

Supplementary Information

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Information-seeking task instructions

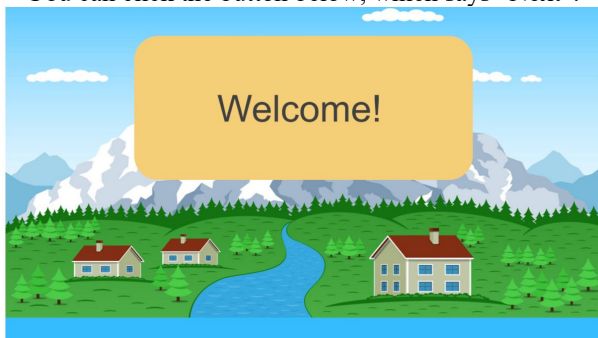
In the study, each of the below images was shown one at a time. Participants were free to navigate the instructions at their own pace. The text reported below was both shown and read out loud through a recording.

The following modifications were made for Supplementary Experiments 1 and 2.

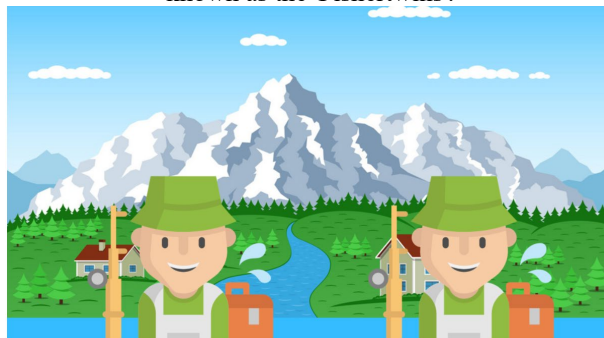
Supplementary Experiment 1: all references to hidden items (images 40-44) were removed.

Supplementary Experiments 2: an alternative type of seaweed, which did not hide any item, was introduced between page 44 and 45 (see images 1s-4s).

- 1 Welcome to the experiment. You are about to hear the story behind our game, so listen closely!
You can click the button below, which says "Next".



- 2 Once upon a time, in a nice little village on a river, lived two fishermen who were identical twins. They were known as the 'Fishertwins'.



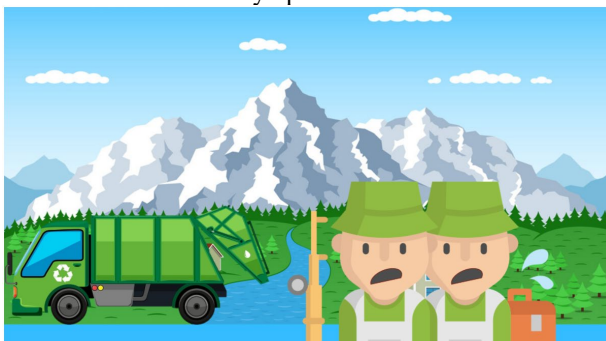
- 3 Sometimes, they would get some VERY BIG fish. Other times, they would only get smaller ones.



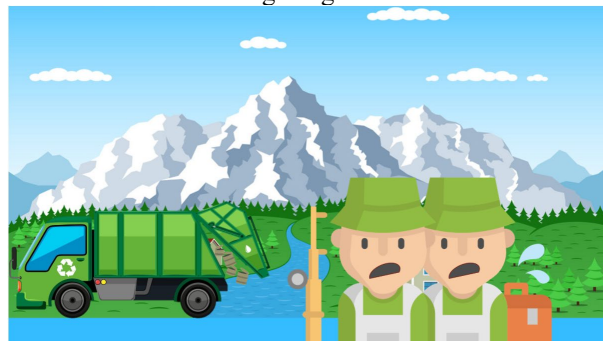
- 4 But one day, a garbage truck came too close to the river...



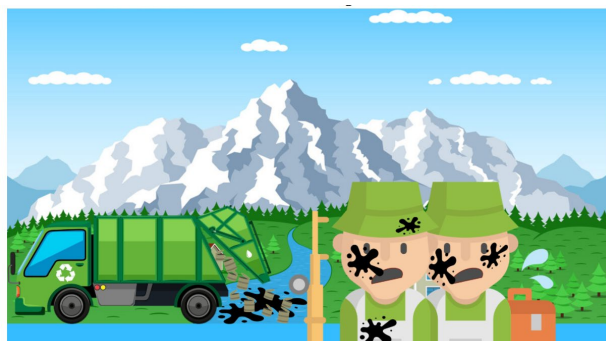
- 5 ... Accidentally opened its back door...



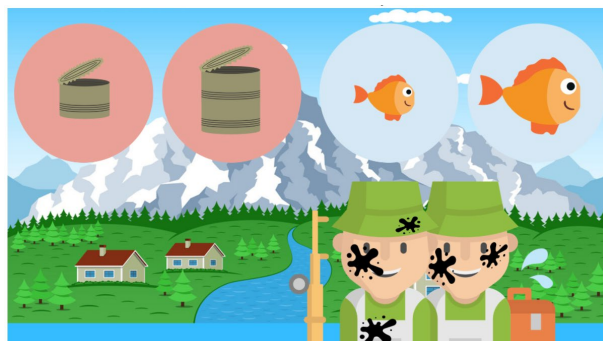
- 6 ... And let all the garbage fall into the river!



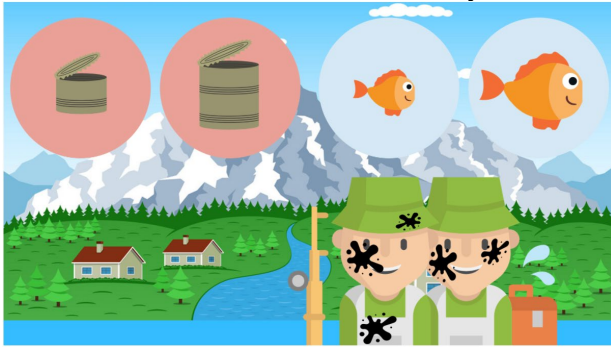
- 7 Oh no! Now the Fishertwins are all covered in grease and the river is full of trash!



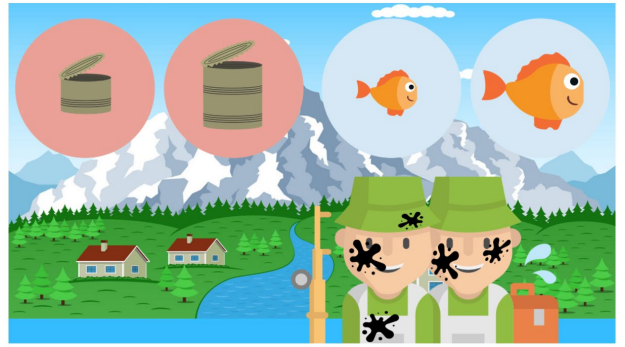
- 8 The Fishertwins still have some dirt in their eyes and can't see well.



- 9 They are going to need your help to make sure they fish as many fish as possible, and avoid putting cans into their fishing buckets: ishing empty cans and putting them in the bucket will ruin the fish that is already there.

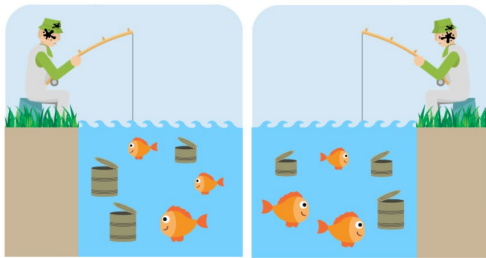


- 10 In this game, big fish are worth twice as much as small fish. Big cans are twice as bad as small cans.

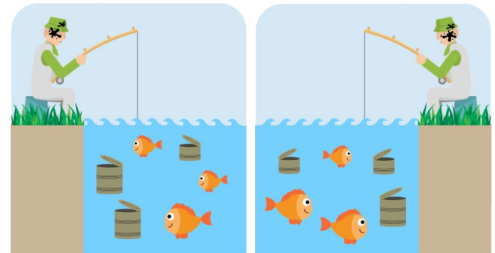


- 11 The two Fishertwins are fishing on opposite sides of the river.

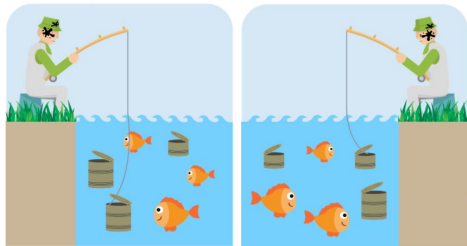
- 12 One of the items you see in the river is already attached to the hook but you can't see the hook so you don't know if it is a big fish, a small fish, a big can or a small can.



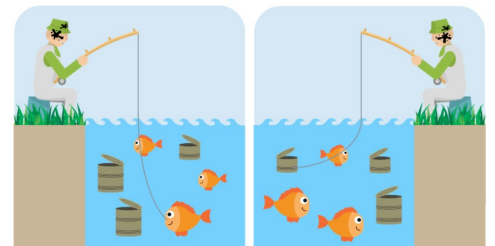
- 13 In fact, it does not matter where the fishing pole is: the hook under the water could look like this.



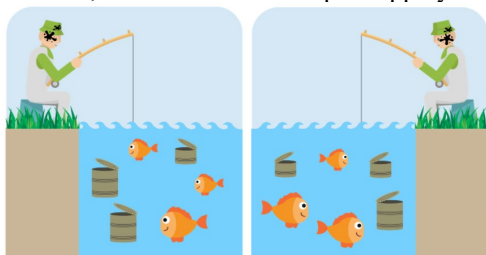
- 14 Or maybe like this. You just don't know.



- 15 Some of the fish and cans are covered in grease from the trash, which made them super slippery.

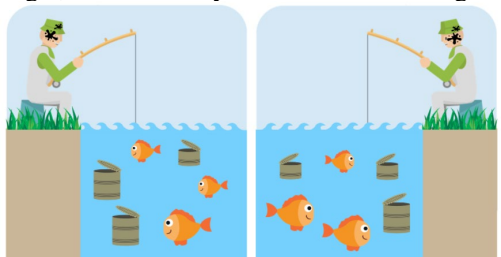
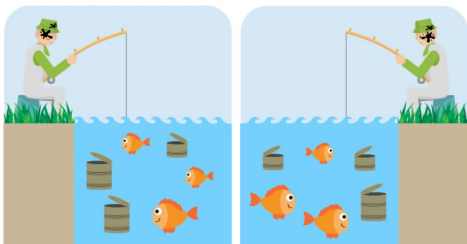


- 16 So even if you see them in the river, they cannot get attached to the hook...



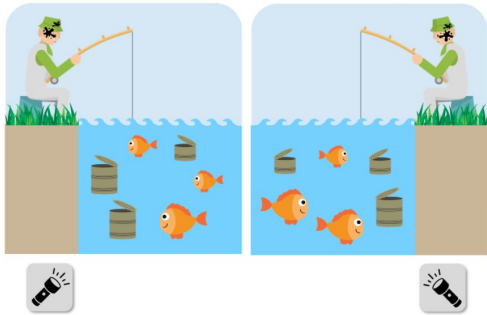
- 17 Knowing which ones are covered in grease can help you decide whether it's a good idea to lift the fishing pole or if it's better not to risk it for that time...

- 18 Luckily, you have been given a special flashlight that can show you only the fish and cans that are clean enough to be caught, and hide away the ones that are too greasy...

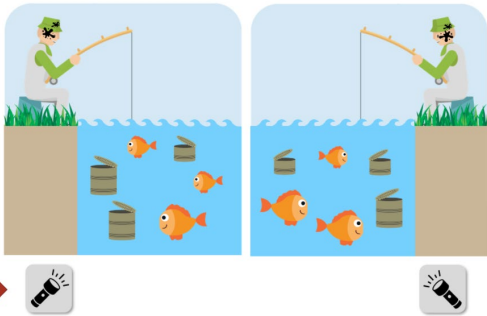


19 There's only one problem: you can only use the flashlight on one side of the river at a time.

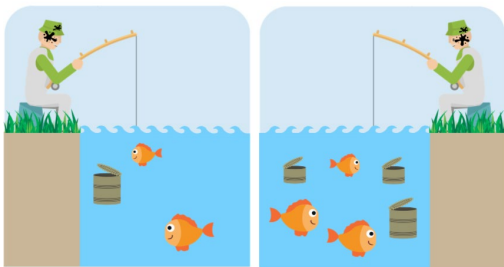
20 In the game, you should click on one of the flashlight buttons to use the flashlight on that side. You will get to pick where to use this special tool each time.



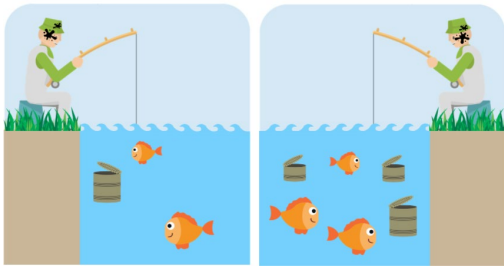
21 Look at what happens if I click here.



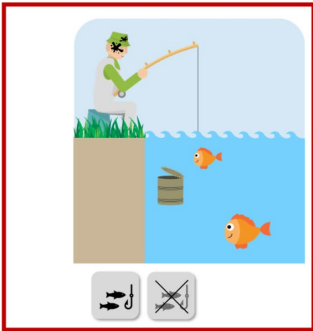
23 Because the Fishertwins can't see well, they cannot see what happens when you use the flashlight - only you can see which objects are not greasy.



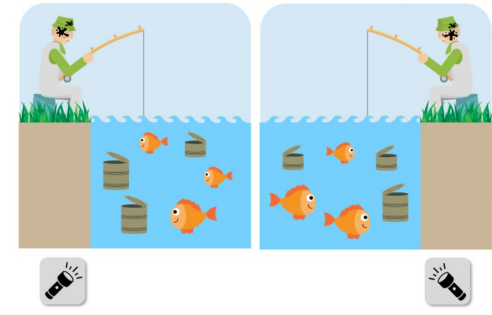
25 If they always decide to fish, they will likely get plenty of fish but also plenty of empty cans, and that will ruin all the fish.



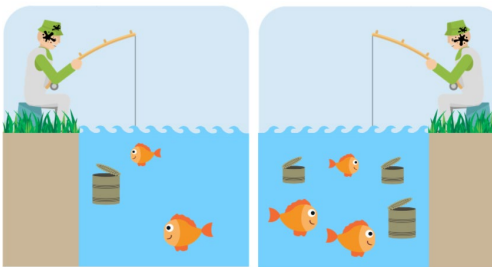
27 The Fishertwins cannot see well because of the grease and dirt, so sometimes they will ask you to decide whether they should lift their fishing pole or not.



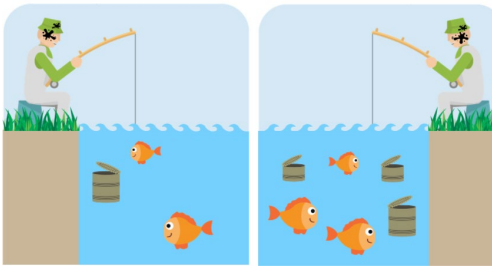
22 Now only the non-greasy objects are seen!



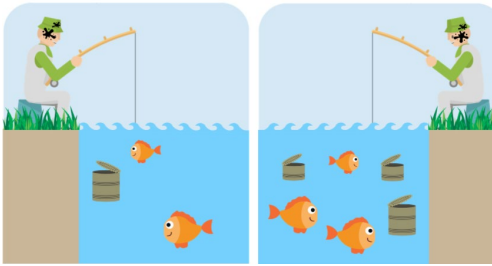
24 Each time, the Fishertwins will have to decide whether they want to lift the fishing pole and put whatever was attached to it in their bucket, or wait till the situation becomes better.



26 But if they never try, they will never get good fish to bring home to their family. So, it is important to pick wisely each time according to what is in the water!

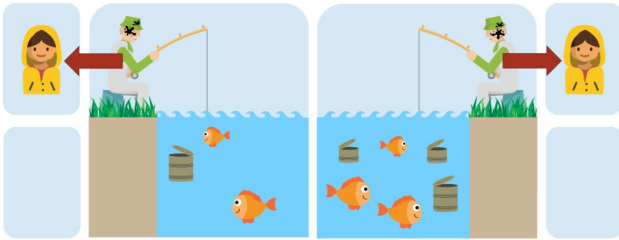


28 Look at the pictures below.

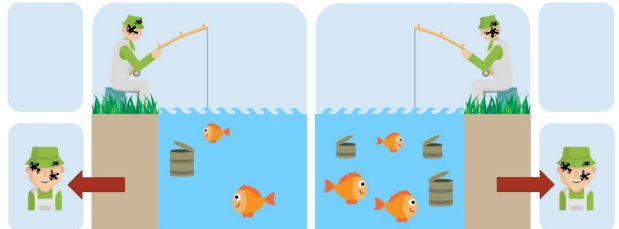


29

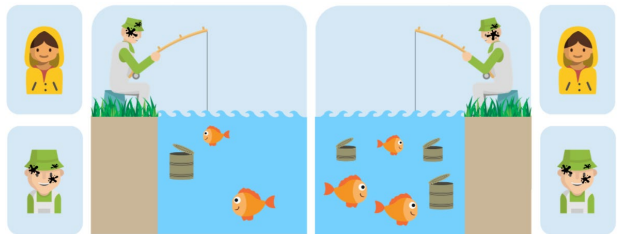
This is you!



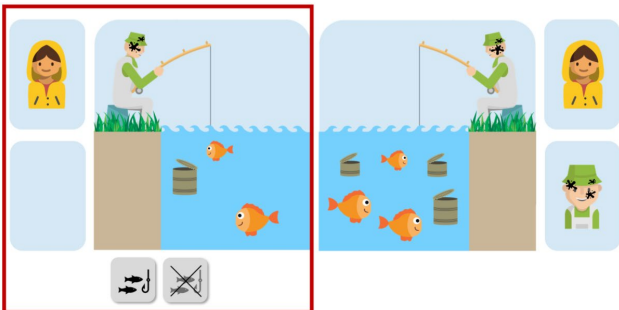
31 When only the Fishertwin's picture is seen, it means he will decide himself whether to lift the pole or not.



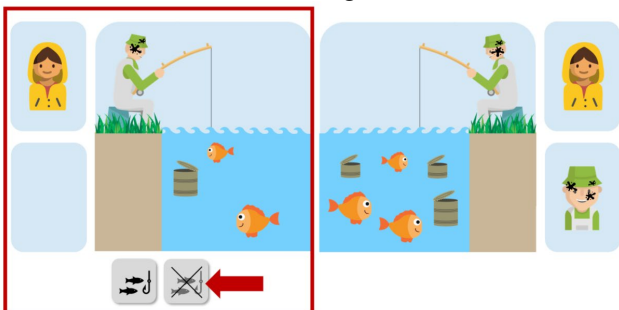
33 Then, if one or both Fishertwins ask you to decide whether they should lift the fishing pole and put their catch in the bucket...



35 In the game, you should click this button if you want to fish...



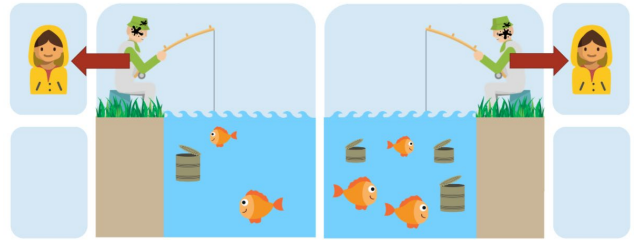
37 Otherwise, you will just wait while the fisherman is choosing.



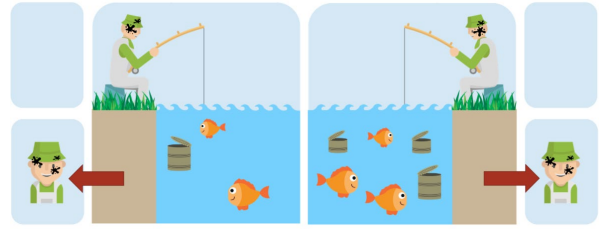
39 Note that what happens to one of the Fishertwins is separate from what happens to the other one.

30

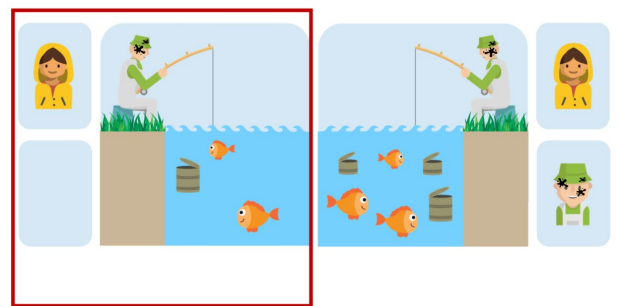
When only your picture is seen, it means the Fishertwin will ask you to decide whether to lift the pole or not.



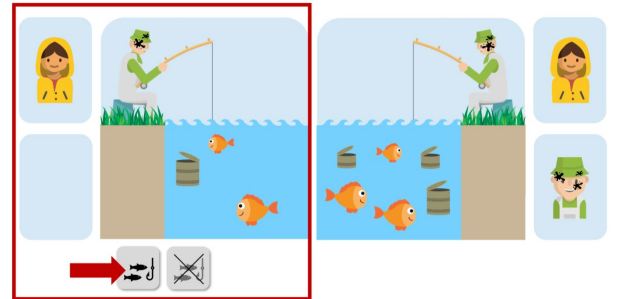
32 When you see both the Fishertwin's picture and your own, it means sometimes he will ask you to decide whether to lift the pole and sometimes he will decide himself.



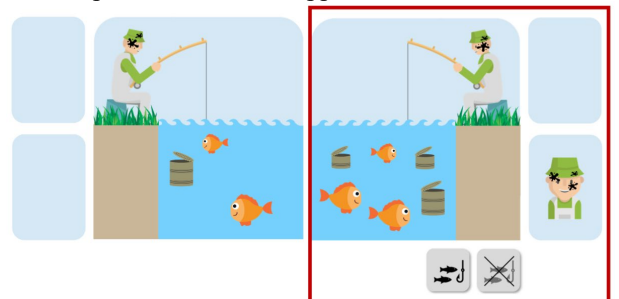
34 ... you will decide if you want to fish or not.



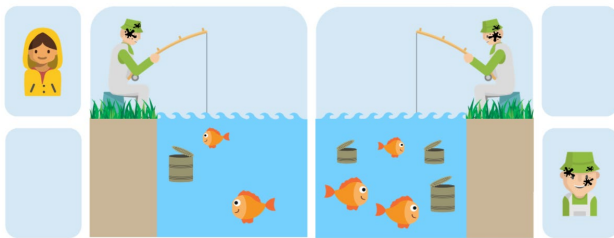
36 Or this button if you DON'T want to fish.



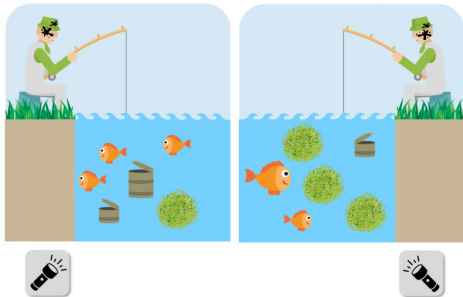
38 Note that what happens to one of the Fishertwins is separate from what happens to the other one.



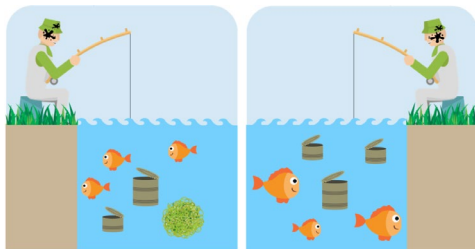
40 Sometimes, some seaweed might hide what is in the water.



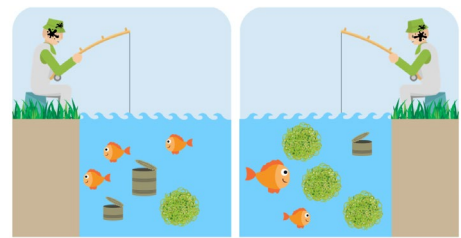
41 Luckily, the flashlight also lets you see through the seaweed.



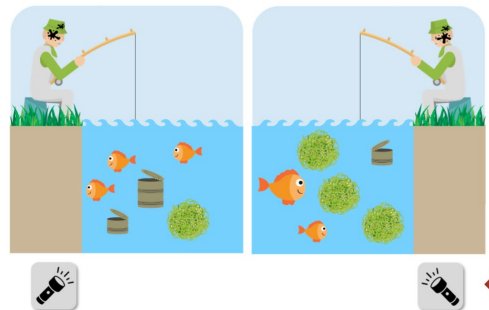
43 ... the seaweed will be gone...



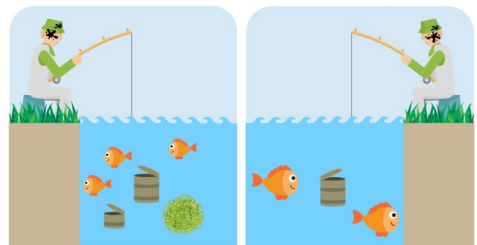
45 Finally, sometimes we'll ask you a different question just to check that you are paying attention.



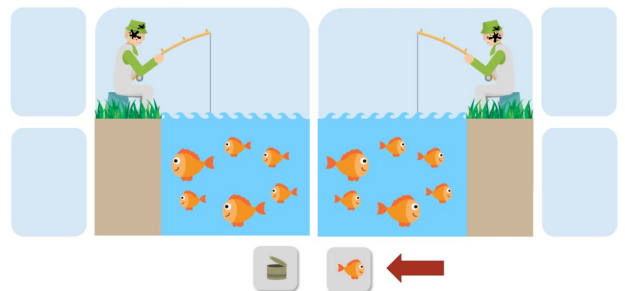
42 But only on the side where you click! For example, if I click here...



44 ...and you'll only see the non-greasy items for the side you chose.

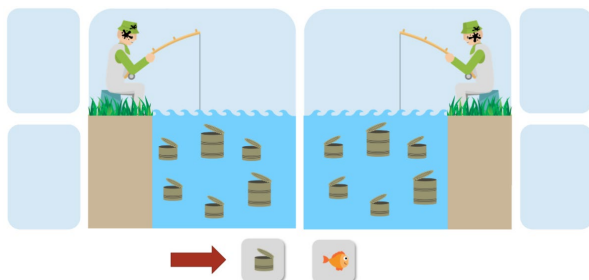


46 For example, we could ask you if you see only fish...



47 ...or only cans.

48 I know this is a lot of information for you to remember, so I'm going to ask you a couple of questions to make sure everything is clear.



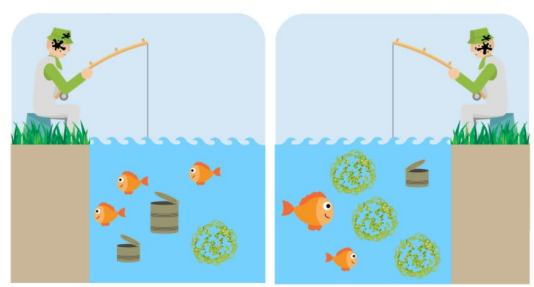
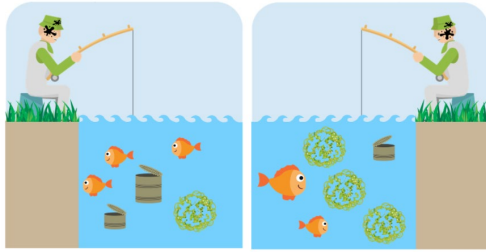
49 You won't be able to know how well you are doing till the very end, so keep trying your best!

50 Click "Next" when you are ready!

Additions for SE1 (between pages 44 and 45):

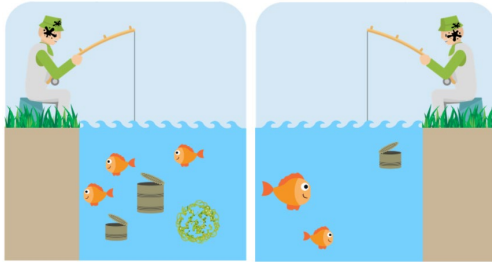
1s But there is also a different kind of seaweed. This type of seaweed has holes in it, so you know that there is nothing behind it.

2s So, in the game, when you click on the flashlight...



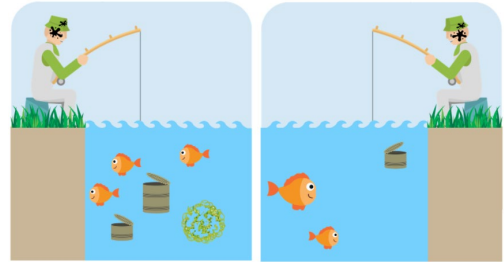
3s

...the seaweed will be gone...



4s

...and you'll only see the non-greasy items for the side you chose.



Instructions Comprehension Task

Participants answered one question at a time by selecting one of the buttons displayed above each option. If they answered correctly, they were presented with the next one. If not, they were prompted to try and answer the question again. Participants could attempt each question three times at most to avoid being excluded from the dataset. The text shown below was both presented to participants and read aloud through a recording. Below, square brackets indicate the correct answer.

The following modifications were implemented for Supplementary Experiments 1 and 2.

Supplementary Experiment 1: Questions 12-13 were removed.

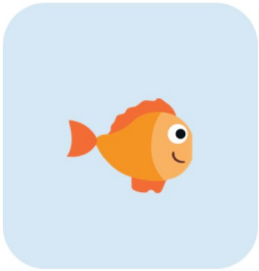
Supplementary Experiment 2: Text for questions 12 and 13 was slightly changed into “[...] this *type* of seaweed [...]” in place of “[...] the seaweed [...]”. Two additional questions were added (see questions 1s and 2s).


1

Which one is better? Big fish or big can? [Big fish]

Big fish

Big can






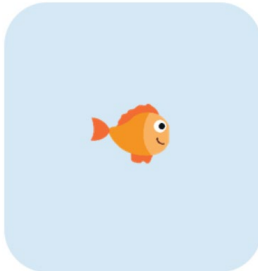
2

Which one is better? Big fish or small fish? [Big fish]

Big fish

Small fish







3

Which one is better? Small fish or small can?" [Small fish]

Small fish

Small can







4

Which one is worse? Big can or small can? [Big can]

Big can


Small can






5

Who will decide whether to fish or not when you see this?
You, the Fishertwin, or we don't know yet? [You]








You

Fishertwin

We don't know yet!









6

Who will decide whether to fish or not when you see this?
You, the Fishertwin, or we don't know yet? [The Fishertwin]








You

Fishertwin

We don't know yet!










7

Who will decide whether to fish or not when you see this?
You, the Fishertwin, or we don't know yet? [We don't know yet]

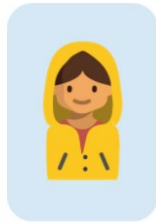






8

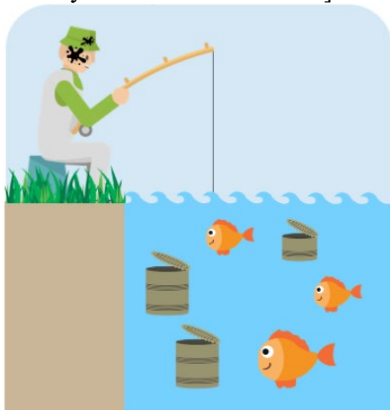
What happens if you click on the flashlight button? No objects will be shown, only the non-greasy objects will be shown, or nothing happens? [Only the non-greasy objects will be shown]



You	Fishertwin	We don't know yet!
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- 9 What happens if you click this button? You will fish and the Fishertwin will put your catch in the basket, or you will not fish? [You will fish and the Fishertwin will put your catch in the basket]



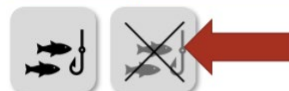
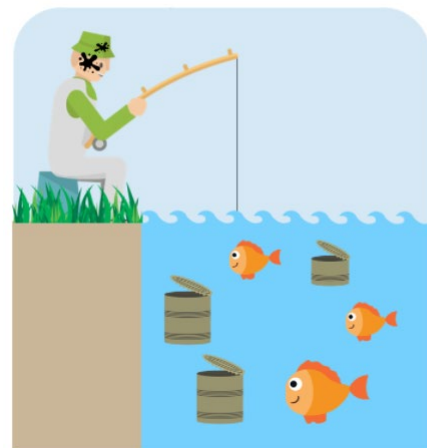
You will fish and the Fishertwin will put your catch in the basket	You will not fish
--	-------------------



No objects will be shown	Only the non-greasy objects will be shown	Nothing happens
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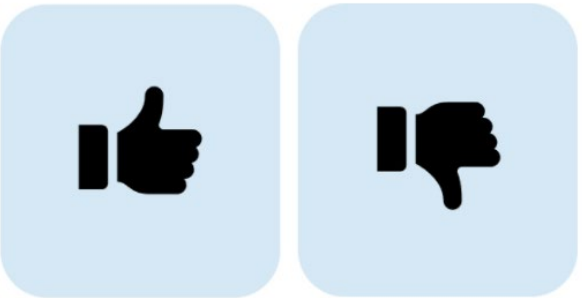
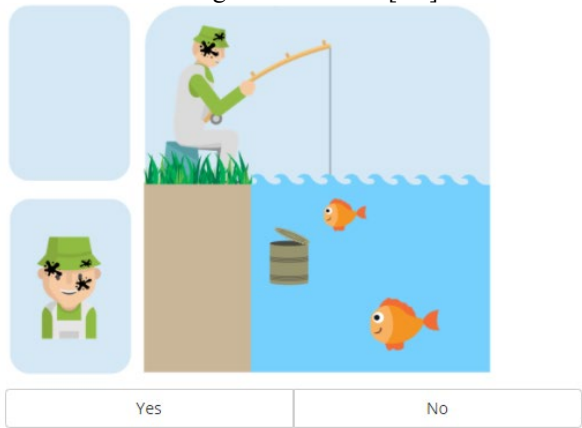
- 10 What happens if you click this button? You will fish and the Fishertwin will put your catch in the basket, or you will not fish? [You will not fish]



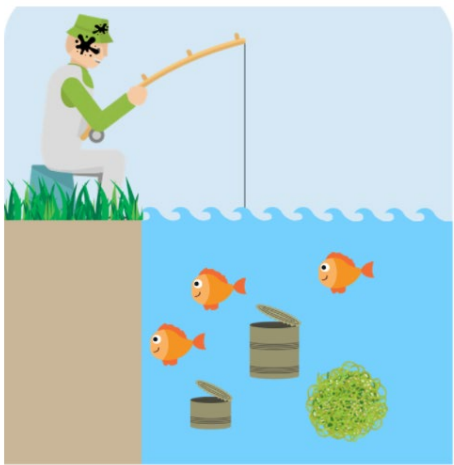
You will fish and the Fishertwin will put your catch in the basket	You will not fish
--	-------------------



11 Can the Fishertwin see what happens when you use the flashlight? Yes or no? [No]



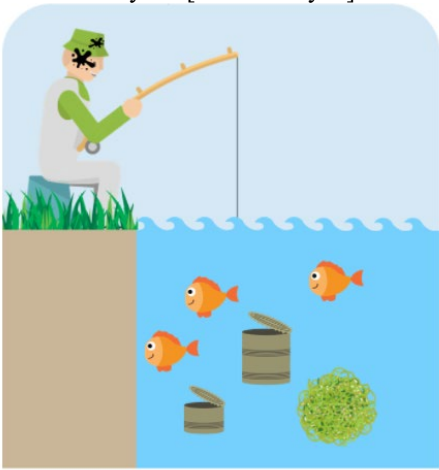
13 What's behind the seaweed? A fish, a can, or we don't know? [We don't know]



A fish	A can	We don't know
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12 Is there something behind the seaweed? Yes, no, or we maybe? [Yes or Maybe]



Yes	No	Maybe
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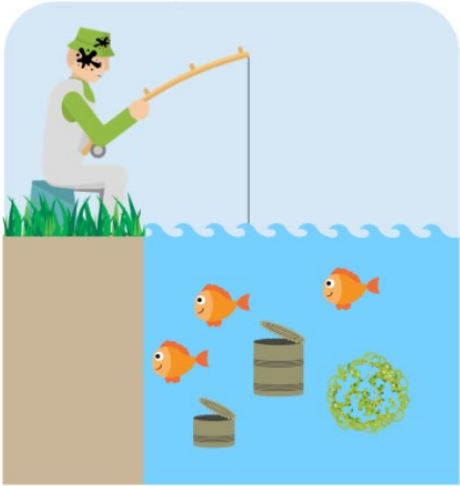
Additions for Supplementary Experiment 2 (after question 13):

1s

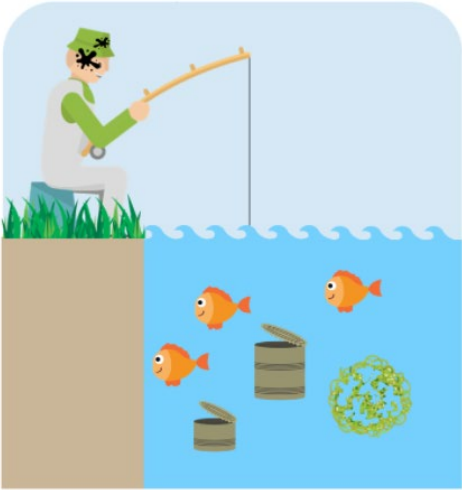
Is there something behind this type of seaweed? Yes, no, or maybe? [No]

2s

What's behind the seaweed? A fish, a can, or nothing? [Nothing]



Yes	No	Maybe
-----	----	-------




A fish	A can	Nothing
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Expected values task instructions


In the study, each of the below images was shown one at a time. Participants were free to navigate the instructions at their own pace. The text reported below was both shown and read out loud through a recording.

For Supplementary Experiments 1 and 2, only pages 1-3 were presented, as participants did not have to complete the expected values task.

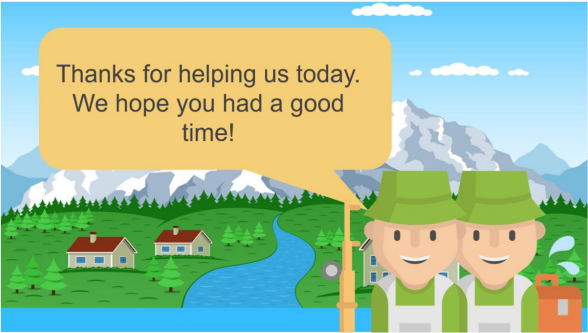
- 1




Congratulations, we did it!
With your help, we managed to collect plenty of fish!
- 2




Now we are finally starting to see again, and we can help the rest of the village clear the river from waste.
- 3



Thanks for helping us today. We hope you had a good time!
- 4

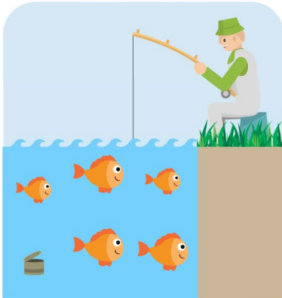
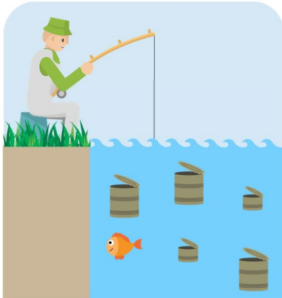




Before you leave, we would like to ask you just one more thing.
- 5



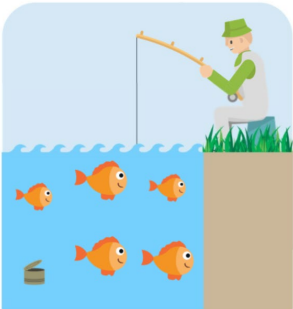
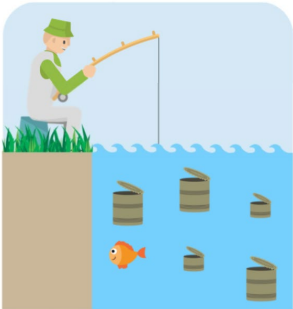
We will ask you to tell us which side you think is better for us to fish.
- 6



Once the game starts, you should click on the arrow for the side you think is better.




- 7

In the game, if you think the left side is better, you should click on the button that you will see here.




- 8

If you think the right side is better, you should click on a button that looks like this.

