

# Immune System



## What You'll Need:

- 1 apple
- 3 jars with lids
- Masking tape, labels, or blank stickers
- A marker
- dōTERRA On Guard® Foaming Hand Wash



## What You'll Do:

1. For this experiment, you will be seeing how washing your hands influences the presence of environmental threats. Before starting your experiment, take a moment to answer questions 1–3 on your "What You Discovered" worksheet.
2. Using the masking tape and a marker, make three labels: one that says "Control," one that says "Hands Not Washed," and one that says "Hands Washed."
3. Have a parent cut the apple into three slices.
4. Carefully place one apple slice in a jar, taking care to touch it as little as possible or not to touch it at all.
5. Screw the lid onto the jar and place the "Control" label on top.
6. Go play for several minutes, touching as many toys and objects as possible.
7. Now touch one of the remaining apple slices, rubbing your hands all over it.
8. Place the touched apple slice into a jar and screw on the lid. Label this one "Hands Not Washed."

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9. Next, carefully wash your hands using dōTERRA On Guard® Foaming Hand Wash. Be as thorough as possible, cleaning between your fingers, under your nails, and all the spaces on your hands.
10. Rub your hands all over the remaining apple slice and place it in the last jar.
11. Put the lid on the last jar and label it "Hands Washed."
12. Check on your apple slices every day for a week, writing down your observations on question 4 of your "What You Discovered" worksheet.
13. After a week, take the lids off of all of the jars and use your observations to complete your "What You Discovered" worksheet.



## What Does It Mean?

You are surrounded by environmental threats every day. Your immune system works hard to protect you from these environmental threats. Thanks to this experiment, you were able to see some of these environmental threats growing on apple slices and the influence washing hands has on the potential invaders around you. Taking time to wash your hands and use other practices that support your immune system is important to helping you stay healthy.



## What to Do Next:

- Repeat the experiment using dōTERRA On Guard® Sanitizing Mist instead of the hand wash to see if your results differ.
- With your parent's help and permission, share pictures of your apple slices on social media. Make sure to use the hashtags #doterrascienceforkids and #featureme for a chance to be featured on the dōTERRA® Science Facebook page.



## What You Discovered:

*As part of your immune system experiment, answer the questions below.*

- 1.** What do you think will happen after the apple slices sit out for a week? Write down your hypothesis.

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- 2.** Which apple slice do you think will have the greatest evidence of environmental threats growing on it?

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- 3.** Which apple slice do you think will have the least evidence of environmental threats growing on it?

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- 4.** Check on your apple slices every day for a week and write down your observations.

**Day 1** 

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**Day 2** 

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**Day 3** 

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**Day 4** 

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**Day 5** 

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**Day 6** 

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**Day 7** 

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## Continued...

5. Which apple slice had the greatest evidence of environmental threats growing on it after a week?

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6. Which apple slice had the least evidence of environmental threats growing on it after a week?

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7. How did your results compare with your predictions?

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8. What is one way you can help protect yourself from environmental threats?

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9. Why is your immune system so important?

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