The Amazing Trick Assessment Task.

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.

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| 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. |