

The Smallpeice Trust  
**ENGINEERING  
@HOME**

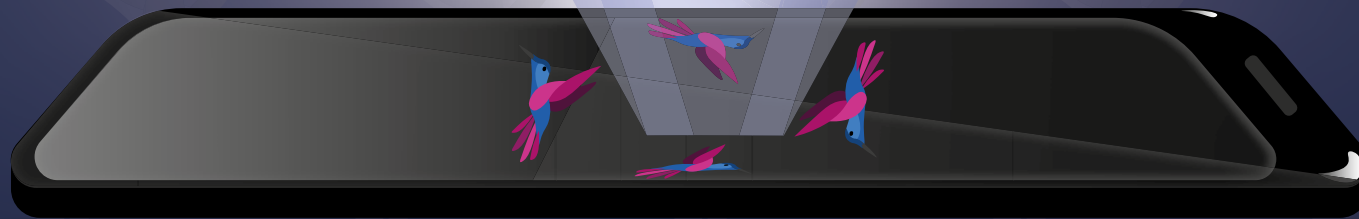
#EngineeringAtHome



smallpeice  
Dare to imagine

Suitable  
for ages:  
**8+**

Time  
needed:  
**1hr+**



# The Hologram Challenge

supported by





Dare to imagine

As it's half term, our Smallpeice team have put together five extra-special Engineering@Home challenges, perfect to complete as a family. This is number 5 in the series.

5

## Objectives

- Create a holograph projector to use with a smart phone.
  - Translate your designs from page to reality.
  - Watch your projections come to life in 3D.

## Engineering Themes

### HOLOGRAMS

[youtu.be/uCx1ntBsJqE](https://youtu.be/uCx1ntBsJqE)

### REFLECTION

[youtu.be/dwxaq4c9K6k](https://youtu.be/dwxaq4c9K6k)

### ADVANCED HOLOGRAPHY

[youtu.be/ikuSPBZjkhw](https://youtu.be/ikuSPBZjkhw)

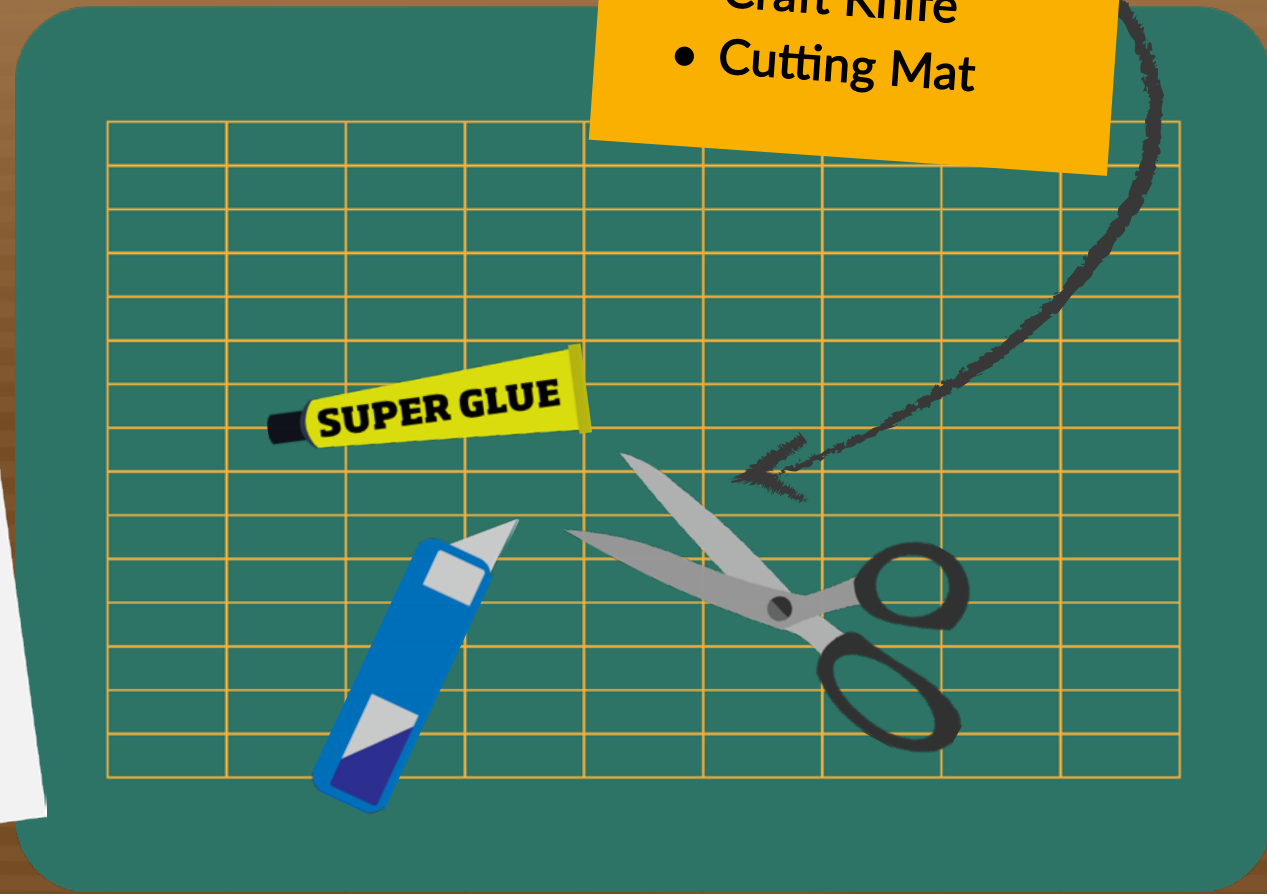


**These are the tools and materials and tools we used.** If you're missing any items, why not substitute them with something similar?

- CD Case
- Smart Phone
- Pen
- Pencil
- Ruler

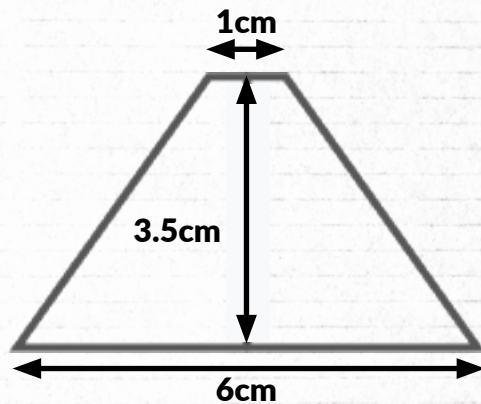


- Super Glue
- Scissors
- Craft Knife
- Cutting Mat



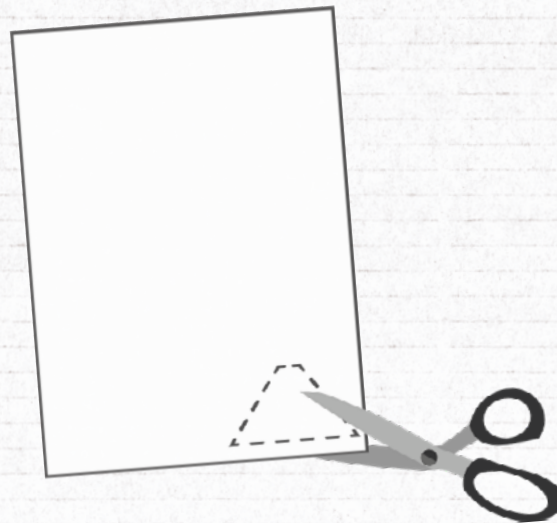
# TO MAKE YOUR HOLOGRAM PROJECTOR

**1**



**Draw a diagram of the above polygon on your paper.**

**2**



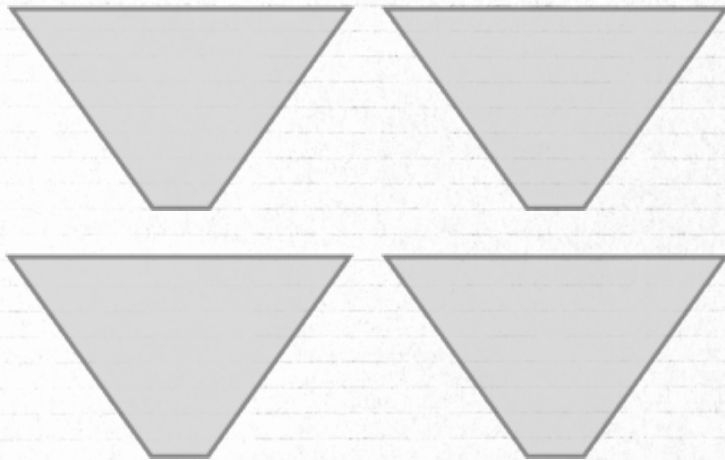
**Cut it out using scissors to create a template.**

**3**



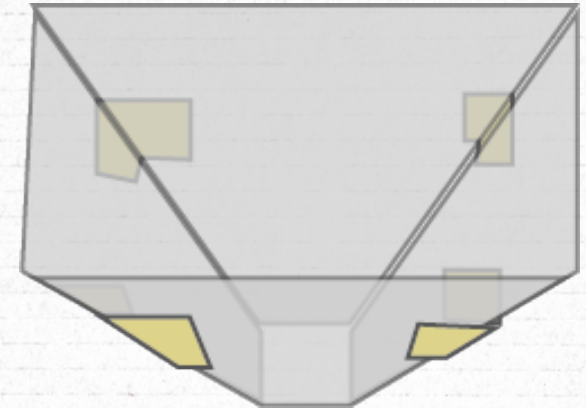
**Place the template onto the CD case. Carefully cut around it with the craft knife/scissors.**

**4**



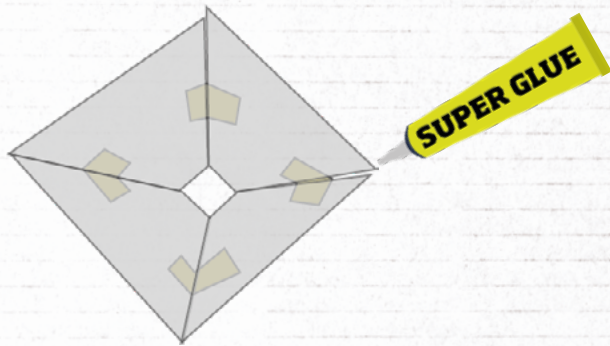
**Repeat the step three more times so that you have four identical polygons made from the CD case.**

**5**



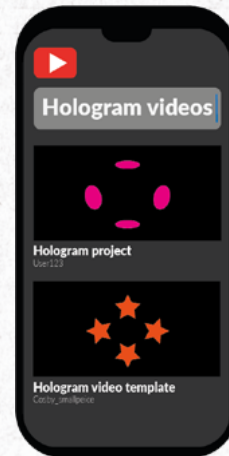
**Tape the pieces together as shown above.**

**6**



**When you are happy with the positioning, carefully use super glue to stick them together permanently.**

**7**



**Use your smartphone to search for hologram videos.**

**8**



**Place your hologram projector on the centre of your phone and watch your holograms in action.**

# Need a Challenge?

## If you want to challenge yourself further:

1. Make a larger hologram projector for another device
2. Film a video of your hologram projector and send it to us!



Once you've completed your project, film it in action and share your video on:



[www.facebook.com/TheSmallpeiceTrust](https://www.facebook.com/TheSmallpeiceTrust)



[www.twitter.com/SmallpeiceTrust](https://www.twitter.com/SmallpeiceTrust)

Use the hashtag **#EngineeringAtHome**



[www.instagram.com/TheSmallpeiceTrust](https://www.instagram.com/TheSmallpeiceTrust)



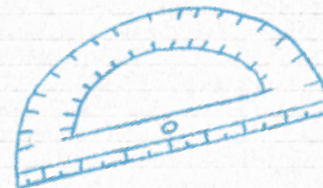
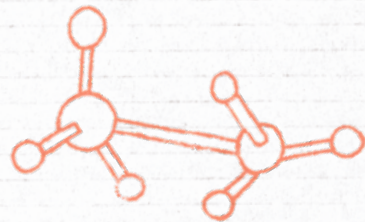
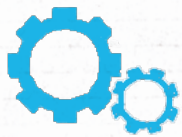
# STEM Inspiration



## Thanks again to GE for supporting this challenge.

GE drives the world forward by tackling its biggest challenges, bringing real progress and possibility to every corner of the planet –safely delivering people where they need to go; powering homes, schools, hospitals, and businesses; and offering more precise diagnostics and care when patients need it most.

In the UK, GE employs around 10,000 people at over 20 sites. GE understands how important it is to get exposure to STEM, learn, and develop early in your career. Check out [www.gecareers.com](http://www.gecareers.com) to find out about internships, apprenticeships and more. School-age students - get inspired today by visiting [www.gecommunity.co.uk](http://www.gecommunity.co.uk) to access an array of STEM-content including GE's new programme, #STEMtogether.



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