

Lesson Plan

Description

Your skin is one of your first lines of defense against germs and things that can make you sick. In this experiment, you will notice how the skin of fruits and vegetables act as a physical barrier.

Learning Outcomes

Students will learn that their immune system has different levels.

Student will learn that the first level of defense against germs is our skin.

Materials

- Two similar soft fruit (tomatoes, plums, peaches, nectarines etc.)
- A plate or tray
- Toothpicks
- Hand lens
- Digital Scale
- Ruler

Action

- Make sure your two fruit have no cuts, scrapes or bruises.
- Wash your hands and then the fruit with soap.
- Weigh and measure the fruit first and note the weight and dimensions.
- Put each fruit on its own plate, tray, or piece of paper.
- Poke six holes in one of the fruits and leave the other fruit unblemished.
- Put the fruit in a safe place at room temperature where they will not be disturbed.
- Watch the fruit every day for at least a week. Record your observations.

Note any differences. Has the colour changed? Has the smell changed? Has the shape changed? Weigh and measure the fruit. You can choose to do this every day or wait until the end of the observation period. Think about what differences could be introduced if you handle the fruit every day.

When you have concluded your experiment, compost the fruit, or throw them in the garbage.

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Consolidation/Extension

What did you notice in this experiment? Was there a difference between the injured fruit and the non-injured fruit?

Explain what role the skin of the fruit plays in protecting the fruit and how that related to our own skin.

Could you design an experiment to see if wound size matters? Could you “treat” the wounds with bandages or antiseptic to see if that will help?

Try the experiment again, but this time ask someone who has not washed their hands to touch the two fruit. How long does it take for the fruit to show signs of “infection”?

Accommodations/Modifications

Students can use illustrations to show how their fruit have changed over time.

This can be done as a classroom experiment do reduce food waste.

Assessment

Use the students’ report and the answers to the questions above to assess the students’ understanding of what skin does.

Additional Resources

Achoo! The most interesting Book You’ll Ever Read about Germs, Trudee Romanek, 2003
 Skin Shield – Exploratorium Science Snack: <https://www.exploratorium.edu/snacks/skin-shield>