

Topic	Health
Phenomenon	Wound healing
Experiment	Scab formation
Available material	1 cord (white) 1 cork tile 10 nails sheets of red paper 1 set of 4 illustrations of wound healing
Additional material	none
Preparation for experiment	With the help of the children, tear or cut the red paper into pieces that are not too small.

Research question

How does a scrape heal?

Description

Have the children ever fallen and scraped a knee or elbow? How does a scrape on the skin around the wound change over time? Can the children put the four illustrations of wound healing into the right order?

The children can also follow the healing of a scrape using a model. Have each group of children stick about 10 nails into a cork tile in a circle. The cord is tied around one of the nails and then criss-crossed between the nails – this creates a “spider web”. It becomes stabler if the cord is twisted at least once around a nail before taking it on to the next nail. If necessary, help the children with this, or the children can help each other. The end of the cord must be knotted. The red paper pieces are then “woven into” (pushed into) the cord network.

Explanation

Scrapes are injuries to the surface layer of skin. As soon as the body's tissues and smaller blood vessels are injured, the blood platelets and blood corpuscles clot in the wound. In addition, threads are formed from the coagulation protein fibrin. These then form a woven network (=“spider web” of cord) in which blood corpuscles are caught (= pieces of red paper). A blood clot forms. The clot becomes more solid to create a scab. This loosens and falls off once the skin and walls of the blood vessels are healed again. The process can also be compared with a hole in a wall. Where the masonry has been damaged (= scrape), a fence is built so that no strangers (= extraneous matter, germs) can enter. Behind the fence, hard-working carpenters build the wall back up again. Once the hole is completely closed, the fence can be taken down.