

# The Talking Elephant

## How to Use and make it:

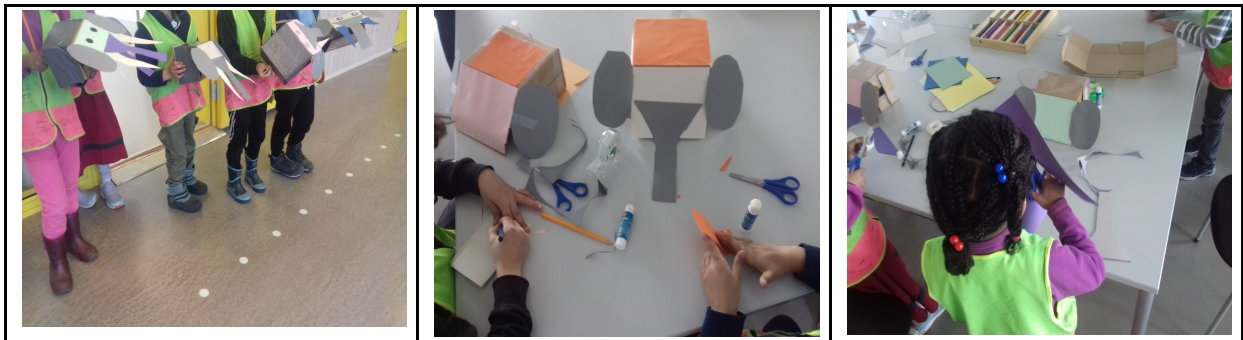
This guide includes:

1. What is a Talking Elephant
2. How the Elephant can be used to learn STEM areas
3. How children can construct the Elephant

## 1. What is a Talking Elephant

A Talking Elephant is a simple automata toy that is suitable for construction by children from the age of 4 years. It consists of a cardboard box that has the face of an elephant at the front and at the back a lever that a child can use to make the elephant's mouth open. It allows children to anthropomorphize the elephant automata and use it as an object of play while still gaining educational insights.

### Photos and videos

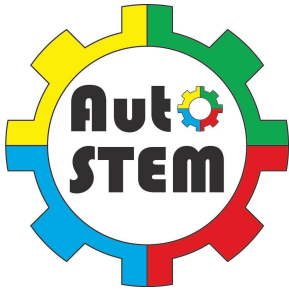


## 2. How the Elephant can be used to teach STEM areas

### Mechanisms and levers

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The mechanism is very simple. A wooden stick with something, like a cork or bottle top pushed on to the end that pushes the face of the elephant forward and upward. The movement is manual without any complex mechanism. To make the movement, the teachers guides the children to find the centre of the back of the cardboard box.

### Zoology concepts

It allows the exploration of biology/zoology and natural science concepts.

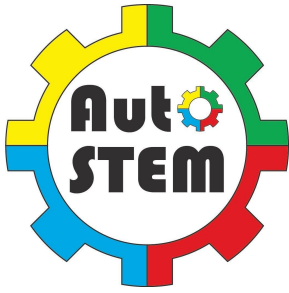
Some ideas include exploring :

- The names of the body parts
- The vocalization (Trumpeting)
- The physical characteristics (the skin, the trunk)
- Movement (walking, catching with the trunk etc)
- Eating habits
- Reproduction
- Species evolution

It also opens up the possibility of talking about geography associated with the elephants habitats, for example, their geographical location.

### Introducing the elephant to the children

When introducing the elephant, the teacher should challenge the children to observe and analyse the movement, without showing the lever. The teacher can ask the children how they think the elephants mouth is opening. The teacher can also pretend to talk for the elephant, for example, 'Hello class, I am a talking elephant' while moving the mouth to match the speech. Perhaps the children can make a drawing how they think the mouth is opening. This can be a first contact with lever mechanism, using a playful approach. [https://www.youtube.com/watch?v=E8RA9Kw\\_laE](https://www.youtube.com/watch?v=E8RA9Kw_laE)



## Mathematical concepts

The construction and use of the Elephant allows the teaching of a number of mathematical concepts within the construction and assembly process.

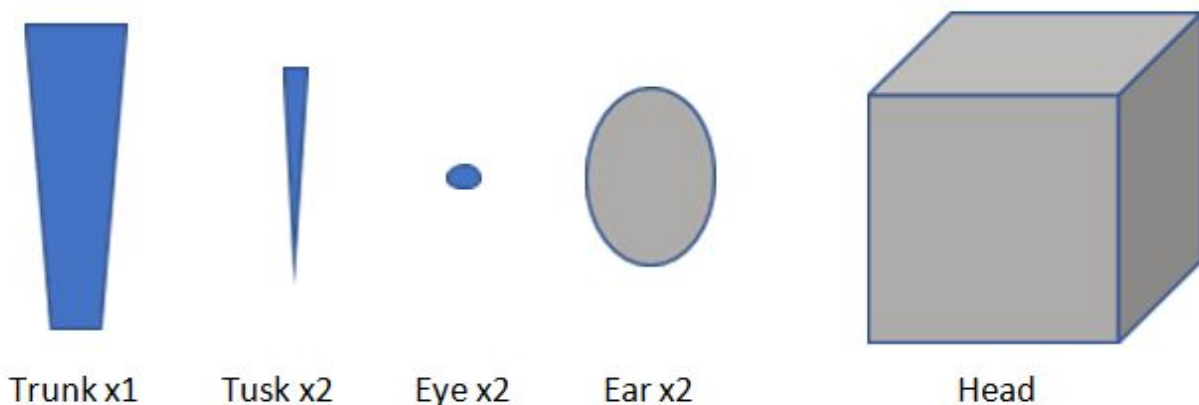
### Exploring and learning physics

Children will observe the Elephant and formulate comments and questions about how it moves.

### During construction

The teacher talks with the children and asks them about the shapes they are using including the body. The teacher can also discuss the **shapes** and where they are **placed**.

Fig 1. The elephant's parts



What does the elephant and its parts look like?

Each of the body sides is a *rectangle*. A rectangle has *four sides* and is *oblong*. There are 6 sides to the body.

There are 2 ears and they are *oval*. It is an idea to have an example of a circle, so you can show the difference between a circle and oval. You can use the eyes but might want to use a larger circle for clarity.

The eyes are *round*, like *circles*. There will be one eye on *either side* of the face.

The tusks are *triangles*. Each tusk is a *triangle*. It has *three corners*. The *sharp corner* points *downwards*.

The nose of the elephant is a *trapezium*. It has *four sides*. The *widest side* is at the top.

What does the elephant use its nose for? Do you know the special name there is for an elephant's nose?

The teacher talks with the children about the cardboard box that has to be folded and transforms into the Elephant's body.

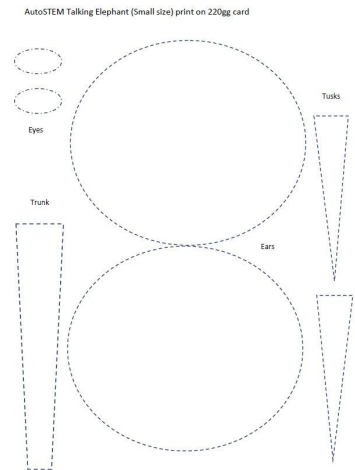


The children are asked to count the sides of the box and to imagine how many will have to be glued and how. They should also decide which side will be the face of the elephant?.

### 3. How to construct the Elephant

#### Parts and tools required

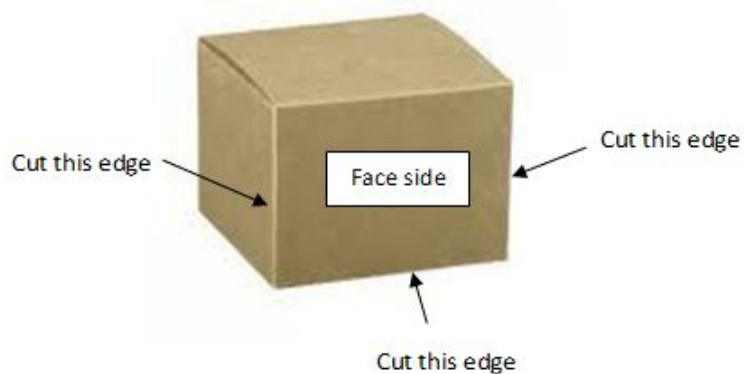
- Template to be printed on A4 card (20gm) can be coloured card - Please note - the templates are available in 2 sizes so that you do not need to look for a particular size cardboard box. You can download the templates from the website.
- Brown parcel tape
- A rectangular box that is flat (not made up)
- A wooden skewer, long enough to reach from the front (face) to the back of the cardboard box
- Scissors
- Gluestick
- Colouring pens/markers/pencils
- A cork or plastic bottle top
- Ruler

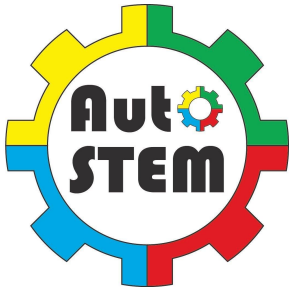


#### Method

It is best to watch the video before making the elephant ([video](#))

1. Print the supplied template on an A4 card (20gm)
2. Cut out the shapes from the template
3. Colour the shapes that have been cut out (this can also be done afterwards)
4. Assemble the Box, using parcel tape to close it tightly
5. Cut the side that will be the face, at the bottom and 2 sides, along the folds. Leave the fourth side attached.





6. Find the centre of the box side opposite to the face
7. Make a hole at the centre the size of the wooden skewer, so it fits loosely, using the scissors
8. Stick the ears, the nose, the eyes and the teeth on to the face side
9. Push the wooden skewer through the hole
10. Attach a cork or bottle top on its end
11. Push the wooden stick forward and back, and up and down to make the movement

Children make the cardboard box, sealing the top and bottom with sellotape or parcel tape. They cut through the box on 3 sides as shown in Figure 2. This will be the elephant's face. For younger children, adults may have to help make the cuts.

Then the children are given the card templates with the shapes; and cut the shapes out with scissors.

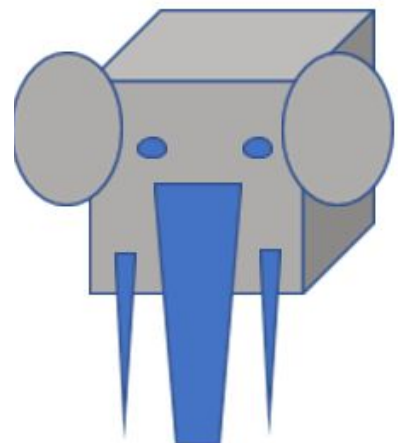
They find the centre of the side 'Opposite' to the face and find the centre point by drawing 2 diagonal lines from one corner to the furthest opposite and then from the second corner to the furthest opposite. Where the lines cross, is the centre point. Teachers may like to ask their children how they will find the centre point themselves, as an exercise?.

Make a hole in the cork or bottle top big enough to push the end of the skewer through. The cork/bottle top should fit tightly on the end of the skewer.

Once the hole has been made, the children can be asked to guess how to make the movement:

Once the centre point is located,:

1. Make a hole just large enough for the wooden skewer to move through
2. Push the skewer through
3. Push the cork or plastic top on to the end of the skewer that is inside the box
4. The children should now test if moving the skewer moves the face? If it doesn't let them find out what is wrong, only help if there is a real problem



Then, here it comes the moment to glue the attributes of the elephant to its head: the ears have to be glued outside the side of the face, the nose has to be central, the teeth at the sides of the nose and finally the eyes have to have equal distance from the nose.

Once the face is completed, it is time to open the mouth and let the Elephant talk!