**Introduction**

Ultraviolet waves (UV), also called ultraviolet rays (UV), are invisible light. They cause sunburn and can damage your skin. How can you detect UV light? Follow the instructions on the other side.

**BluPrint**

A blueprint is made by dissolving two powders in water in a certain ratio: potassium ferricyanide and ammonium ferrocyanide. This liquid is dark green, but becomes clear yellow/green when spread on textile or paper. When exposed to UV, the iron solutions on the UV paper can become clear yellow/green, but contain UV rays and change the paper’s color. The energy of the UV rays will turn the pigment blue! This is exactly what happens on textiles or paper when you follow the instructions on the other side.

Careful!

Some iron solutions on the UV paper can be irritating, always wear gloves when you get in contact with the liquid or paper. And always wash your hands afterwards.

**Careful!**

Sunscreen will block UV light. With a sunscreen test you can discover to what extend the sunscreen on the other side will block UV light. Follow the instructions on the other side.

Careful!

Applying sunscreen to the paper will turn the UV rays into visible light. You can compare it to someone pushing you. In the movement, energy will be lost, resulting in the person that pushed you having less energy to perform this act again. The power of UV can be used in several ways: some compounds can absorb the UV energy and transform it into another form, others can be used to make a blueprint. The power of UV is also used for making a blueprint. This was used for a long time to make photocopies, before we had photocopiers.

**Careful!**

UV rays contain energy, which they will lose when they collide with something. You can compare it to someone pushing you. In the movement, energy will be lost, resulting in the person that pushed you having less energy to perform this act again. The power of UV can be used in several ways: some compounds can absorb the UV energy and transform it into another form, others can be used to make a blueprint. The power of UV is also used for making a blueprint. This was used for a long time to make photocopies, before we had photocopiers.

**Collecting folk remedies**

Do it together & find out how things work

**This is what you need to test sunscreen:**

- 2 pieces of UV-sensitive paper (Make them yourself with instructions on the website!)
- DIY sunscreen (instructions are also on the website)
- Regular sunscreen
- A device to keep track of time (stopwatch, watch, cell phone)
- A dark space or light-proof box

[togethersciencebus.eu](http://togethersciencebus.eu)
Test your sunscreen

With these instructions you make an testing device that makes UV from the sun visible. Discover if your sunscreen blocks UV and get started:

1. Carry out these instructions at a dark place, preferably inside. You can also make use of a light-proof box. We used a baking mold to create a dark place.

2. Always keep the UV sensitive paper in a dark place. **ATTENTION:** this paper contains a chemical substance, only touch it with gloves. Want to make this paper yourself? You can find the instructions at togethersciencebus.eu.

3. Put on a pair of gloves. Mark the strokes of paper, to know which one will contain what.

4. With the gloves on spread the sunscreen on the pieces, one by one. If you use a box, keep the strokes of paper in there in between, so that they will not catch any light yet.

5. Did you apply sunscreen to all your strokes of paper? Then remove the box & expose them to sunlight. With bright sunlight, expose them for 5 min. In the evening, or on a grey day 10 - 20 min.

6. Wash the sunscreen from the strokes of paper and let them dry.

7. Compare the results of the different strokes. The more the paper turned blue, the more UV it was exposed to.

8. Wash you hands afterwards, to make sure that any left-overs of the UV-sensitive chemicals are removed from your hands.

**Tip:** you can also compare the power of the sun:
- at different times of the day
- between days
- difference of shade/sun
Expose strokes for 5 min. each and watch the difference in the intensity of blue.