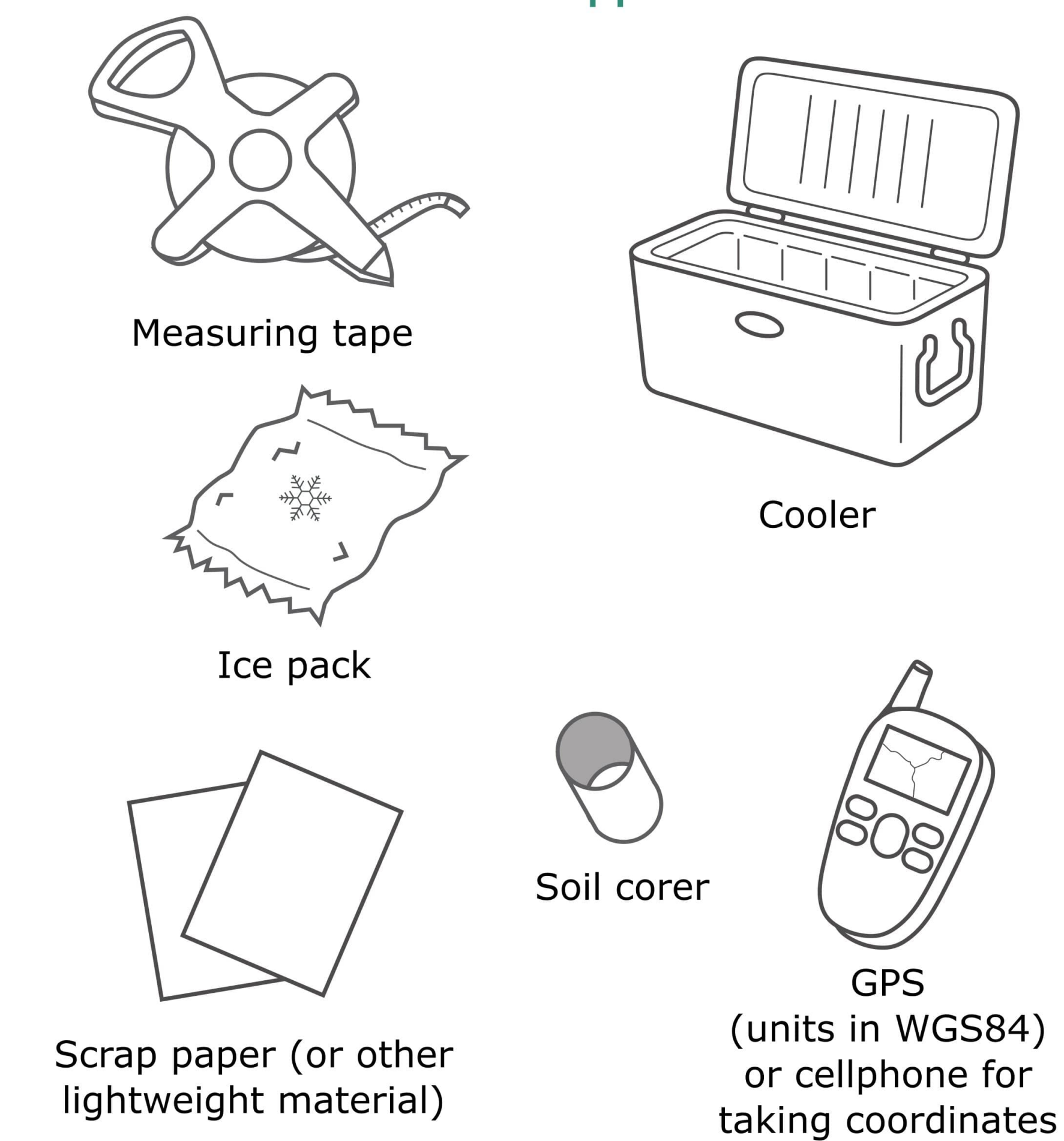


You will need

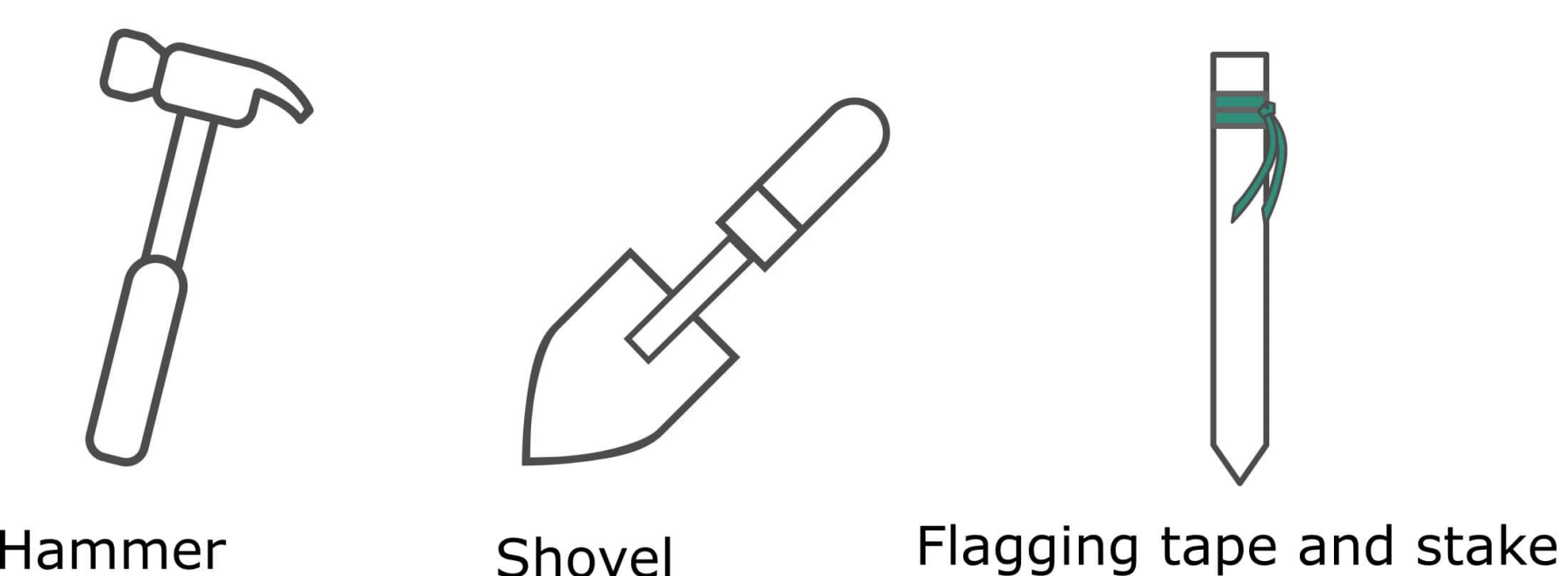
Soil BON kit



Your own supplies



Optional



Shipping Information

Please check:

- Do you have the signed MTA?
- Have you already contacted SoilBON?

SoilBON

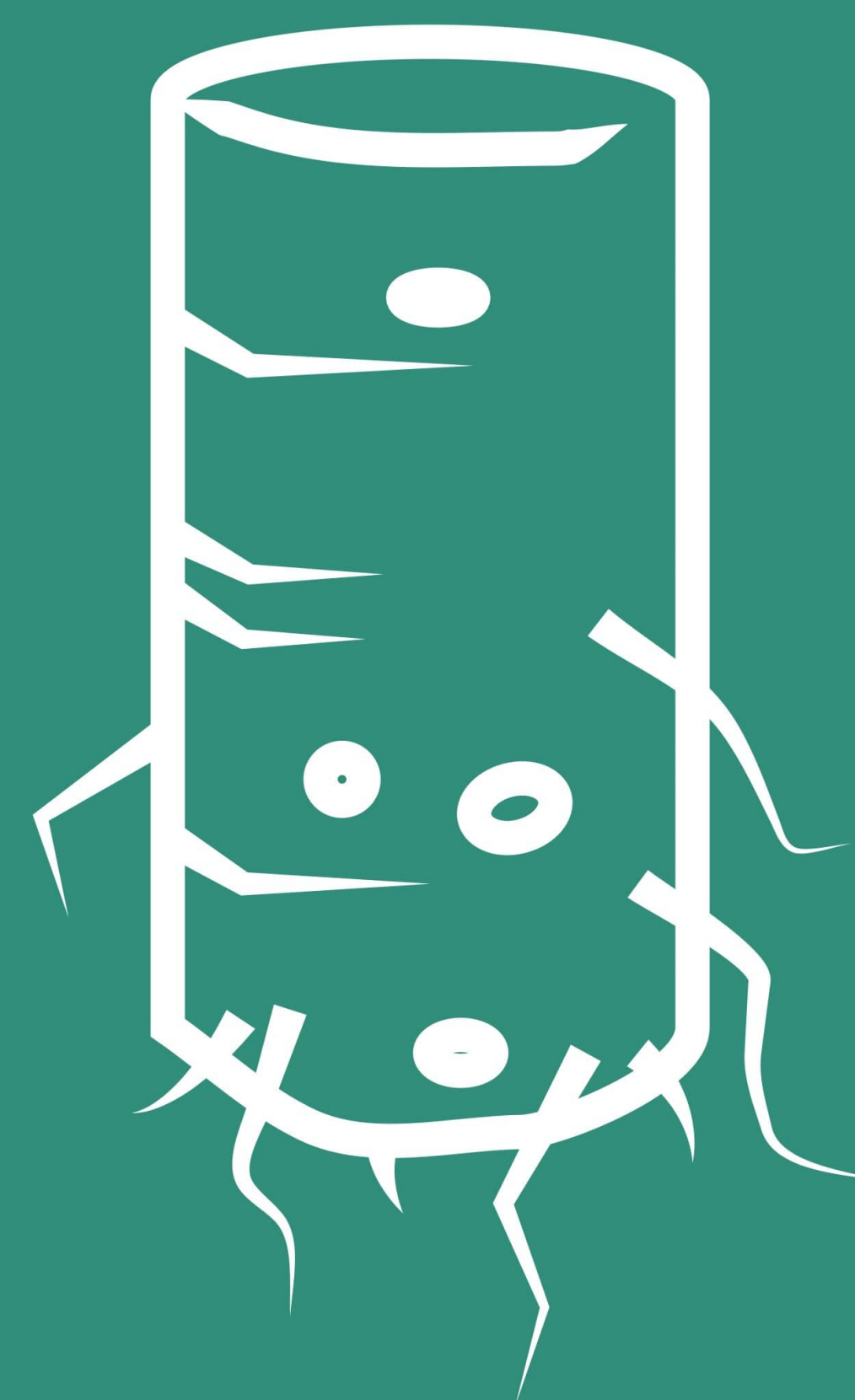
German Center for Integrative Biodiversity Research (iDiv)
Puschstraße 4
04103 Leipzig
Germany

Partners



GEO BON

Soil BON Field Sampling Protocol



Soil BON

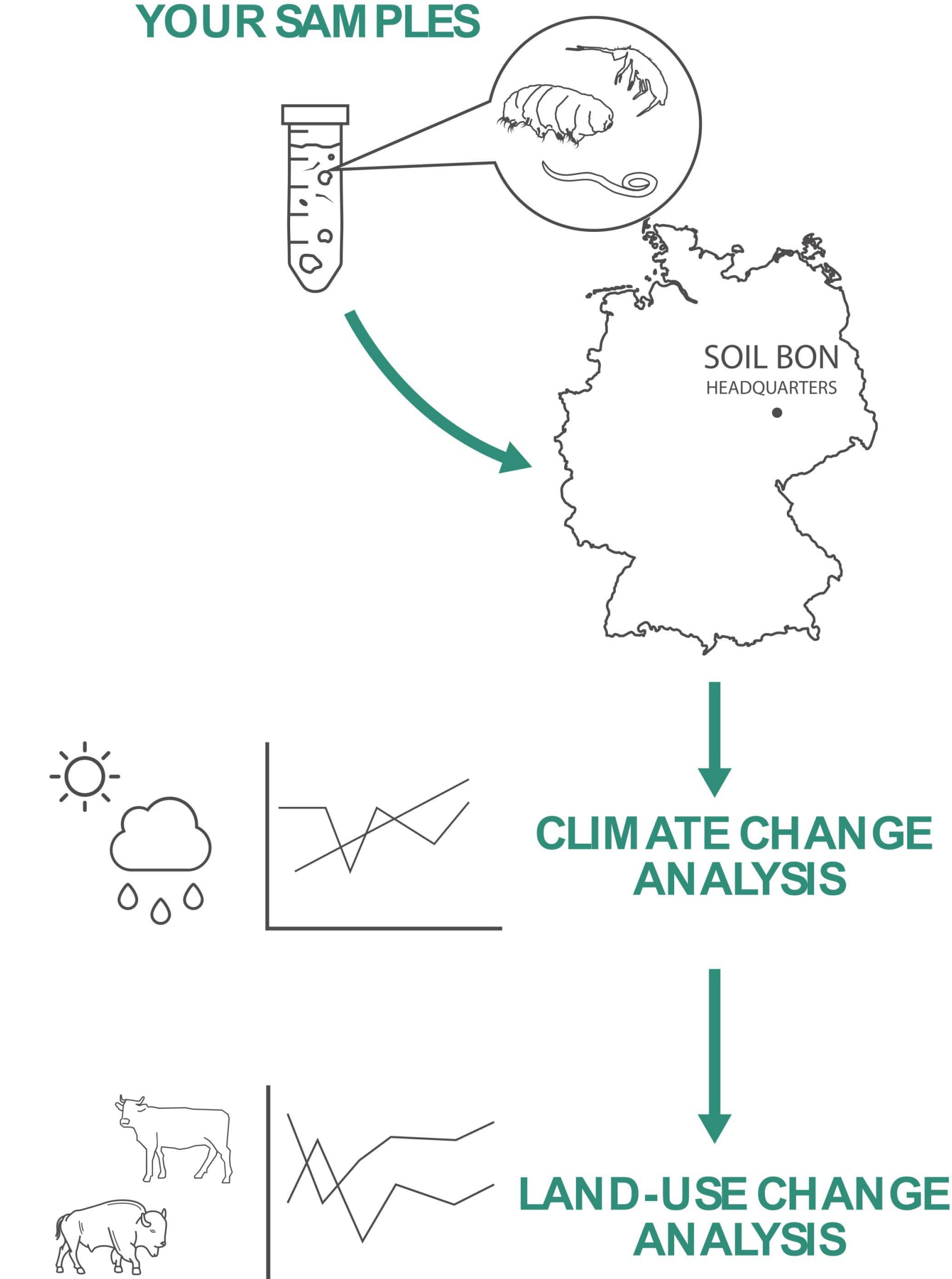
For more information visit our website
geobon.org/bons/thematic-bon/soil-bon/

Why am I collecting soil samples?

Soil organisms and ecosystem functions are poorly represented in macroecological analysis with extensive geographic and thematic gaps undermining our assessment of soil ecosystems worldwide. We aim to establish the first global soil biodiversity observation network to not only reduce the geographic gaps in knowledge but also to provide support for the development of new monitoring systems and allow to assess trends in soil biodiversity and ecosystem functions. Constituted as a global Soil Biodiversity Observation Network (Soil BON), we are working in partnership with the Global Soil Biodiversity Initiative (GSBI) and other global and regional partners to make available the soil biological and ecosystem observations needed to ensure living soil resources are sustainably conserved and managed and can support essential human needs.

Soil BON partners represent a range of stakeholders, including researchers, educators, and policy advisors from academic, governmental, and private sectors. The goal is to further connect multinational partners and initiatives in a worldwide effort to understand soil biodiversity, document how it is changing, how these changes affect people who rely on soil living resources for their well-being and livelihoods. We aim to get two representative samples from one managed (typically farmland) and one conservation area. For more information visit our website.

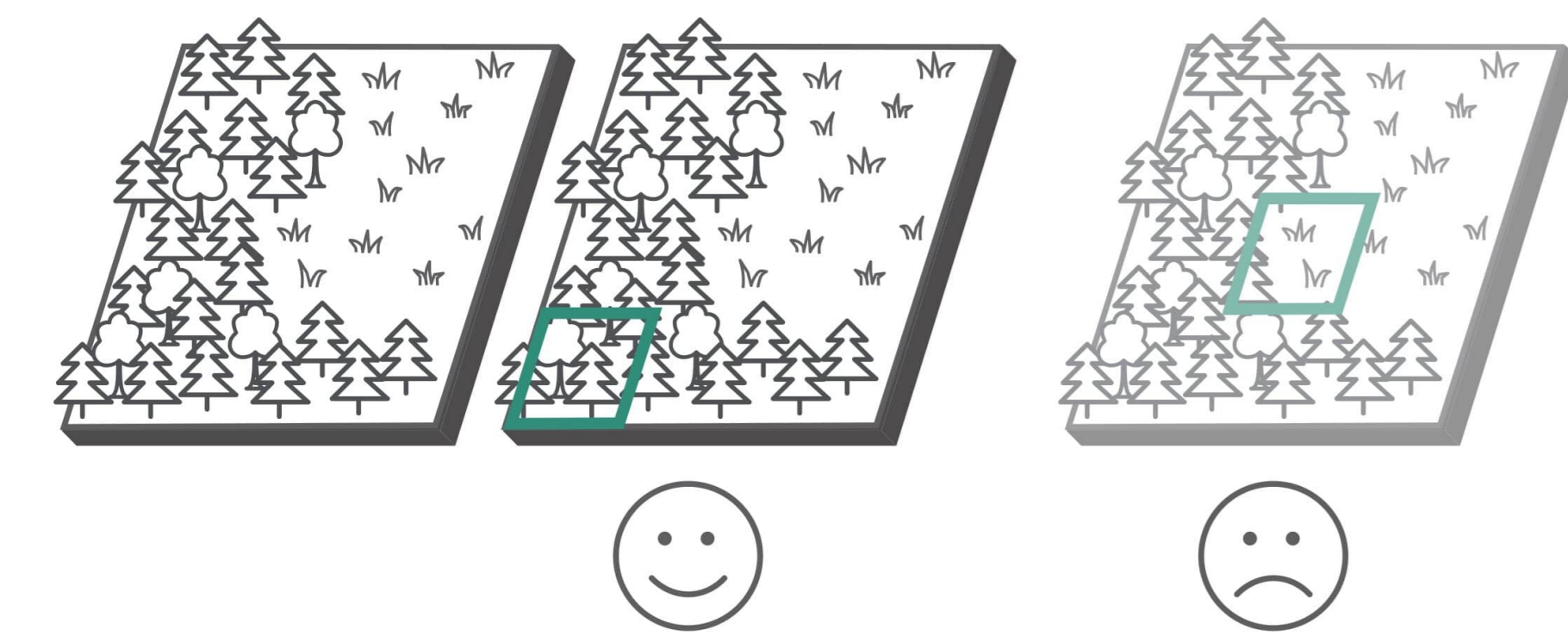
YOUR SAMPLES



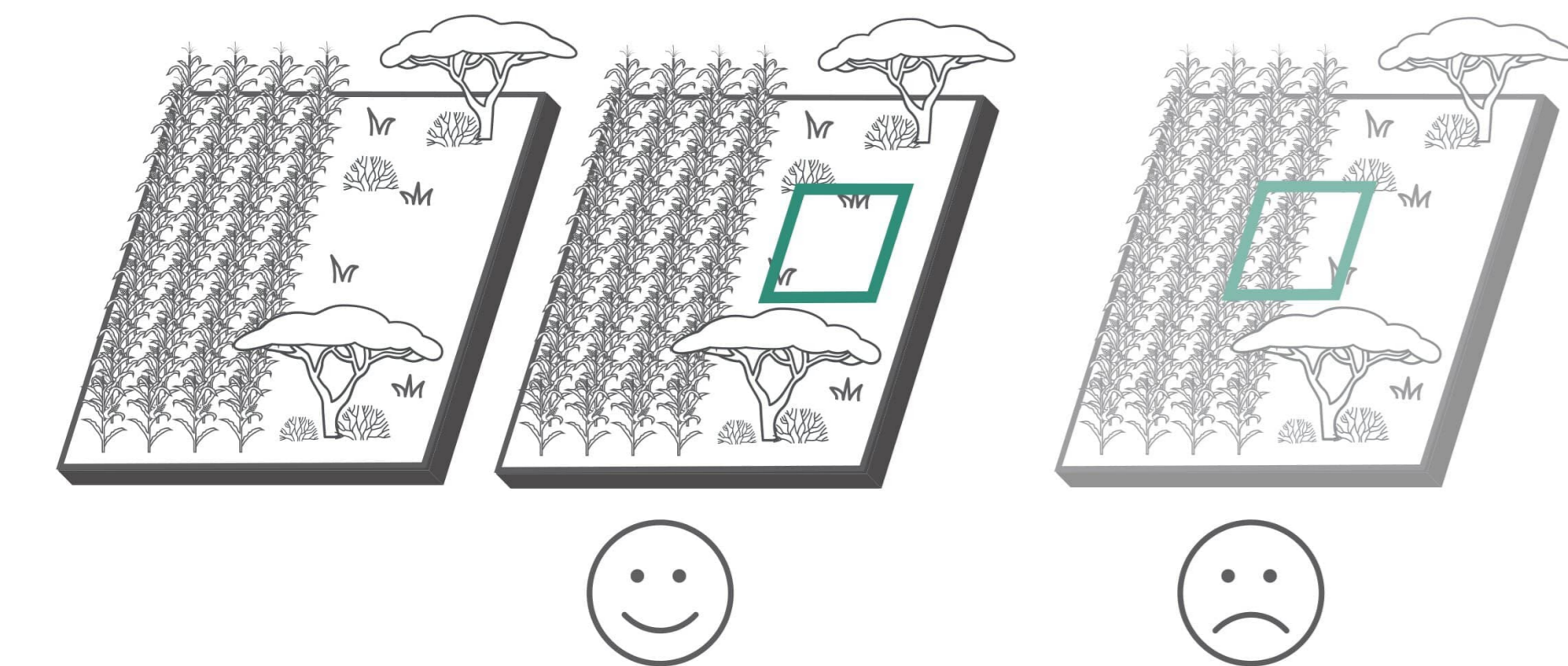
Establish plot

1 Identify the correct location for your plot. Samples should be from a single habitat type, not a transit on.

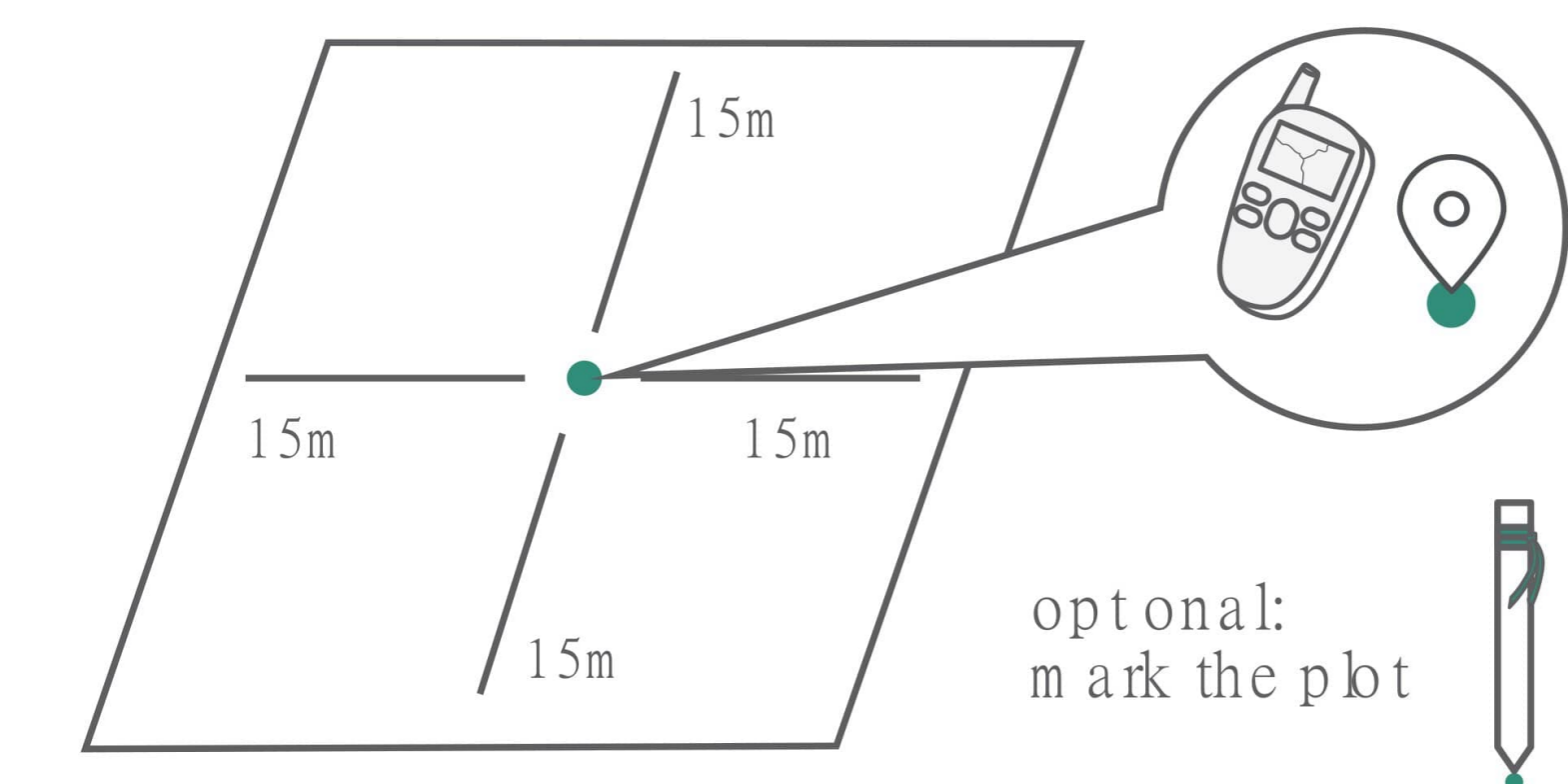
Example 1: Sampling in boreal forest adjacent to grassland.



Example 2: Sampling in savannah adjacent to cropland.



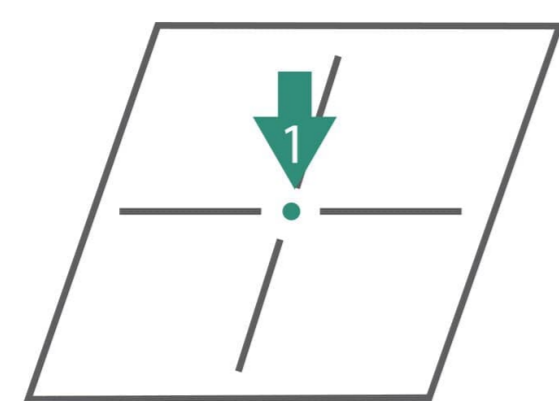
2 Define the central point of the plot and take GPS coordinates. Ensure LAND USE sample homogeneity across 9 subsamples.



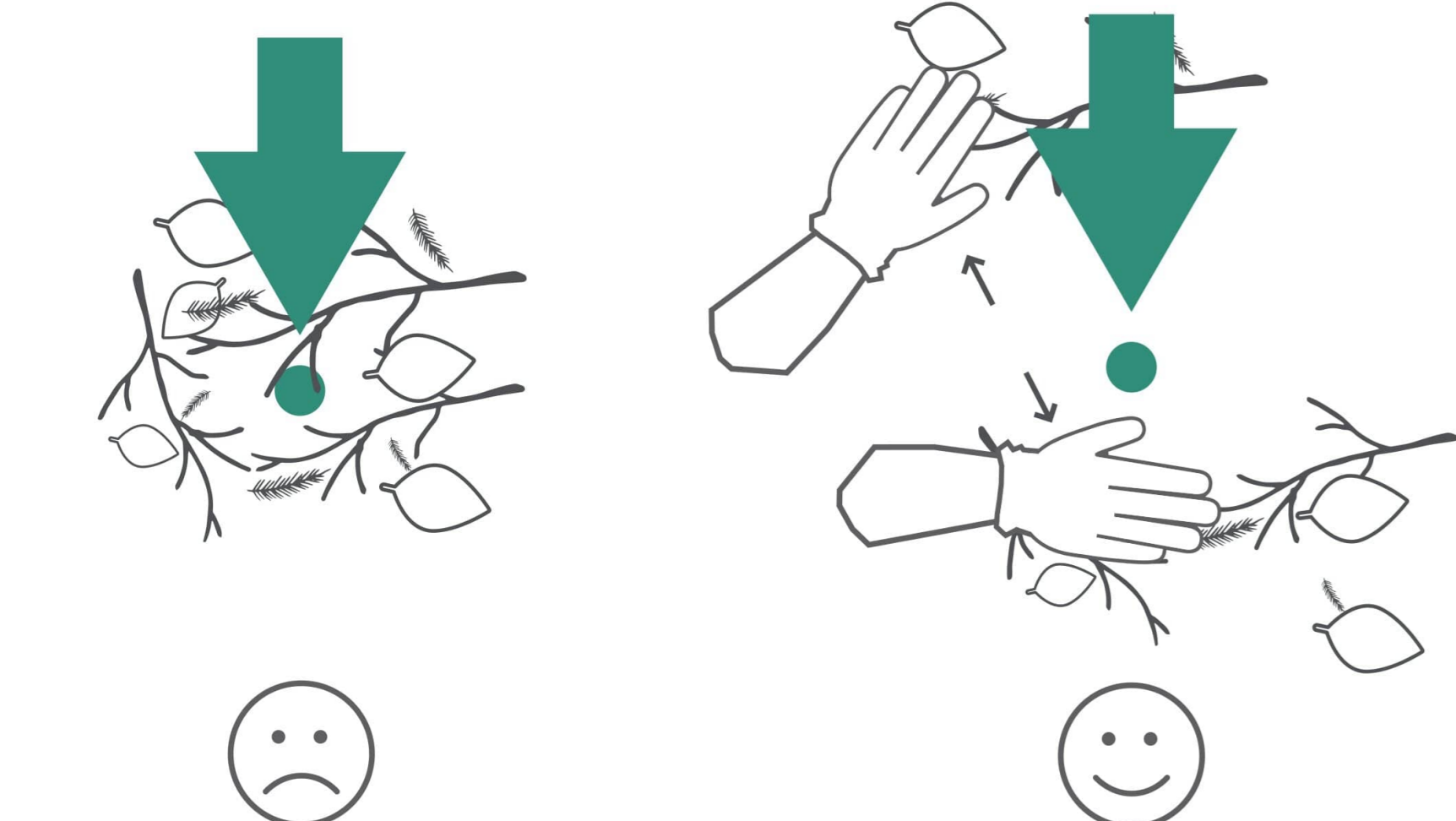
Collect samples

Please organize your sampling only when you are able to ship the soil within one week from sampling.

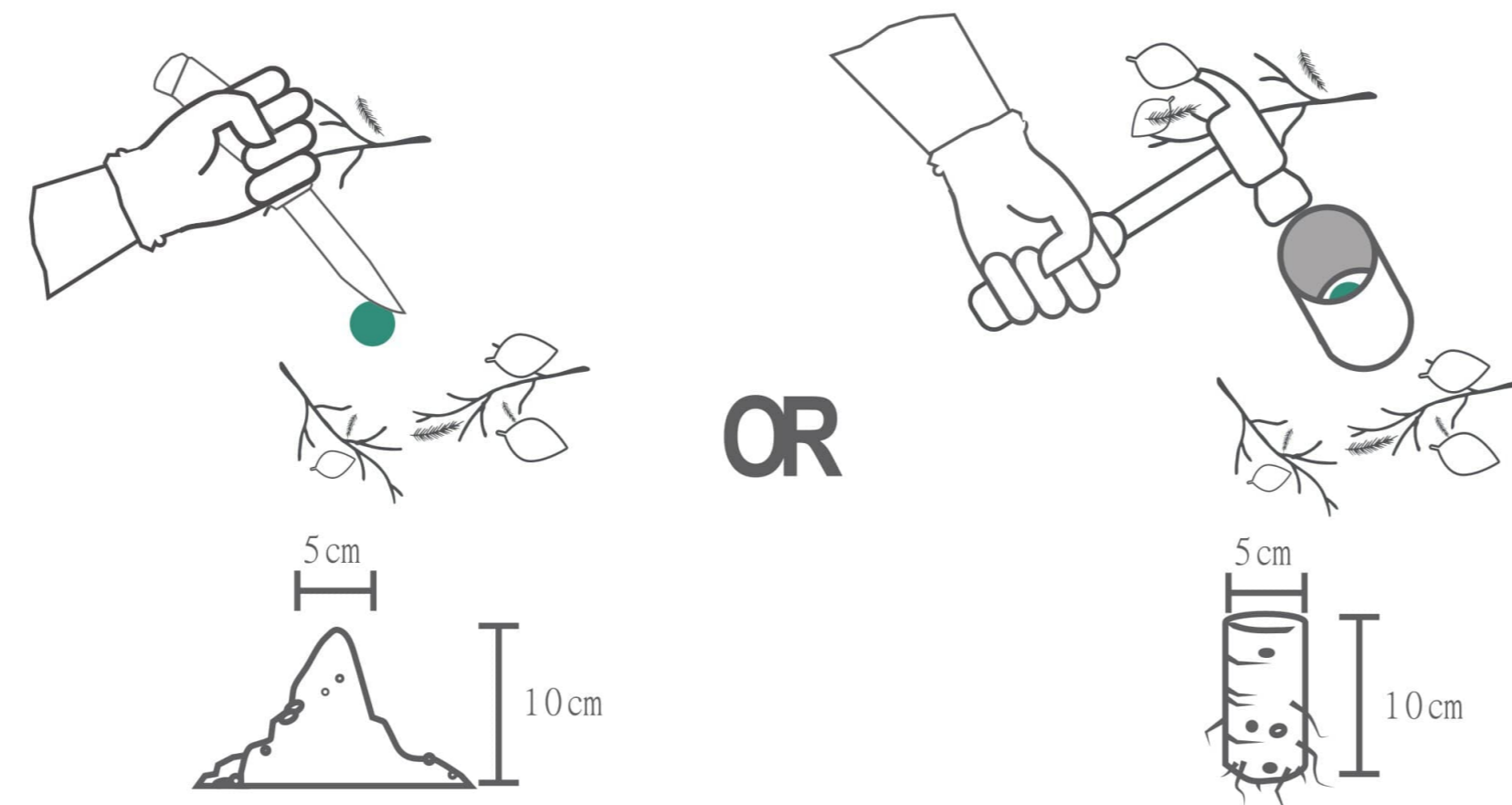
1 Start at the central point of your plot.



2 Put on gloves and remove loose litter layer.

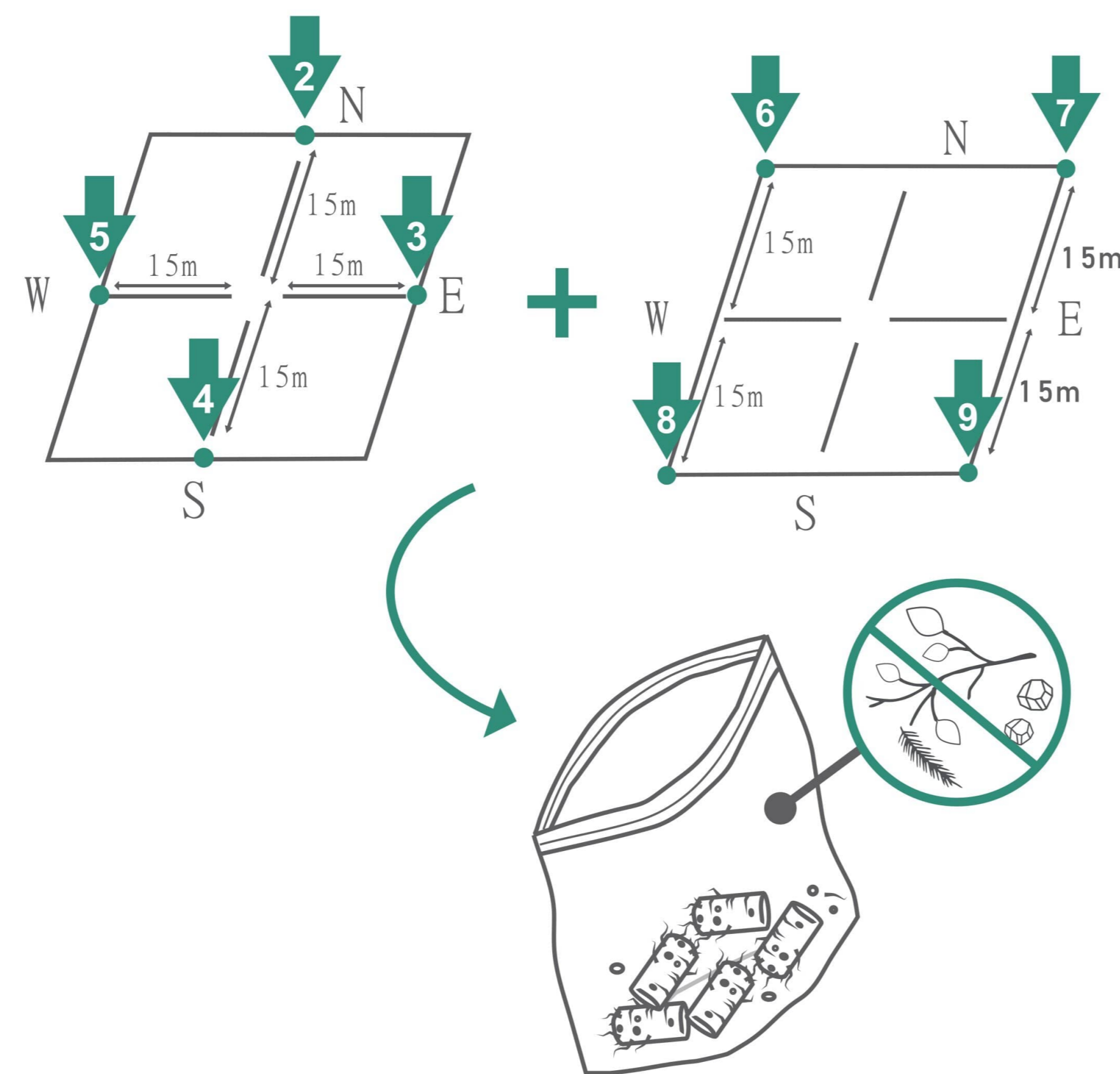


3 Using the metal soil corer and/or a knife, hammer, or shovel, extract soil with volume 5 cm diameter and 10 cm depth.



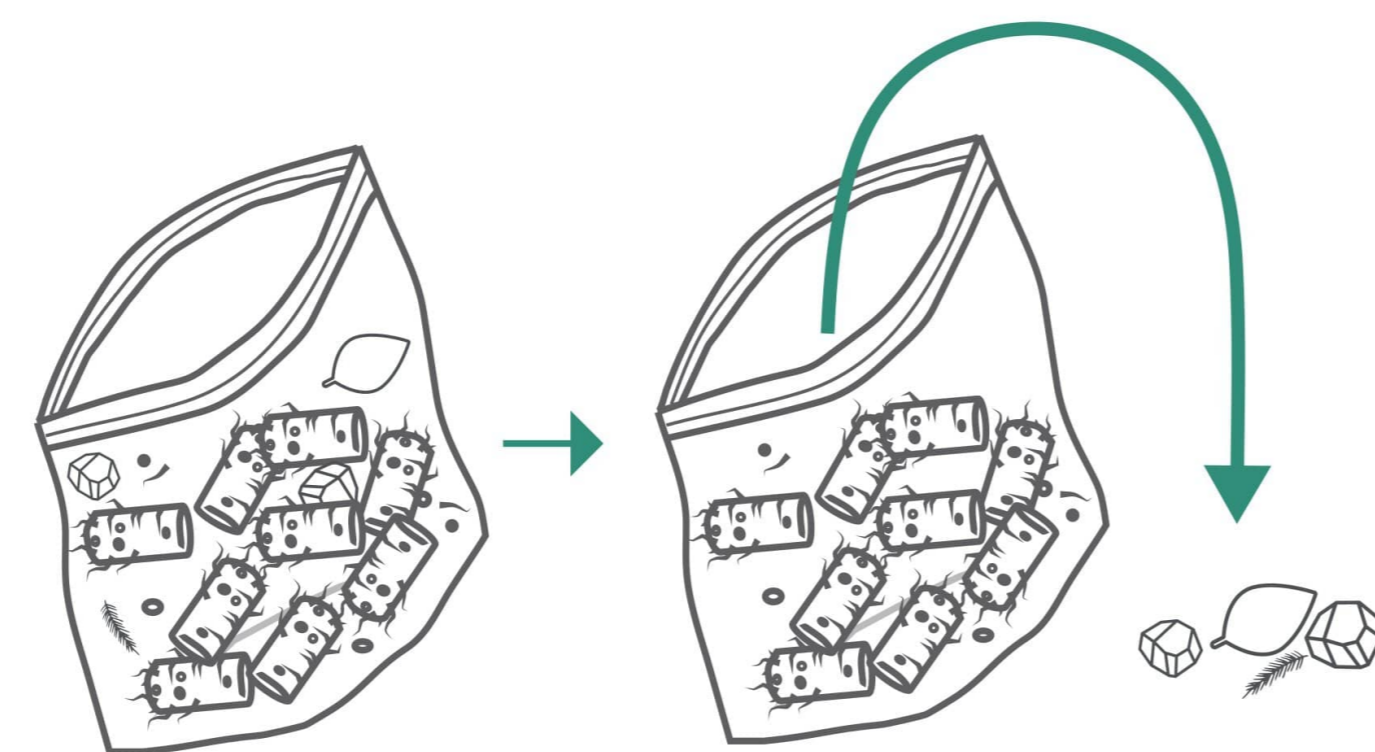
4 Place the soil in the plastic bag.

5 Repeat steps 2-4 at sampling points 2-5, then at points 6-9. Remember to use the same plastic bag each time. By the end of this step, you should have nine samples in one bag.



Homogenize samples

1 Remove any aboveground vegetation (leaves, twigs, moss, grasses, etc.), big rocks and big animals (bigger than a thumb nail). Remember to leave roots in!

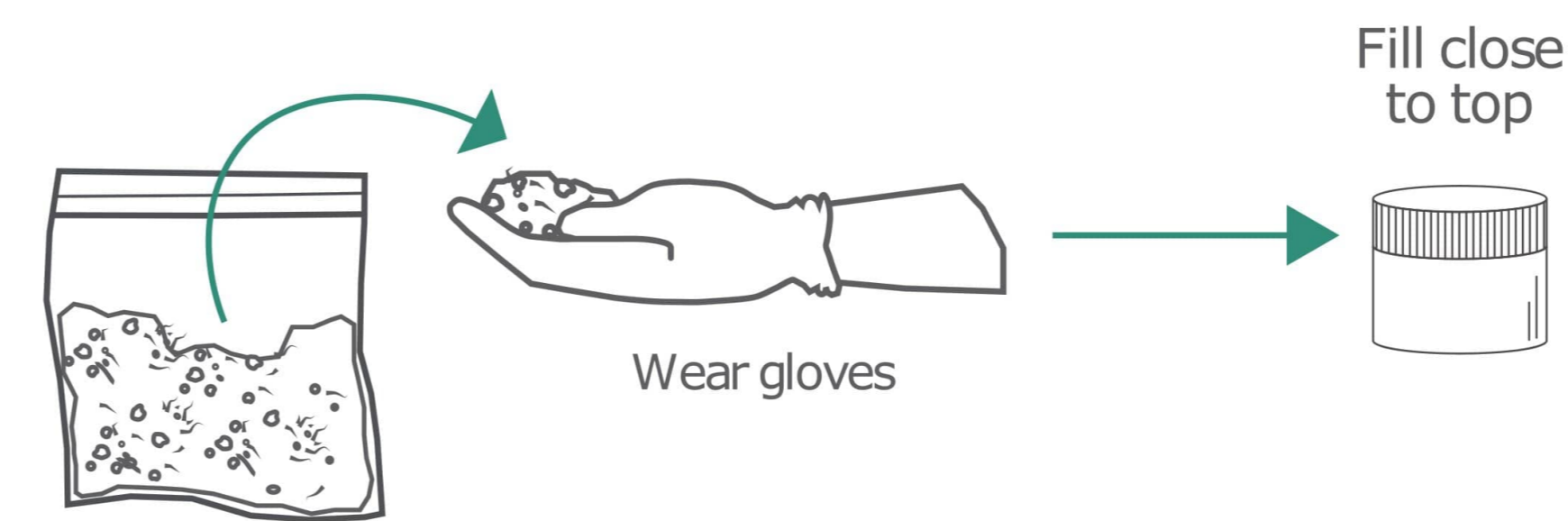


2 Close the bag and rub it from the outside by hand. Mix the samples thoroughly but gently so soil becomes a homogenous mixture, but soil aggregates are maintained.

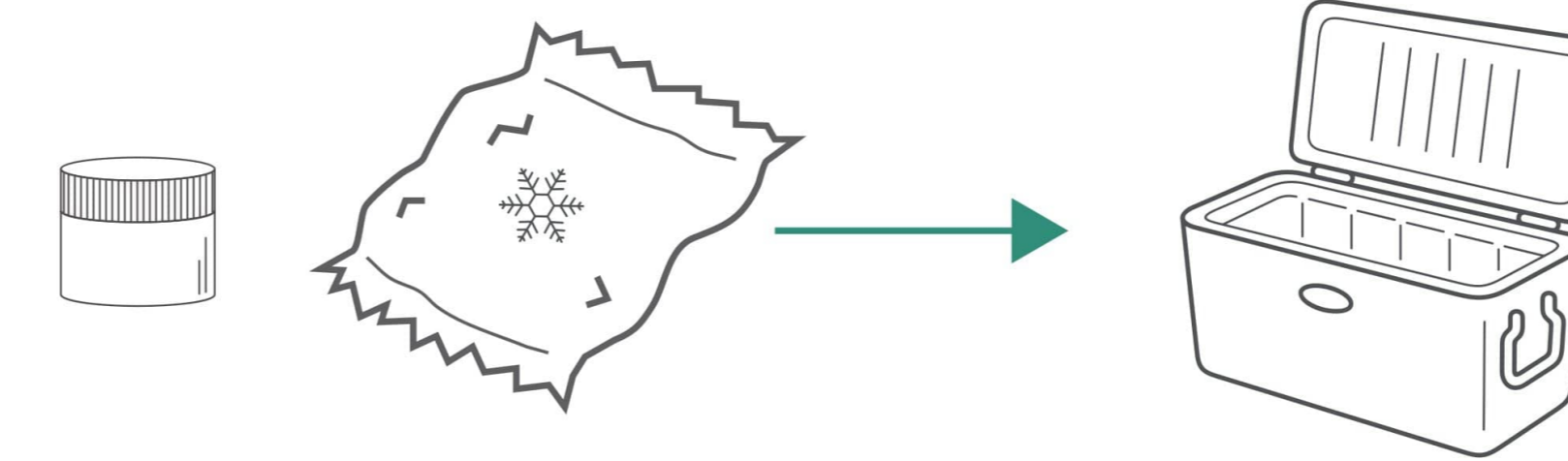


Prepare samples for shipping

1 Open bag and remove a subsample to fill the 500mL fresh sample shipping bucket.



2 Store Falcon tube and flask in a cooler at approx. +4 °C.



3 Dry the remaining soil using one of the following methods. Independent of the option, ensure the temperature does not rise above 40 °C.

< 40 °C
< 104 °F

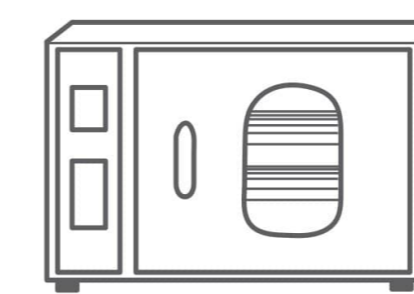


> 40 °C
> 104 °F



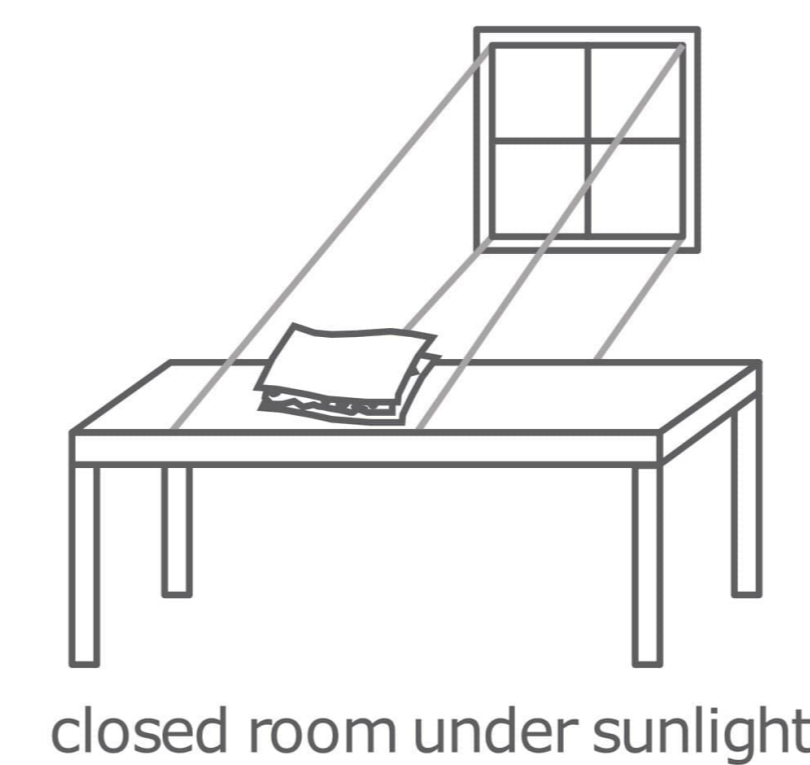
DO NOT use a microwave to dry samples. This will kill all microbial activity in the sample.

Paperless drying option:

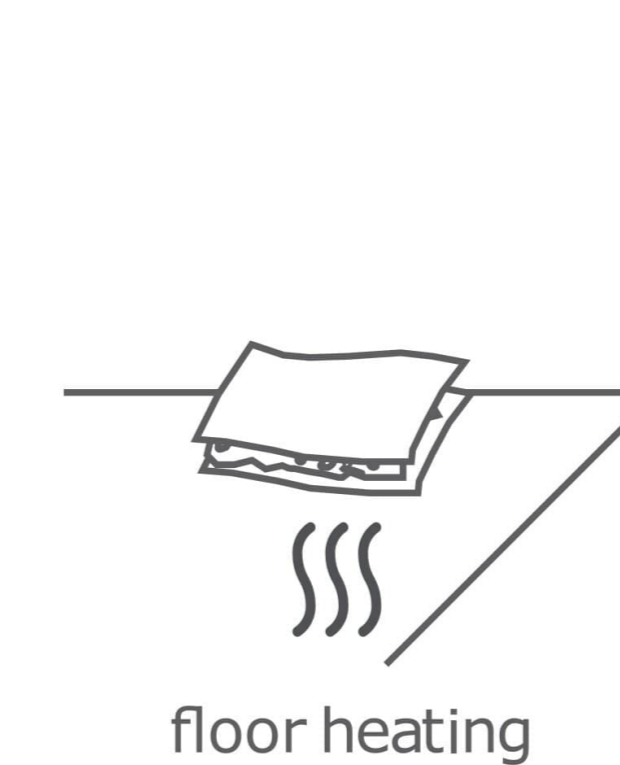


drying oven

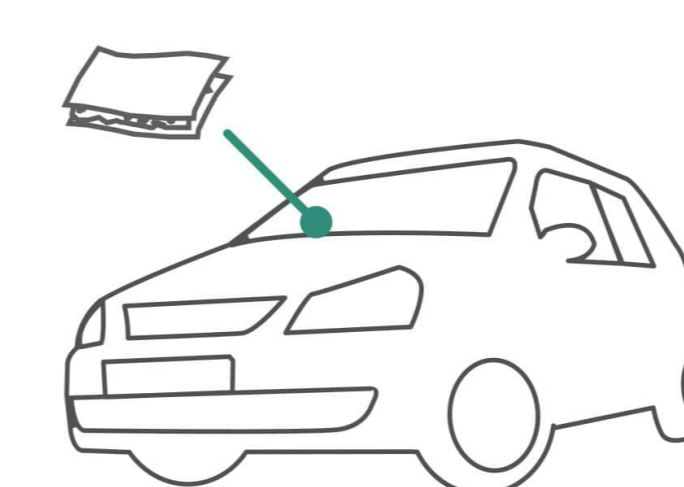
To use the following alternative options, ensure that soil is placed in a "paper sandwich" (one piece of paper below the samples, one piece of paper on top) to prevent contamination from UV and airborne contaminants.



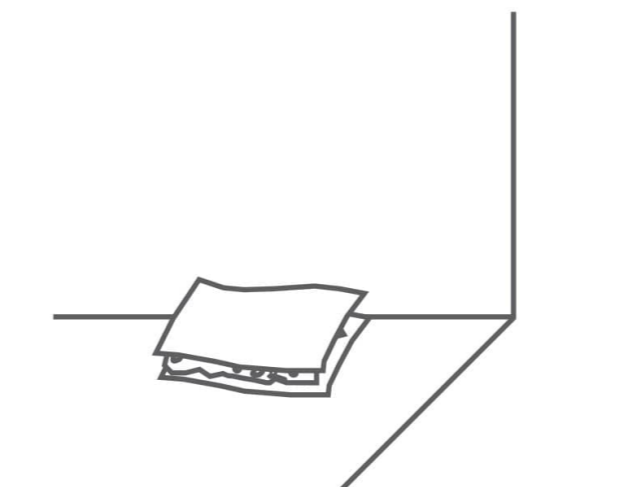
closed room under sunlight



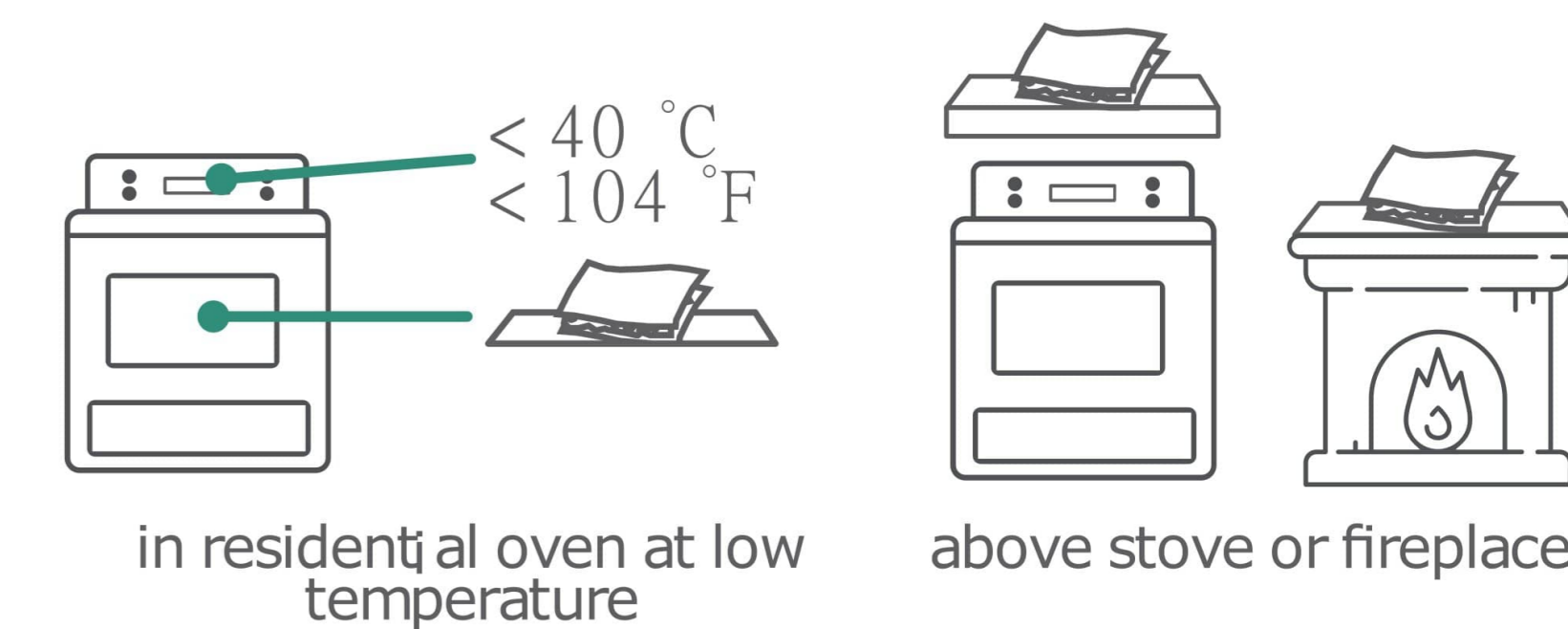
floor heating



under windscreen of car



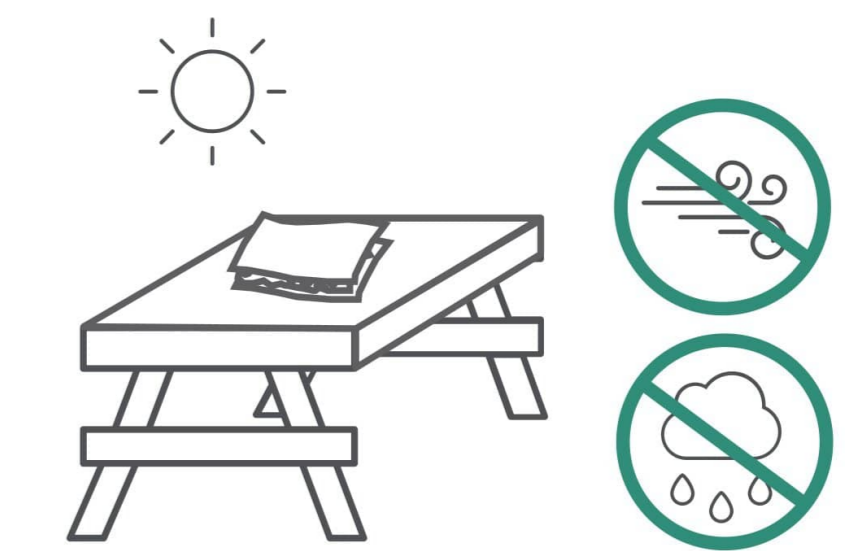
indoors in dry room



< 40 °C
< 104 °F

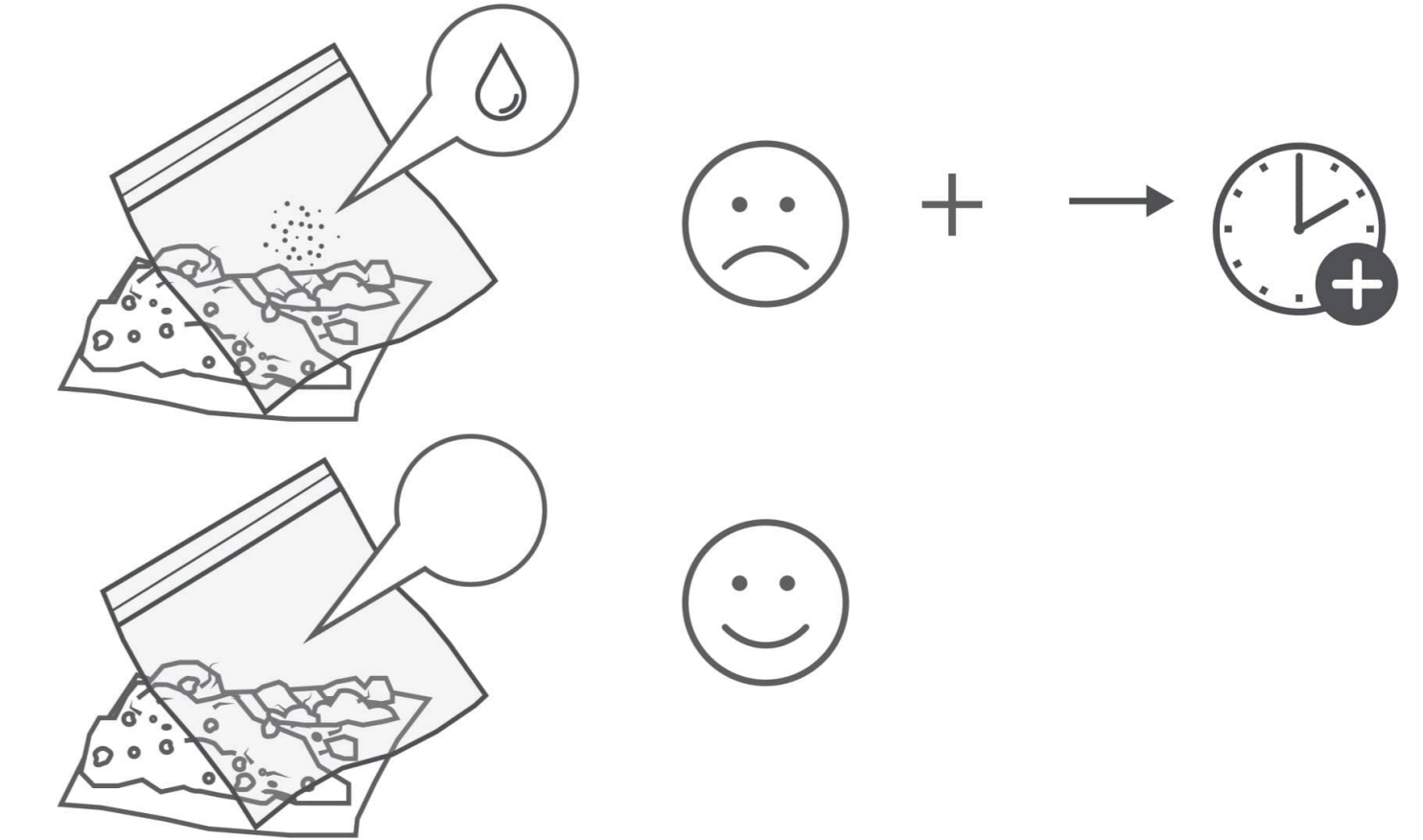
in residential oven at low temperature

above stove or fireplace

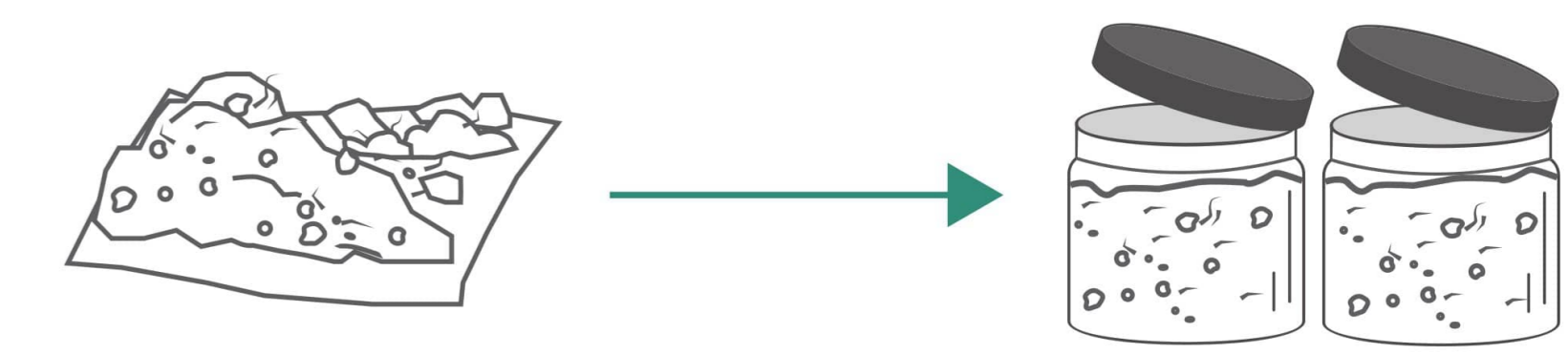


outside under sunlight

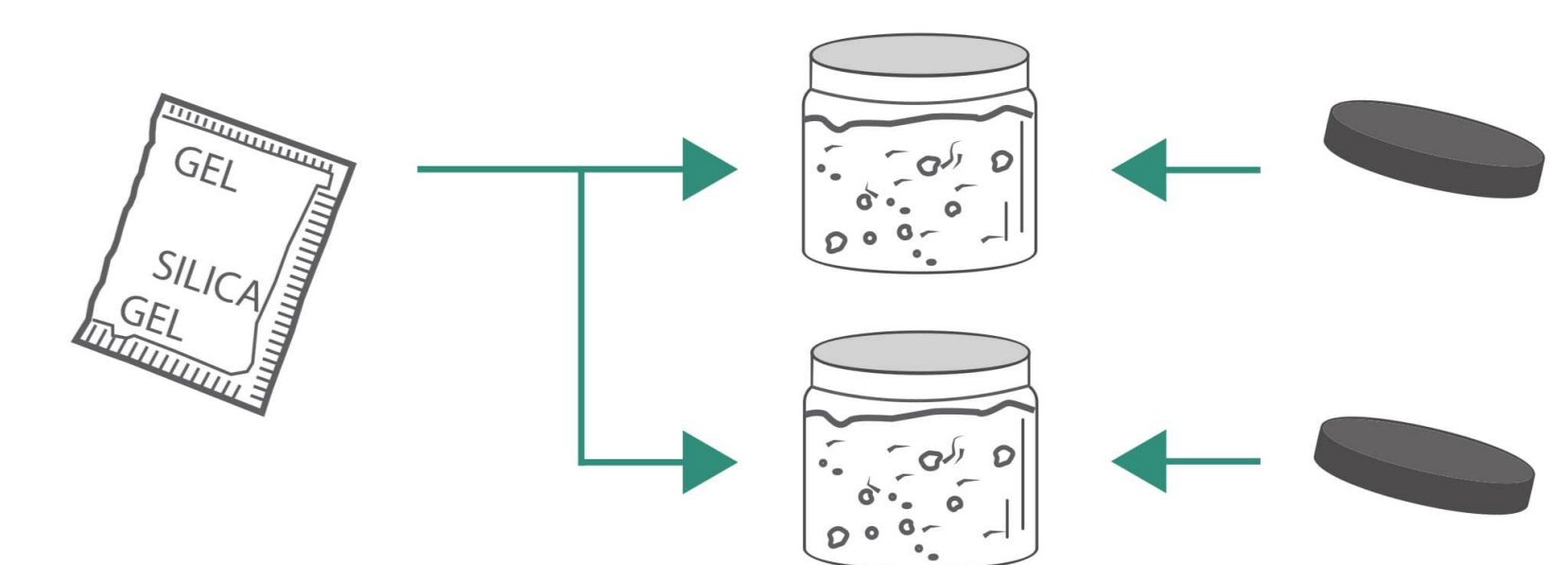
4 To ensure the samples have dried properly, cover the sample with the plastic bag and observe if any moisture is emitted. If moisture is observed, dry longer.



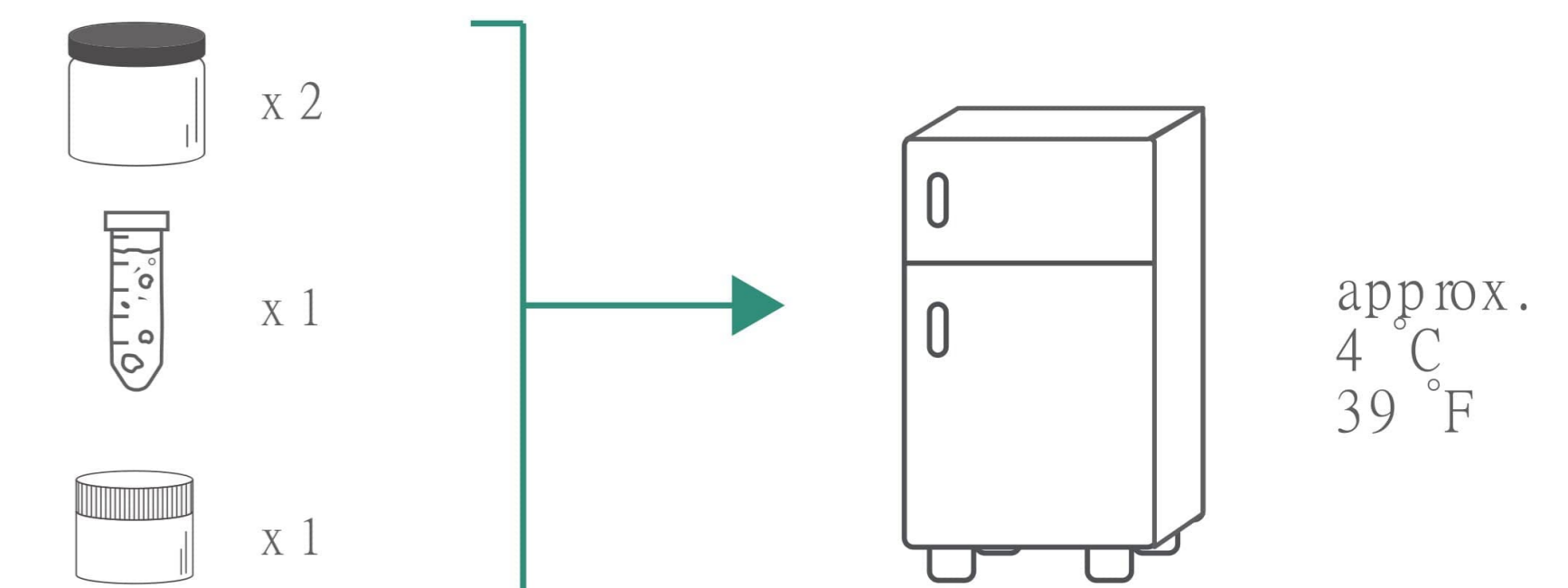
5 Fill shipping buckets with dried samples.



6 Step 6: Add silica bag inside of each bucket and close lid.



7 Store all samples in a fridge or cooler at 4 °C until you ship them (no longer than one week).



8 Contact Soil BON to coordinate shipping.



SOIL BON
(contacts in the back)