

Ants- Where do they Go When it's Cold?

1st Grade

Testable Question: How does cold temperatures affect ants?

Prediction: I think that the cold temperatures will make the ants want to build some nests and they will hide.

Procedure:

1. Obtain ants and place them in their ant farm.
2. Feed and give water to the ants so that they get used to their new home.
3. Observe and record their behaviors when it is room temperature.
4. Place the ant farm in the refrigerator for 15 minutes and observe the ants behaviors.
5. Take ants out of the refrigerator and take care of them as normal.

Background:

I chose this project because I went outside in the cold and wondered where all the ants went.

In my research I found out that ants are cold-blooded. This means that their temperature is whatever the temperature is around them.

This project is important because I really wondered why. I see ants out in the summer and spring all the time, so where did they go in the winter? Ants also are important because they clean up areas. There would be a lot of rotting food around if ants weren't there to bring it back to their tunnels and eat it.

Constant Conditions: 10 pts - Identify your independent variable, dependent variable, and constant conditions. Be sure to measure in metric measurements.

Independent Variable: The temperature.

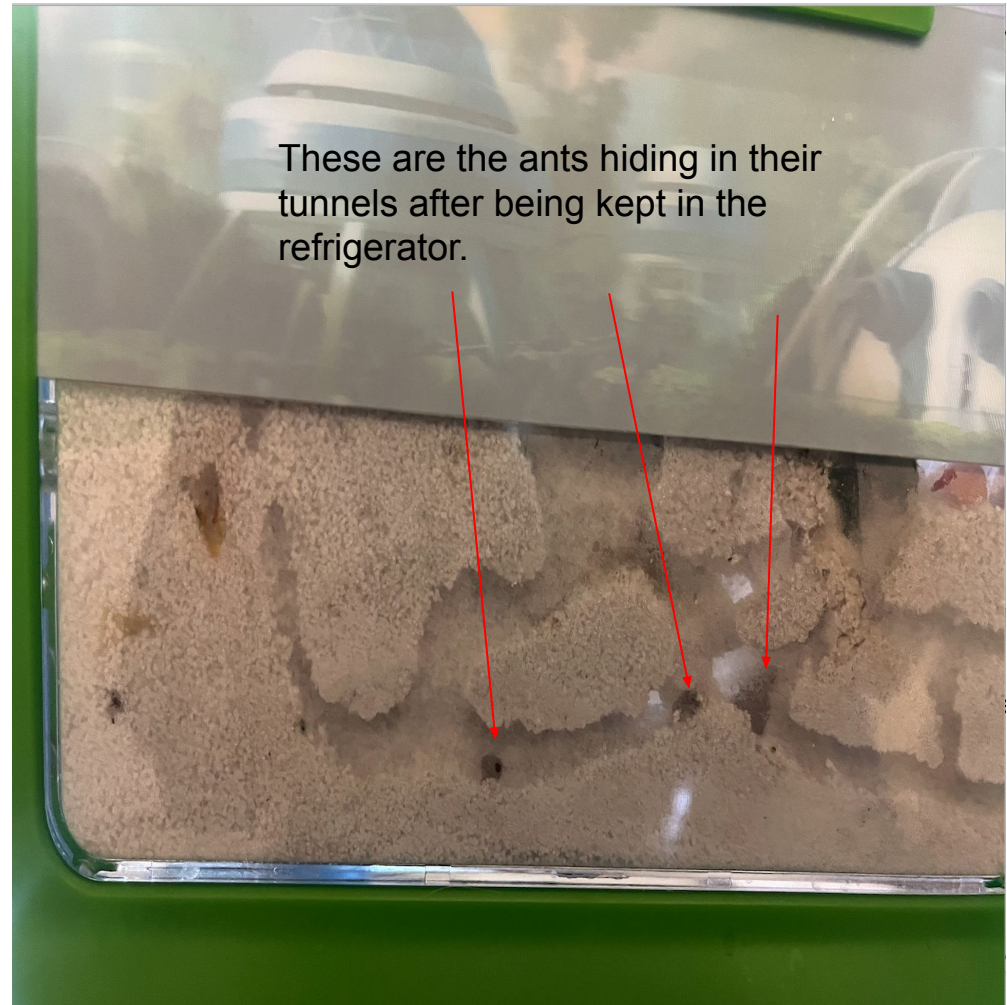
Dependent Variable: Observing the ants behavior.

Constant Conditions: Food, water, and shelter are all kept the same.

Data and Trials: 3/8/22, 3/9/22, 3/10/22 (Same results each day)

At room temperature (68-70 degrees fahrenheit), the ants built many tunnels into the sand. They worked together to build these. They would eat and would grab stuff with their jaws and move it around the farm. They crawled all over the top and were in and out of the tunnels.

While in the refrigerator (40 degrees fahrenheit), the ants went into their tunnels. They were at the lowest part of their tunnels. They were barely moving but I could tell they were alive because their antennae moved some and so did their legs. They were not eating.



Conclusion and Reflection:

I found out that they won't build something new to stay warm, they hid in the tunnels that they already made. They must build the tunnels in the spring and summer and then use them in the winter when it is too cold.

I was surprised that they weren't moving around like normal.

If I did this project again I would like to see how the ants react to it being really hot. I also wonder how long they can stay underground and not moving. I think they may go into a type of hibernation in the winter. I know many animals do this.

Safety Plans

I made sure that the ants were safe and fed with water and shelter.


I made sure we did not keep the ants in the refrigerator for too long.

I did not handle the ants.

Academy of Science - St. Louis Science Fair **2022 SAFETY FORM & RULES**

The parent/guardian and teacher supervising science fair project will use their best judgement to ensure safety of the student and subjects (human or animals) following the guidelines below.


Parents/guardians and teachers supervising the science fair project assume responsibility for the safety of the student and any test subjects involved in the project.

**SAFETY FORM & UPLOAD**

IMPORTANT FOR 2022: Teachers send e-mail approval to student reviewing research plan and safety.

Students, complete this form.
Parents/Guardians sign this form.


Upload as part of the logbook.

**BACTERIA/VIRUS
FIRE/HAZARDOUS
MATERIALS/POWER TOOLS**

IMPORTANT FOR 2022: Projects will NOT be allowed that handle, test, or sample bacteria, virus, mold, fire (or burning objects) or hazardous materials. Power tools can only be handled by parent/guardian or teacher.


Students may, instead, submit a research paper in the NEW "Research Paper Division" where students can study **reliable data**. See website for details.

(Again, NO handling, sampling or testing of bacterio, virus, mold, fire (or burning objects) or hazardous materials allowed). NO testing water fountains, door handles, cell phones, etc.


**TEAMS & CLASS PROJECT**

IMPORTANT FOR 2022: Students may NOT work in teams. Each project submitted will be an individual project with student on each project.


Teachers may submit a class project for Grades K, 1, 2, 3, 4. For class projects, the teacher will facilitate the project in class or via zoom or their on-line platform.


**GUNS/DRUGS/ALCOHOL**

No experiments will be allowed using firearms. No guns or firearms of any kind. No Nerf guns or Nerf bow and arrows. No slingshots. Experiments using prescription drugs, illegal drugs or alcohol will NOT be allowed.

**ANIMALS**

No animals (this includes invertebrates) should be harmed or caused pain.

**EYE PROTECTION:** Safety glasses should be used for any experiments with house cleaners or if any kind of splash or particles may come in contact with your eyes.

**PARENT/GUARDIAN SIGNATURE:** I acknowledge that the above safety precautions will be followed and that this project will be completed in a safe manner. I also acknowledge that no humans or animals (vertebrates or invertebrates) will be harmed in any way.

in & upload with logbook

STUDENT NAME: Lance Kee

Received e-mail approval for this project from teacher on this date: 2/3/22 TEACHER'S NAME: Chris Huande

PARENT/GUARDIAN SIGNATURE: Nicole Kee

PRINT PARENT/GUARDIAN NAME: Nicole Kee

If you have questions, contact your teacher or peggyn@academyofsciencestl.org