

No. 41



Let's Make Improvised Concave Mirror



Verify the nature of concave mirror



Point

Nature of Concave mirror and Sun rays



Materials



- Aluminum can (the bottom of can's shape should be concave) Ex. Beer can
- Abrasive (Metal Polish)
 - * Goods brand (PIKA-RU)
- Cloth (Kitchen paper is OK)
- Incense stick
- Tracing paper



※You can buy the tracing paper in the stationery store

✿Preparation for Equipment✿

Preparation

Polish the bottom of the can by cloth with abrasive (metal polish) until shiny.
*Approximately 10 mins polishing



✿Experiment 1✿

Image formed in Concave Mirror

1

Look at the image on the bottom of the aluminum can.



I have an inverted image!

✿Experiment 2✿

Concave mirror camera

1

From the dark room, spot the sunlight to the bottom of the aluminum can. Gradually move the 1cm cut tracing paper to the bottom of the aluminum can.



The triangular shape is the mountain that can be seen from Science Center of Education. The image is upside down.

2

Stop when you see the object, and then observe it.

✿Experiment 3✿

Catch fire with concave mirror

Focus the polished bottom of the can to direction of the sun. Slowly move the incense stick to the bottom of the can about 2cm closer.



You can see smoke !

* Catch fire when you move the incense stick closer to the brightest part of the aluminum can.

🌸 Progress 🌸

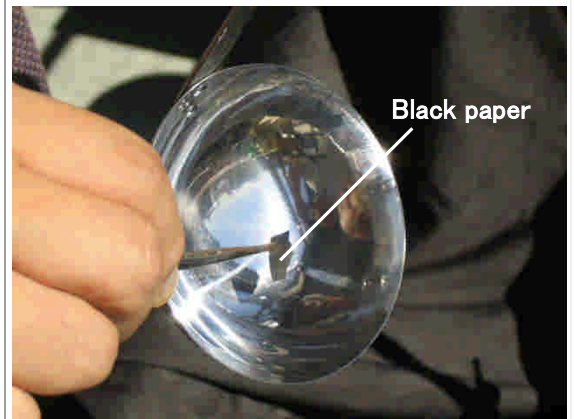
You can make the temperature higher by gathering the sun light. Can you guess any other things that can be used as concave mirror?



💡 Information

💎 The sun light is gathered using a concave mirror. When a black paper is put closer to it, the black paper will start to burn. The point of the sun light is the “focus” of a concave mirror. The image of sun light is formed in this point.

💎 Instead of the sun light, face the concave mirror into the distant scenery or object; you can see the same scenery or object.



Start to burn