

Gross Science

STEAM Square Activity Sheet

Supplies Needed:

- Petroleum Jelly
- Tissue Paper
- Toothpicks
- Red and Yellow Food Coloring



Directions:

1. Rub a small amount of red food coloring into the back of your hand to give the look of reddened skin tissue.
2. Mix a drop of yellow food coloring into a tablespoon or so of petroleum jelly and stir it with a toothpick until it turns yellow throughout.
3. Apply enough of the jelly mix on top of the reddened skin to appear as a bubble of blister (see photo),
4. Put a piece of tissue paper on top and apply a very thin layer of vaseline to make transparent. Voila!

Questions:

- A. How does the blister act as a cushion and protectant on top of the reddened skin?
- B. What happens to the skin if the blister is popped?

Extension Activity Ideas:

1

EWWW

“pop” the blister by inserting a toothpick into the tissue paper. Be careful!

2

MONSTERS

Experiment with different colors to make monster or special effect blisters.

3

OTHER MATERIALS

What else could work as a synthetic blister filling or skin covering?

4

PRACTICAL JOKE

How could you use this experiment to trick your friends and family?

The Science of Blister Formation:

Have you ever worn a new pair of shoes or done a lot of bike riding on a hot day and ended up with a blister? There are other ways to form a blister, but these are just a couple examples. Blisters come in all shapes, sizes, and colors and can be from many injuries to our skin or caused by temperature, sickness, or disease. The typical blister is a round patch of elevated skin that contains a clear fluid, just like an experiment. Blistering usually occurs due to skin being damaged by friction or heat.

When the damage to the skin occurs, a space opens up between the skin's layers and blood vessels leak into the space filling with clear liquid usually consisting of pus and white blood cells. This fluid is usually clear for less serious injuries but can vary in shade and viscosity (thickness of the liquid).

Blisters act as a protective cushion to allow the injury to heal and lessen the risk of infection. Since blisters usually happen in the uppermost layers of our skin, they are usually harmless and will heal over time. With more serious blisters, like ones from burns, medical attention is necessary to make sure infection risk is lessened and that the skin can fully heal.

As mentioned before, this is not an extensive education on blisters, but more of an overview. If you have additional questions, please contact your doctor if it is about your own blisters, or a librarian to help you find some additional reference materials.

Questions

How do blisters compare to other protective measures we take for our body? Think about wearing a hat or sunglasses on a trip outside.

Should we pop blisters that happen on the skin? Why or why not?

References:

"Blisters." Encyclopaedia Britannica, Encyclopaedia Britannica, Inc, November 12, 2017. *Encyclopaedia Britannica Online*, <https://www.britannica.com/science/blister>.

Leonard, Colleen. "Wonderful Wednesdays is BACK! Types of Tissue Experiments!" Solgratiamom, 21 August 2014, <http://www.solgratiamom.com/2014/08/wonderful-wednesdays-is-back-types-of.html>

Shere, Jeremy. "What Are Blisters?" A Moment of Science - Indiana Public Media, 6 Mar. 2013, indianapublicmedia.org/amomentofscience/blisters.php.