

# The Amazing Trick Assessment Task.

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Using the scientific properties of light, shine a light through a maze. The light must enter the door at the front and leave the box through the back.

## Challenge 1

A. Construct a model of the maze using a box and the maze template provided. Use cardboard to create the walls.

B. Place your cardboard mirrors to transmit light from doorway 1 to doorway 2.

You will:

- Use a torch as your light source
- Make your light source enter the box from doorway 1
- Adjust your maze to allow the light to reach doorway 2.

**Note:** You cannot change the position of the walls in any way.

## Materials and Equipment

- Plastic mirrors
- Adhesive putty
- Torch
- Scissors
- Tape
- Black paper to show the light source as it exits doorway 2
- A small box, e.g. a shoebox
- Cardboard

## Diagram

Draw an annotated ray diagram to show how the light travels through the maze.

## Steps

List the steps that you have used to transmit light from doorway 1 to doorway 2

Identify any problems that you had transmitting light from doorway 1 to doorway 2.  
Explain how you solved these problems.

## Challenge 2

Make a change to the maze that affects the appearance of the light as it exits doorway 2.

You must:

- Keep the light source the same (the torch)
- Keep wall A and wall B in their original position.

### Plan first.

List possible changes

Circle the variable that you will change (C) in the list above  
List the variables that you will not change.

### Investigation Question.

What happens to the appearance of the light when I change

### Prediction

If we change

Then

Because

### Diagram

Draw an annotated diagram to show how you predict the light will travel if you make this change to your maze.