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In the kit you will find all the materials you need to carry out the ant picnic experiment. The only things you need to find yourself are a pencil, a watch, five glasses or other containers, a teaspoon, some warm water from the tap and a cell phone with a weather app or a thermometer. At the end of the experiment you need enough space in your freezer for the ants. Then you are ready to begin.

CHECK THAT YOU HAVE EVERYTHING FOR THE EXPERIMENT

From the kit:

- 4 small bags of sugar labelled 5%, 10%, 20% and 40%
- Cotton wool, which has to be divided into 5 pieces
- 5 labelled bait cards
- 6 skewers
- 1 sign 'Laufendes Experiment' (Experiment in progress)
- 1 data sheet
- 5 big ziplock bags
- 5 containers with ethanol in which to send the ants you catch
- 1 set of forceps
- 1 microclimatelogger & metal rod to make a hole for the logger (To measure the temperature in and just above the ground; Attention - please treat with care)

Furthermore:

- 1 cell phone with a weather app or a thermometer
- 1 pencil
- 1 teaspoon for stirring
- 5 containers or drinking glasses
- 500 ml warm tap water to dissolve the sugar

8. COUNT AND SORT YOUR FINDINGS (THE NEXT DAY OR AFTER THE WEEKEND)

- Take one bag at a time from the freezer. Remove the card, bait and cotton wool from the bag. Make sure you don't discard any ants! Count the ants and write the result in your data sheet.

9. PUT THE ANTS IN THE CONTAINERS WITH ETHANOL

- Take the ethanol container, that matches with the sugar concentration in the ziplock bag.
- Carefully transfer the ants into the ethanol container using the forceps.
- Make sure the lid is tightly screwed on.

10. CLEAN UP

- Wrap all the ethanol containers, with and without ants, with some toilet paper or tissue. Place them in a ziplock bag, so they're protected.
- Clean the microclimatelogger so it's ready for the pitfall experiment.

11. ENTER YOUR FINDINGS ONLINE

- Enter your findings on www.mikrosafari.de. Please enclose the data sheet in the envelope with the ants.

12. WAIT FOR THE RESULTS

- Scientists will analyse your findings and tell you what species you have found. We're looking forward to seeing what you found. Thank you for your help!

THIS PROJECT IS SUPPORTED BY

CARLSBERG FOUNDATION

MICROSAFARI

ANT PICNIC



Deutsches Zentrum für integrative
Biodiversitätsforschung (iDiv)
Halle-Jena-Leipzig



ANT PICNIC

In the ant picnic experiment we want to understand how ants search for food and resources:

- Which species live near your school?
- How many different ant species are there near your school?
- Under which environmental conditions are the ants most active?
- Can the ants discover the best resources?

This is how you do the experiment: Offer the ants sugar-water in different concentrations. Continuously count how many ants are on the different sugar baits. After two hours, count the ants and collect them all. Freeze the ants overnight, submit your findings online and send the ants to the scientists. Your data and the ants are connected: Without the data, we can't use the ants. Without the ants, we can't use the data - it is therefore important that you both enter your data through www.mikrosafari.de and also send your ants to the scientists.

The experiment works best if it is a warm and sunny day without too much wind. However, the experiment can be carried out as long as it isn't raining heavily.

In this brochure you will find detailed instructions on how to carry out the experiment. On our website www.mikrosafari.de you can also find videos on how to do the experiment and you can read more about MikroSafari. There you will also find short stories, identification help and inspiration on how to explore nature- take a look!

We're looking forward to seeing what you find!

Thank you for participating in our science project. Have fun!

All the best –

Julie & the MikroSafari Team

1. PREPARE THE PICNIC EXPERIMENT

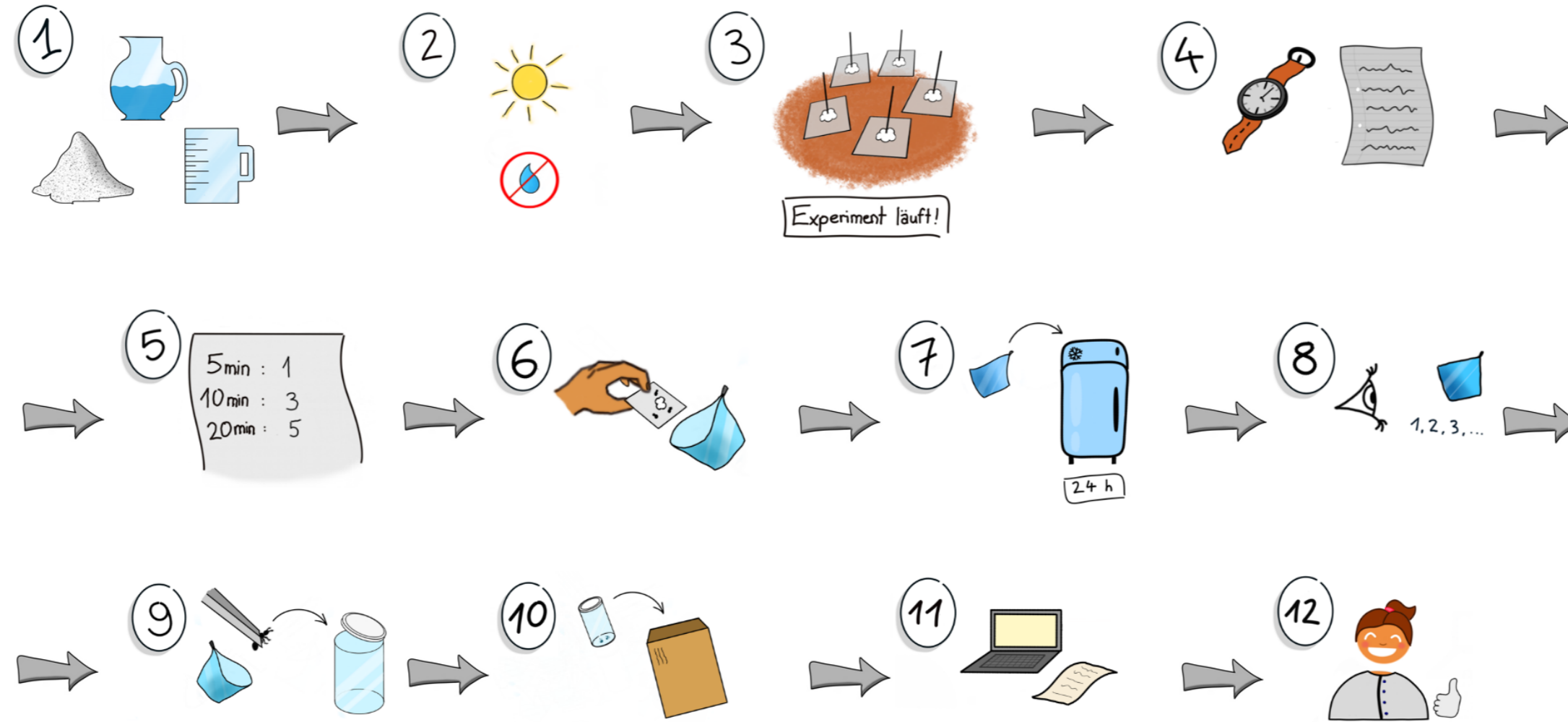
- Pour 100 ml of warm water into each of the 5 containers. Pour the contents of each of the 4 sugar bags into 4 of the containers and stir until dissolved. The last container is for pure water. Make sure you know which container contains what – write on the containers or place them on a piece of paper where you write 5%, 10%, 20%, 40% sugar and 0% sugar = pure water!
- Separate the cotton wool into five pieces and pierce each piece with a skewer.

2. FIND A GOOD SITE FOR YOUR EXPERIMENT

- Where is the best place for your ant picnic experiment? Look around. The location should, if possible, be sunny, so the ants are active. Try to find locations with different amounts of wind- and plant cover.
- Decide where you want to do the experiment and bring everything to the site.

3. SET UP THE ANT PICNIC EXPERIMENT

- Set up the microclimate logger by making a hole in the ground with the metal rod. Then place the climate logger in the hole. Make sure the entire green part of the logger is in the ground.
- Prepare the 5 bait cards.
- Put a skewer with cotton wool in each of the sugar-water and water containers to soak the cotton wool then place the cotton wool in the center of the bait cards so that you can pierce the cards with the skewers. The cotton wool must be completely soaked, but not dripping!
- Do not squeeze the cotton wool!
- Place the 5 bait cards in a circle on the ground with ca. 10 cm between them.
- Use the last skewer for the „Laufendes Experiment“ sign and place it near your experiment.



4. WRITE DOWN YOUR PROJECT DETAILS IN THE DATA SHEET

- Give your experiment a cool name.
- Write down the date and the time you began the experiment.
- Write down the number on the climatelogger (Climatelogger ID).
- Write the address or the GPS-coordinates for your experiment in your data sheet. You can get the coordinates from your phone or wait with this step until you enter the information online.
- Describe the surrounding habitat (e.g. sunny flowerbed beneath a hedge, or something like that).
- On page 2, note down the weather conditions. You can get the air temperature from a weather app on your phone or use a thermometer.

5. OBSERVE THE ANTS

- Count how many ants are on the baits after 5, 10, 20, 40, 80 and 120 minutes. Write the numbers down in your data sheet.
- If there are many ants, an estimate is sufficient. Attention – do not disturb the ants, if you do, they will run and hide!

6. COLLECT THE ANTS AND WRITE DOWN INFORMATION

- After 120 minutes quickly pick up one card at a time and place them, card, skewer, bait and all in separate ziplock bags. Quickly close the bags, ensuring that there is a little air in them so that the ants don't get squashed.
- Write down the end time of the experiment (when you picked up the ants) in your data sheet.

7. PLACE THE ANTS IN THE FREEZER

- Place the bags with the ants in the freezer overnight. This is necessary in order to accurately count the ants and identify the species.