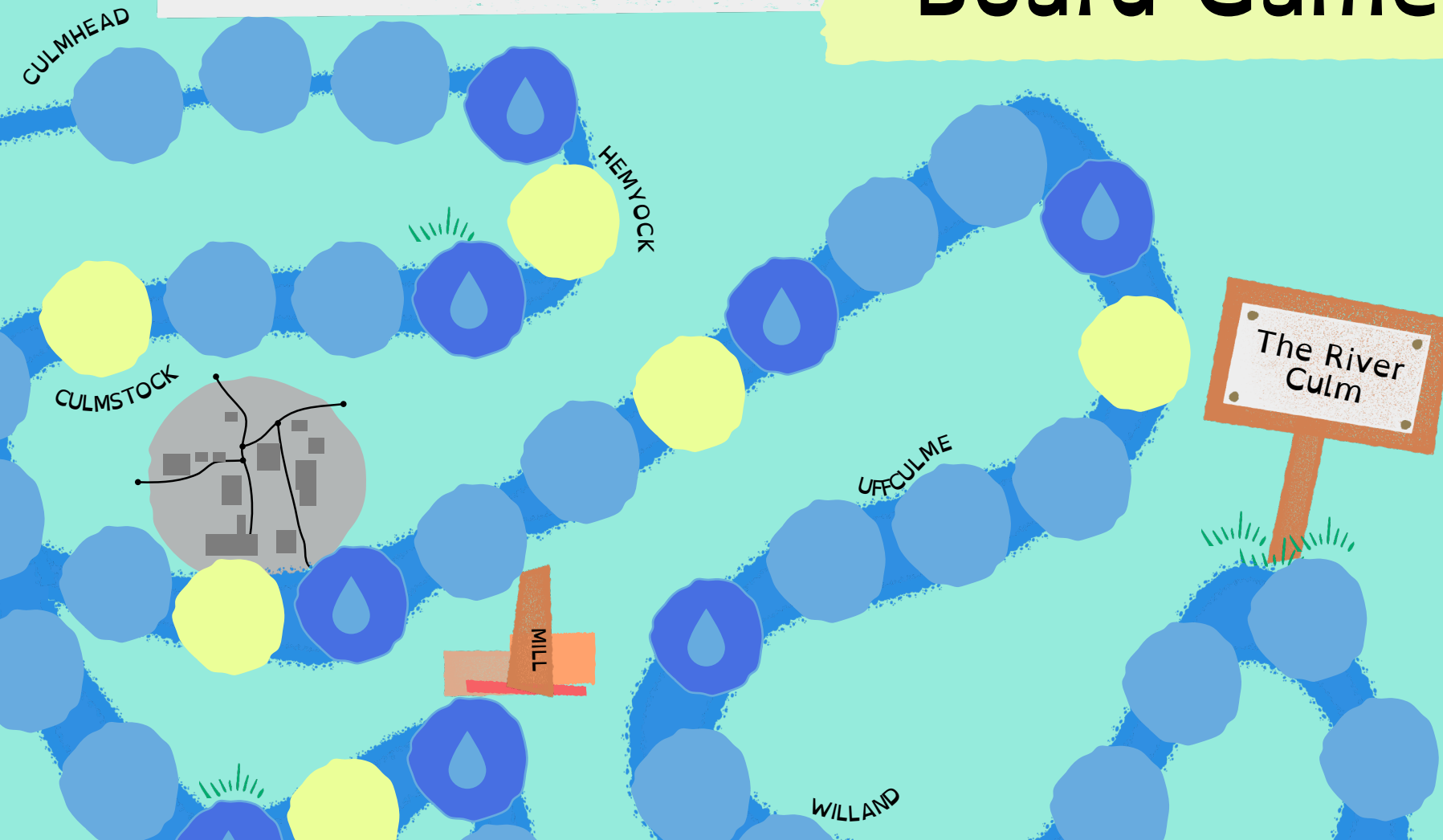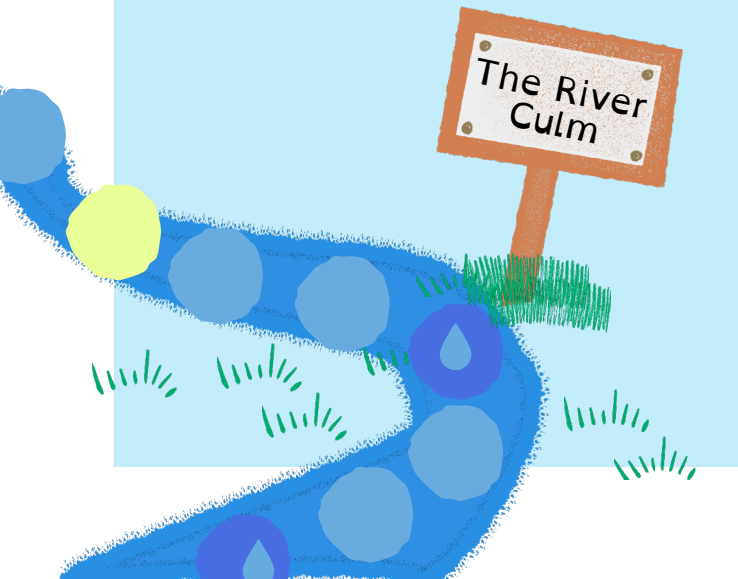
THE RIVER CULM: SLOW THE FLOW

You will need

- 1 x dice
- 1 x counter for each player
- 12 x nature based solutions cards
- 10 x river problem cards
- 1 x water drop card for each player

The Connecting the Culm project aims to work with nature and local communities to make the River Culm better for wildlife and people and more resilient to flood and drought.

Play this game to find out some of the ways that working with nature (nature based solutions) can help to tackle the growing issues of flood and drought, improve water quality in the River Culm, and create a better place for wildlife and people.

How to play

Each player starts with 18 water drops. The aim of the game is to travel down the river slowly and finish with as few water drops as possible.

Every player places their counter on the start space at the head of the river. Each player takes a turn to roll the dice. The number on the dice is the number of spaces the player moves down the river for each turn.

If the player lands on a blue space, play moves on to the next player.

If the player lands on a rain drop space, they pick up a nature based solution card. Player reads the card to the group and crosses off (or covers up) the number of water drops stated on the card. Player returns card to the bottom of the pack and play moves on to the next player.

If the player lands on a yellow space, they pick up a river catchment problem card. Player reads the card to the group and then moves forward the number of spaces stated on the card. Player returns card to the bottom of the pack and play moves on to the next player.

The last person to reach the end of the river crosses off an extra three raindrops. The winner is the person who finishes with the fewest number of water drops. If any player loses all their water drops before the end of the river they automatically become the winner.

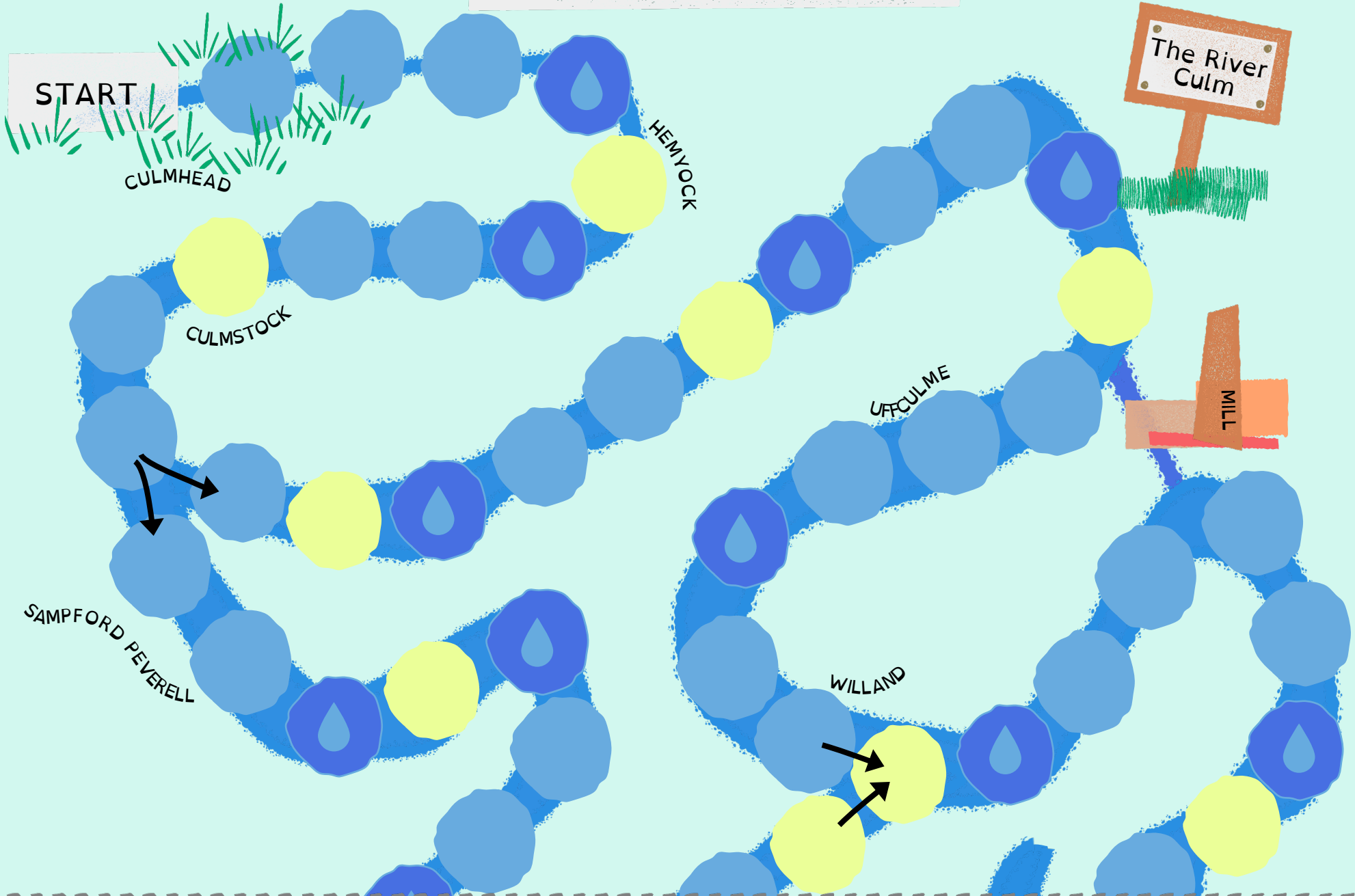The River Culm

SLOW THE FLOW

START

CULMHEAD

HEMYOCK

CULMSTOCK

The River Culm

MILL

UFFCULME

SAMPFORD PEVERELL

WILLAND

GLUE

BRADNINCH

CULLOMPTON

MILL

STOKE CANON

Land on a blue space and pick up a nature based solutions card.
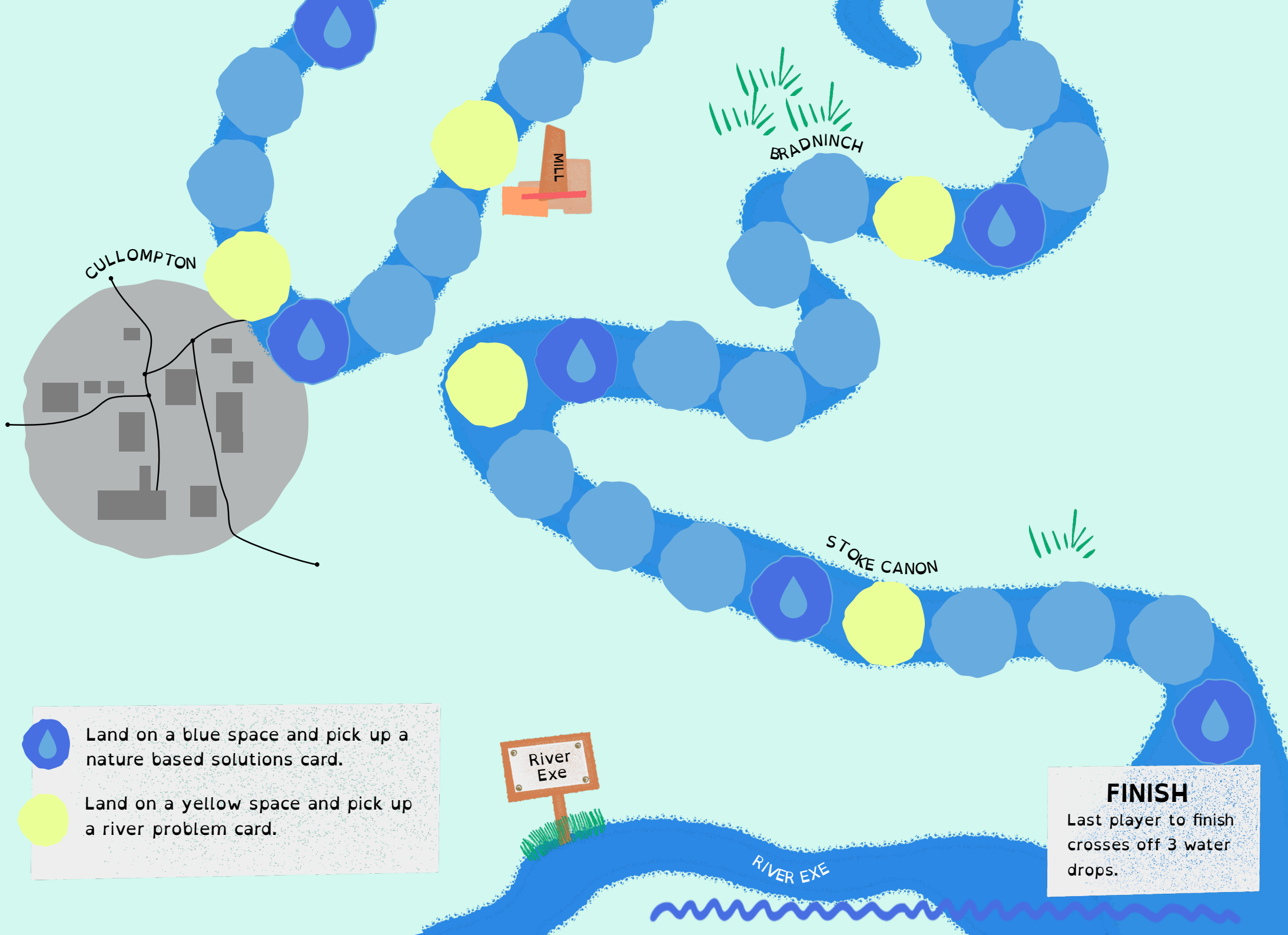
Land on a yellow space and pick up a river problem card.

River Exe

RIVER EXE

FINISH
Last player to finish crosses off 3 water drops.

NATURE BASED SOLUTION

Trees planted

Suitable trees planted in the river catchment enables more water to be held in the ground. Trees protect the condition of the soil and creates new habitats for wildlife.

Cross off 2 water drops

NATURE BASED SOLUTION

Spring-line mires restored

Restoring spring-line mires (wetland areas) in the upper part of the River Culm enables water to be held back after heavy rain and improves river levels when there is a drought. New habitats are created and carbon is stored in the peat rich soils.

Cross off 2 water drops

NATURE BASED SOLUTION

River Culm reconnected to its floodplain

Reconnecting the River Culm to its floodplain and old river channels restores the natural floodplain function enabling it to hold water after heavy rain.

Cross off 2 water drops

NATURE BASED SOLUTION

Compacted soils improved

The structure of the soil is improved so it can hold more water. This means more water is stored in the ground and less rain water runs off the soil after heavy rain reducing flooding.

Cross off 3 water drops

NATURE BASED SOLUTION

Leaky dams created

Dams made from fallen trees and other natural materials allow some water through but reduce the speed of the water flowing down the river. This reduces flash flooding further downstream.

Cross off 2 water drops

NATURE BASED SOLUTION

Beavers move on to the River Culm

Beavers build dams, creating new wetland areas. The wetlands increase the amount of water that can be stored in the river, hold back floodwater for longer and create new habitats for wildlife.

Cross off 3 water drops

NATURE BASED SOLUTION

Old hedgerows replanted and restored

Replanting lines of historic hedgerows which run across the slope (not down the slope) can help to reduce the run off of water into the river, improve the condition of the soil and create new habitats for wildlife.

Cross off 1 water drop

NATURE BASED SOLUTION

Ponds and sediment traps created

Creating ponds and areas which trap sediment helps to reduce the run off of water and sediment into the river. New habitats for pond plants and creatures are also created.

Cross off 2 water drops

NATURE BASED SOLUTION ## Buffer strips added along river edge Fencing off areas of river bank to create buffer strips can reduce the number of cattle entering the river and stops them from damaging the banks and polluting the water. Cross off 2 water drops	**NATURE BASED SOLUTION** ## 'Cover' crops planted in fields Cover crops are planted in fields to help protect and improve the soil between periods when the regular crop is grown. This helps to improve the soil structure, increase water storage in the ground and supports the insect population. Cross off 1 water drop	**RIVER CATCHMENT PROBLEM** ## Flood risk to properties Over 650 properties in the Culm catchment are at risk of flooding. Due to climate change, it is expected that flooding will happen more often and be more severe unless steps are taken to reduce this risk. Jump forward 3 spaces on the board	**RIVER CATCHMENT PROBLEM** ## Intensive dairy farming Dairy herds are one of the main farm types on the River Culm and these can have a big impact on water quality. When cows poo runs into the river it can pollute the water and harm wildlife in the river. Jump forward 3 spaces on the board
NATURE BASED SOLUTION ## Restore old leats and water meadows Reconnecting the river to leats and water meadows that were used in the past enables the river to hold back water for longer after heavy rain. Cross off 1 water drop	**NATURE BASED SOLUTION** ## Re-naturalise areas of floodplain Allowing plants to grow on the flood plain improves the soil and allows more water to be absorbed into the ground. Flood water is held back for longer and new wildlife habitats are created. Cross off 1 water drop	**RIVER CATCHMENT PROBLEM** ## Landscape cleared of trees, hedgerows and wetland areas Damage to the natural environment in the Culm catchment affects how the river functions. Clearing trees, cutting back hedgerows and draining boggy areas makes the river more likely to suffer during a drought or flood after heavy rain. Jump forward 3 spaces on the board	**RIVER CATCHMENT PROBLEM** ## Untreated sewage in the river Dirty water from our homes (sewage) can be released into the river from sewage treatment works after heavy rainfall. This can lead to dangerous levels of pollution in the river. Jump forward 2 spaces on the board

RIVER CATCHMENT PROBLEM

Surface water flooding on roads

After heavy rain, water not absorbed into the ground causes flooding at low points on places such as roads. Due to climate change, heavy rainfall and surface water flooding is likely to increase.

Jump forward 2 spaces on the board

RIVER CATCHMENT PROBLEM

Cattle access water course

Many farms use the river as a drinking water source for their cows. Cattle accessing the river damages the banks and churns up the river bed leading to poorer water quality.

Jump forward 2 spaces on the board

RIVER CATCHMENT PROBLEM

Ecosystem damage caused by maize

Large amounts of maize is grown in the River Culm catchment as feed for cattle and to supply biogas generators. If it is not grown carefully and harvested too late in the year, it can cause damage to the local wildlife.

Jump forward 2 spaces on the board

RIVER CATCHMENT PROBLEM

White-clawed crayfish under threat from invasive species

The River Culm is home to the white-clawed crayfish but it is under threat from the invasive American signal crayfish. The larger signal crayfish carries the crayfish plague which can kill our native white-clawed crayfish.

Jump forward 2 spaces on the board

RIVER CATCHMENT PROBLEM

Compacted soil

Soils compacted by heavy machinery used at the wrong time of year, and through trampling by livestock, can not absorb much rainwater. The water runs across the surface, carrying soil into the River Culm which can cause damage to wildlife.

Jump forward 3 spaces on the board

RIVER CATCHMENT PROBLEM

Soil erosion from the land

Compacted and bare soils erode easily. After heavy rain, run-off of soil into the River Culm and its tributaries damages wildlife and often creates worse flooding further downstream.

Jump forward 3 spaces on the board

WATER DROP CARDS