

HOLOMAKERS PROJECT

**Motivating secondary school students towards STEM careers through
hologram making and innovative virtual image processing practices
with direct links to current research and laboratory practices**

Erasmus+ KA2 2017-1-PL01-KA201-038420

Worksheet for Activity 6

Capturing light: the plasticine figures project

Team:



Activity topic: Recording figures made of plasticine-like materials

- 1) **The questions below revolve around the material of plasticine.** Search for information online, discuss with your classmates and write down your answers/findings below.

A) What is plasticine? When and where was first created?	
B) In how many colours does it come?	
C) Can you name some possible applications/uses of plasticine?	
D) Can you name some materials similar to plasticine?	

2) **Modelling your own figure**

- A) Imagine that you have to create a video for an animation festival and you need to use plasticine in order to model the figures of your story's heroes or some parts of your set up. Are you familiar with technics related to modelling with plasticine or film projects made with plasticine? Are you familiar with the term and the art of "stop motion"? You can also use google search to draw inspiration or to find similar projects (e.g. Figure 1).



Figure 1 Exhibit from exhibition “Between Frames: The Magic Behind Stop Motion”, Retrieved from: <https://www.daytondailynews.com/entertainment/between-frames-the-magic-behind-stop-motion-animation/gP3sfJAzAyhXVw00mYqj2I/>

B) Discuss in your team about the colours of plasticine that you will use, the shapes that you will create as well as about the possibility of using different materials to decorate your figures. Document your thoughts below, prepare your models and then present them in the class.

3) From figures to holograms

Set up the HoloKit (*If the HoloKit is not already assembled from previous activities*)

Prepare the set up in order to record your figure(s). You can find the instructions here <https://youtu.be/wFbqvzraYds> and here https://holomakers.eu/wp-content/uploads/2019/01/Holomakers_holokit_ReferenceGuide.pdf

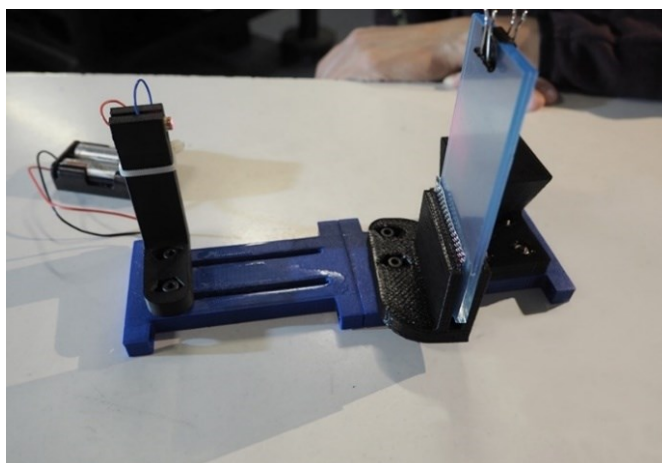


Figure 2 The portable HoloKit

Getting ready for physical hologram recording

a) Work in teams

Measure the minimum and the maximum height that your figure should have in order to fit the size of holographic film that is used in the HoloKit. Write your answers below.

b) Discuss with your team members

Does the texture, size and colour of the figure play a role in the holographic recording?
Document your answers/thoughts below:

c) Prepare your figure

Based on the conclusions you draw about the role that size, colour, materiality and texture play, model your own figure(s) that will be later on turn into holograms with the HoloKit. **Take a picture of you model(s).**

d) Time for physical hologram recording. Are you ready?

Note: Bear in mind that the process of holography is not always straightforward, and it takes a lot of tests and practice in order to have the best possible results.

Some general rules/tips for the physical hologram recording process	✓ / x
Decide where you will place the HoloKit. It should be placed on a very stable table or on the floor.	
Select the coin that you will holograph based on the discussions that you had earlier	
Check the level of the provided power to the laser beam before you start because low power levels can lead to failure during the recording process.	
Turn on the laser diode at least 5 minutes before making your hologram	
Place the object as close to the holographic film/plates as possible	
Experiment with various heights and positions by using the provided plasticine. <i>When you agree that the reflection on the holographic plates of the selected coin is the finest (that can be done), then the set-up will be ready for the recording phase.</i>	
Select the member of your team that will be responsible for a) placing the holographic film in the holographic plates and b) removing the shutter.	
Consult your teachers and do not hesitate to ask for advice and support if the process to be followed is not clear.	
Make sure that you have marked on the holographic plates the area where the holographic film will be placed/stuck.	
Make sure that the holographic plates are clean	
Place the shutter between the laser beam and the holographic plates	
Make sure that you have identified a dark or almost dark room where you will open the holographic box.	
Watch the video to learn how to deal with the holographic film https://youtu.be/4lwSLHOQpWM	
Make sure that you have identified a semi-dark place/room where you will operate and place the holographic film between the two holographic plates.	
Make sure that you will firstly remove the transparent (colourless) foil from the holographic film and not the green one.	
Make sure that you have pop out as many trapped air bubbles as possible.	
Before place the second holographic plate, make sure that you have remove the green foil from the holographic film.	
Make sure that you have understood the process.	

Have you check all the above steps? If yes...you are ready to go! Check the result after 3-5 minutes.

Area for notes



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Declaration

This report has been prepared in the context of the HOLOMAKERS project. Where other published and unpublished source materials have been used, these have been acknowledged.

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