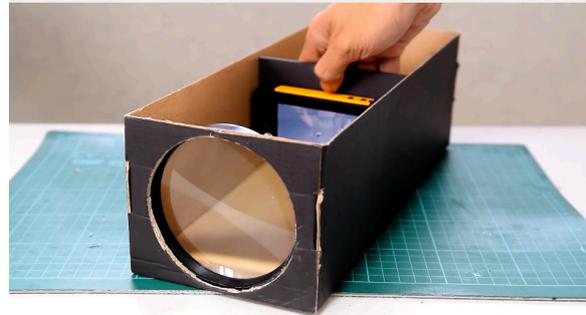


OXFORD'S CHRISTMAS LIGHT FESTIVAL

Make a smartphone projector

Tools:

A shoebox
A smartphone
A pencil
A ruler
A magnifying glass
Foam board or stiff cardboard
A craft knife
A torch
Masking tape or double-sided tape
Strong glue



Instructions:

1. Strengthen the box by gluing down all the flaps. Press and hold if needed then leave to dry.
 2. Take the magnifying glass and hold it against one end of the box, making sure there is an equal distance between the edge and the edges of the box. Use a pencil to draw on the box around the magnifying glass.
 3. Cut out the shape with the craft knife then put the lid back on the box to see how much it overlaps the hole. You need to remove the overlap.
 4. Carefully glue the magnifying glass to the hole you've just cut out. Leave to dry.
 - 5 Trim away any excess glue.
 - 7 Shine the torch around the edge of the join between the magnifying glass and the box to see if the light leaks through. If it does, use masking tape to cover.
 8. Using foam board or stiff cardboard cut a piece that is 100mm by the width of the box less 2mm.
 9. Cut another piece that that will fit inside the box vertically and glue it to the middle of the first piece. This should make an upside down 'T' shape.
 10. This will hold your smartphone upright so if you need to make it stronger attach more board.
 11. Take your smartphone and turn off 'screen rotation' then set the brightness and volume as high as possible.
- NOTE: if you want better quality sound you can link your audio to a Bluetooth speaker.
12. Pick a video to watch.
 13. Turn your phone so the image is upside down.
 14. Tape your smartphone to the middle of vertical surface of the upside down 'T'. Put the 'T' frame, with the phone, inside the shoebox facing the magnifying glass.
 14. Move the Smartphone backwards and forward until you get the projected image in focus.
 15. Put the lid on the box and enjoy your movie night!