



Construction manual sunglasses



Notice

Whenever you do experiments with sunlight or you are outside in the sun for some time, it's a good idea to protect your eyes with sunglasses. In this activity, you will learn how to build them yourself.



Safety note

Always protect yourself from the sun when working outdoors. NEVER look directly into the sun, unless you are wearing special sunglasses made for that purpose (so called "solar viewers").

Be cautious when using scissors and glue. Do not let younger kids use a utility knife.



Material

You will need the following materials for the construction:

- Sunglasses template (see links below), printed or copied on thick paper or cardboard
- Tinted car window film with UV protection
- Office clips (2 per person)
- Optional: Paints, coloured pencils etc. and decorations to make them unique



Tools

For the construction, you will need the following tools:

- Scissors or utility knife
- Glue OR tape OR stapler



Step by step instruction

Note: There are different versions of the template. The "100% version" is for youth and adults, while the "90% version" is for kids. What makes the difference? The distance between the eyes becomes bigger as you grow up. Apart from that, there is also a difference in paper size, where you can choose between A4 and card-size.

Links:

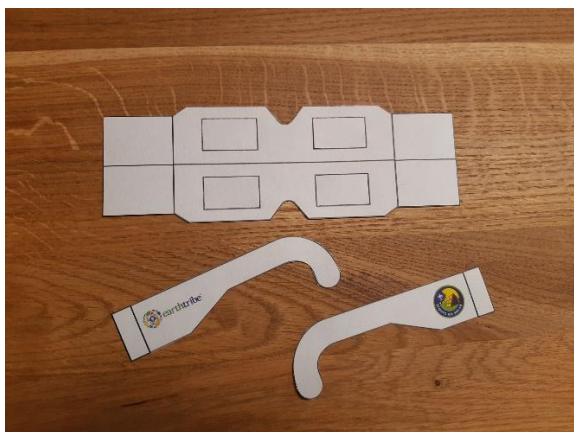
- Version 100% (for youth and adults), format A4: <https://solafrica.ch/wp-content/uploads/2026/01/Sunglasses-new-with-logo-adaptable-width-A4-SgS-Earth-Tribe-100-2026.pdf>
- Version 90% (for kids), format A4: <https://solafrica.ch/wp-content/uploads/2026/01/Sunglasses-new-with-logo-adaptable-width-A4-SgS-Earth-Tribe-90-2026.pdf>
- For templates in letter size, please refer to the Spanish versions: <https://solafrica.ch/wp-content/uploads/2026/01/Gafas-de-sol-adaptables-CARTA-SgS-Earth-Tribe-100-2026.pdf> (for 100%) and <https://solafrica.ch/wp-content/uploads/2026/01/Gafas-de-sol-adaptables-CARTA-SgS-Earth-Tribe-90-2026.pdf> (for 90%)

Step 1: Prepare the template

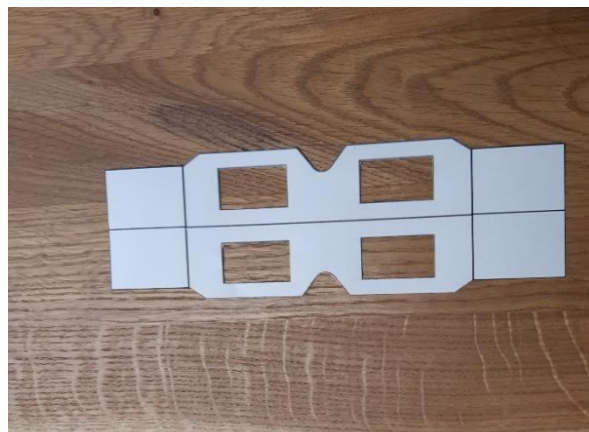
Print or copy the corresponding template on thick paper or cardboard.

Carefully cut out the silhouette of all parts of the sunglasses. Use scissors or a utility knife to cut out the squares in the central part, where the “glasses” will be placed.

Optional: If you want, you can give your sunglasses a unique design by painting them, adding decoration etc.¹



The three parts that you need to build your sunglasses.



In the central part, you cut out the squares where the “glasses” will go.

Step 2: Put the tinted film in place

From the tinted or polarised film, cut out squares that are a little bit bigger than the cut-out squares in the central part of the sunglasses template.

Glue/tape/staple the film on the inside of the central part of the template.



The tinted film is fixed on the inside of the central part.

Option: If you need specially strong sunglasses (for instance for the experiment ‘Solar Art’, where you watch the spot of light of a magnifying glass), you can install more than one layer of the film.

1 Be aware that only half of the central part will be visible after folding.

Step 3: Finish the sunglasses

Fold the central part along the long side, forming the frame of the sunglasses.

Fold the left and right extremes of the central part downwards to attach the sunglasses' earpieces.

Attach the side parts with a clip (adjusting until you find the size which fits you best). If you want to keep the side parts fixed, you can glue/tape/staple them in place. If you prefer to keep them adjustable (for example if you use the sunglasses in a big event and you pass them on from one person to the next), you keep using the clips.



Short version: You can cut the overlapping parts of the sides .



Standard version: The sides fit with the central part.



Extended version: If someone has a rather big head, the side parts can be extended until the sunglasses fit.



Practical information

Time needed

About 40 min (if you include the designing and painting)

Age range

Valid for all ages

More information

You find some additional background information on the SDG Hub of World Scouting: <https://sdgs.scout.org/activity-type/diy-sunglasses>

