



Instructions for teachers

Mental Rotation





NOTE: THE MATHEMATICS ASSESSMENT SHOULD BE COMPLETED FIRST, FOLLOWED BY THE SPATIAL ASSESSMENTS (MENTAL ROTATION AND SPATIAL LANGUAGE)

What do I need before I begin?

- The assessment instructions (this document)
- An assessment booklet for every child in your class
- A pencil/pen for every child in your class
- A spare assessment booklet for yourself (the same as the booklets that you have given to each child).

What will I have to do?

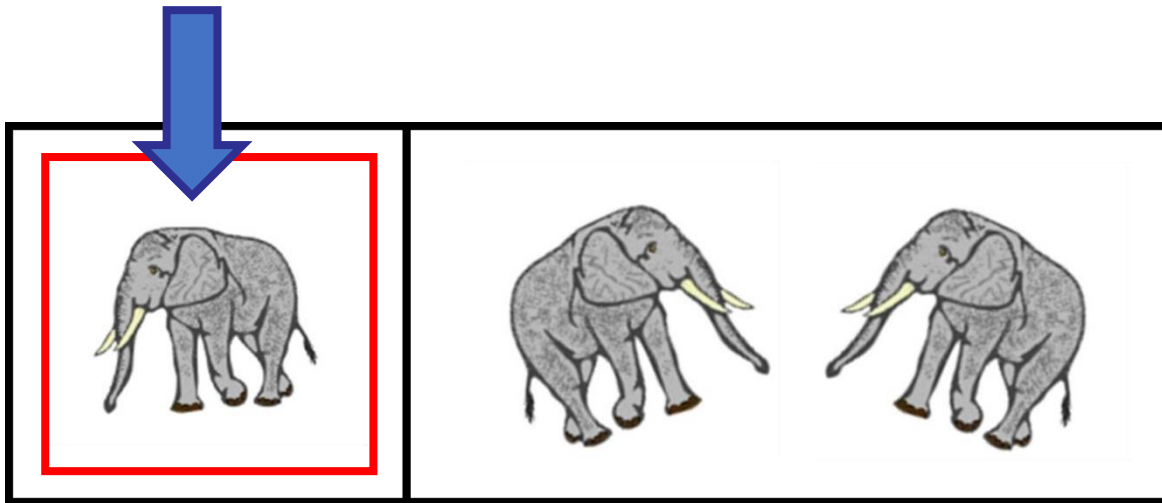
You will read all instructions and questions aloud to the children in your class. This includes 2 example questions and 20 assessment questions. Children will circle the answer that they think is correct in their booklet. Children should work alone.

The text in italics shows exactly what you need to say aloud.

Teacher/TA: “*For this activity each of you have a booklet. You must work on your own and do not ask your friends. In this activity you will see pictures of animals. Open your booklet to page 1. Let’s do the first example. Look at the top row.* **Show the children using your own booklet, walk around and make sure everyone is on the right page.** *The animal on the left of your page is the target. You can see the red line around the target animal. You must decide which animal on the right of your page matches the target animal. Circle the animal you think matches the target animal. Let me show you.*”

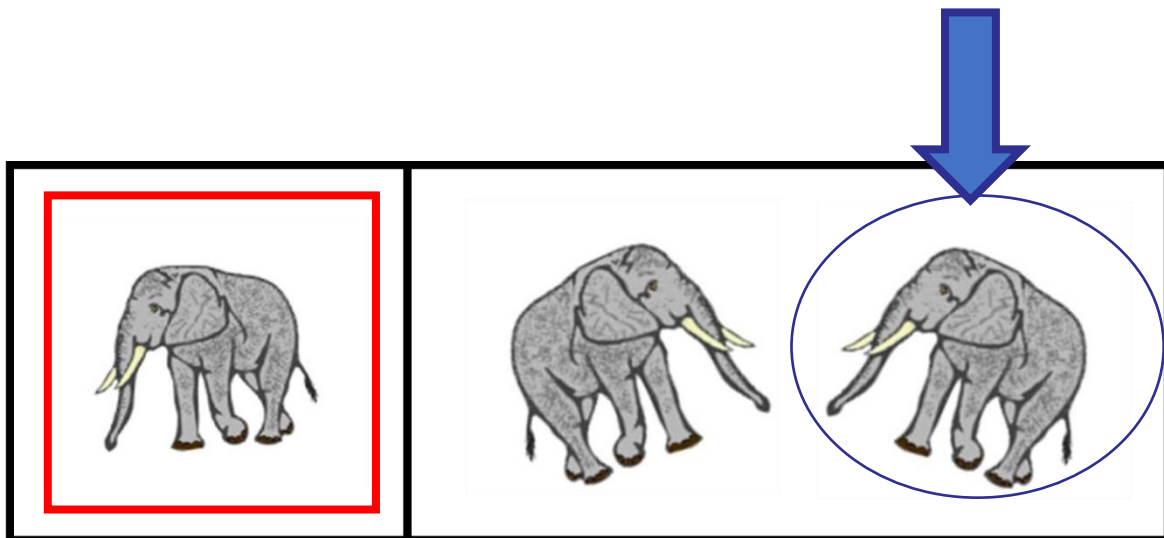


Show children the image, point to the target so that the children know what it is. Then wave your hand over the two animals on the right. Ask the children: *“Which one matches the target animal?”*



TARGET ANIMAL

WHICH ONE MATCHES THE TARGET?



TARGET ANIMAL

Point to the correct response: *“This is the correct answer. Can anyone tell me why this is the correct answer?”* Wait a few seconds if no one responds say: *“Because this elephant is facing the same direction as the target elephant even though it is turned/rotated slightly.”*

You can gesture a rotation action with your hand to show children how to rotate an animal in their head.



Teacher/TA: “Let’s do the next example. We’re still on page 1. Look at the bottom row of elephants. You can see the target animal on the left (**point to the animal**) and two animals on the right (**point to the animals**). You will need to turn the animals, one at a time, in your head and see which one matches the animal on the left. You can look at the animal’s head and feet (**point to the head and feet**) to help you when you turn the animal around in your mind. When you have decided which animal on the right is the correct one, circle it. Do not turn the booklet around and do not move your head to work out the answer, try to turn the animals in your mind. You can do it now.”

Wait 10 seconds and then ask for an answer. You need to be sure that everybody understands what they need to do. Children must not turn their heads or the booklet to work out the answer. Make sure you talk through why the answer is correct.

Teacher/TA: “Turn to page number 2 to see the correct answers. You can see the correct answers are circled.” You can do the same in your booklet and show them the correct answer. For these two examples items, you can provide feedback. “Is what you need to do clear?” If the answer is YES, you can proceed with the activity.

WHAT TO DO IF CHILDREN ARE STRUGGLING WITH THE EXAMPLE QUESTIONS

Teacher/Researcher: “Let’s try again. In this activity you will see pictures of animals, the animal on the left of your page is the target. You must decide which animal on the right of your page matches the target animal. You can look at the animal’s head and feet (**point to the head and feet**) to help you when you turn the animal around in your mind. The matching animal is facing the same direction as the target animal. Circle the animal you think matches the target animal. Let me show you.” Use the example from the beginning with a picture of the target animal.

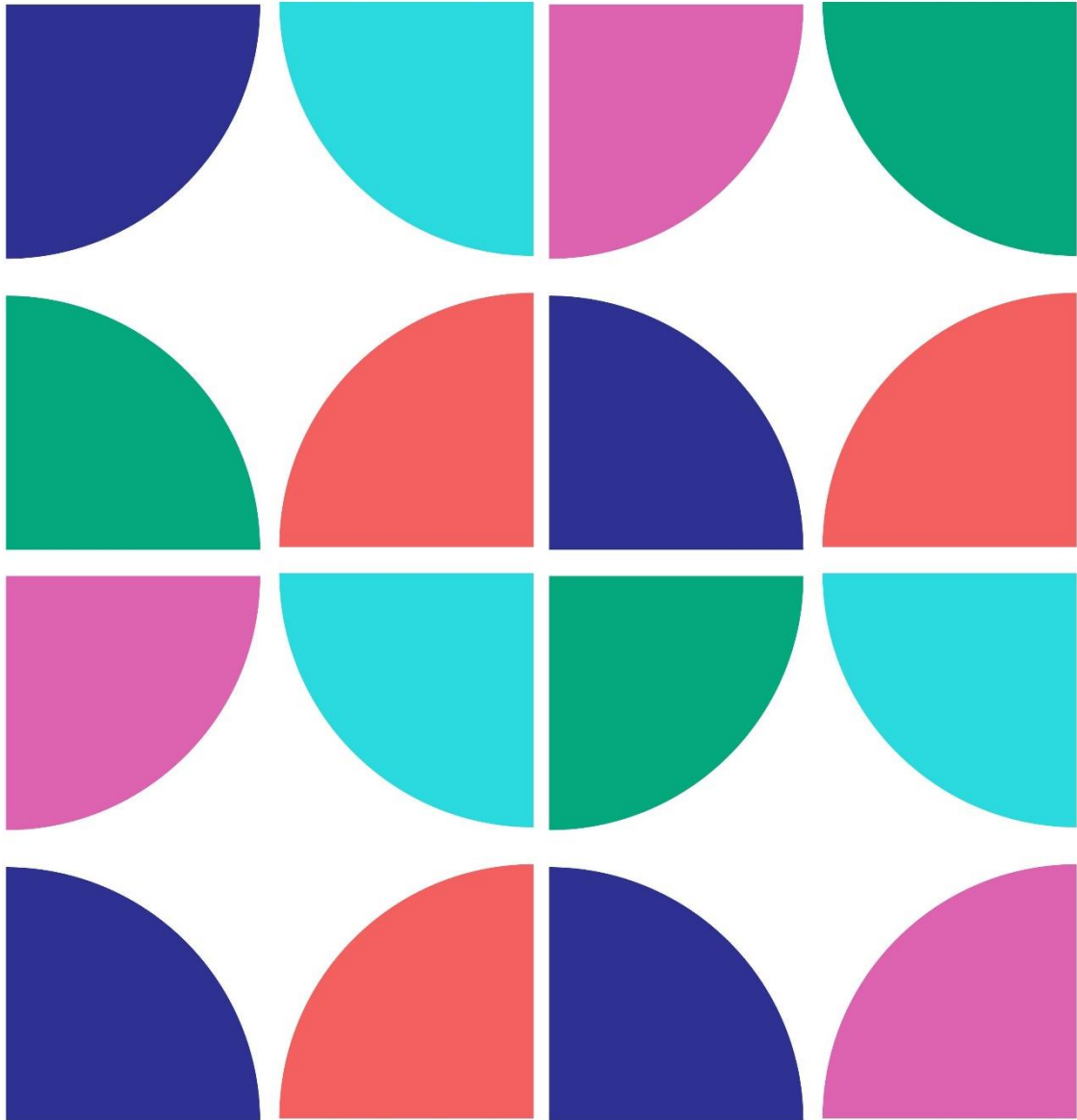
“Only one animal is the correct one. Only circle one of the animals on the right that you think is the correct one.”

Teacher/Researcher: “We will now do the rest of the questions but this time I won’t tell if your answer is correct. Remember to work on your own and not to ask your friends for help. There is just one correct answer for each row of animals. If you are not sure of the answer, just make your best guess.”

“You can turn the page. Now we are on page number 4, and you can start.”

When everyone has finished. “Check that you haven’t missed any pages. Have you completed page 4? Page 5? Page 6? Page 7? Page 8?”

At the end of activity collect the booklets. We will collect them from you.



SPACE