GLOBE Soil Infiltration Data Sheets

Print the Soil Infiltration Data Sheet:

- Soil Infiltration Data Sheet
  - This data sheet has space to record observations for one set of soil infiltration measurements. Print extra copies for the other two (or more) sets you are completing.

Or print the Infiltration Data Sheet with the field guide incorporated:

- Soil Infiltration with field guide (3 pages)
  - This option has space to record data for one set. Print out multiple copies of the field guide procedure or print out the Soil Infiltration Data Sheet (linked above) to record data for other sets.

Set # : _____

GLOBE Soil Infiltration Data Sheet

Name: _____ Site Name: _____

Date: _____ Time (local): _____

Height above ground level. Upper mark: _____ mm | Lower mark: _____ mm

Diameter. Inner ring: _____ cm | Outer ring: _____ mm

Soil Infiltration Measurements

In the field | Optional for data analysis

	A	B	C	D	E	F
	Start (min / sec)	End (min / sec)	Interval (min / sec) **= B - A**	Midpoint (min) **= A + (C/2)**	Water Level Change (mm)	Flow Rate (mm/min) **= E / C**
1	/	/	/			
2	/	/	/			
3	/	/	/			
4	/	/	/			
5	/	/	/			
6	/	/	/			
7	/	/	/			
8	/	/	/			
9	/	/	/			

Saturated Soil Water Content (5 minutes after experiment)

Record mass to the nearest 0.1 gram!

A. Wet weight: _____ g

B. Dry weight: _____ g

C. Weight of Container: _____ g

Soil Water Content = (A-B) / (B-C): _____ g/g

Record comments on the back of this page.

GLOBE Soil Infiltration Data Sheet and Field Guide (page 1)

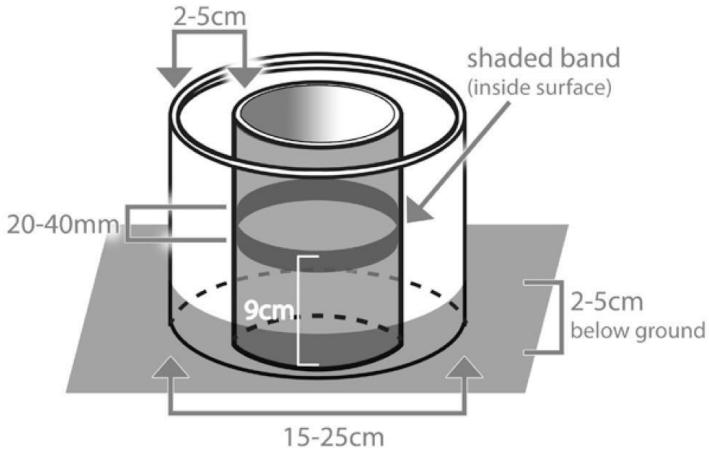
Name: _____ Site Name: _____

Date: _____ Time (local): _____

Soil Infiltration Measurements : In the Field

1. Clip any vegetation to the ground surface and remove all loose organic cover over an area just larger than your largest can. Try not to disturb the soil.

2. Starting with the smaller can, twist the cans 2–5 cm into the soil. A hammer may be used to pound the can into the surface with a block of wood between the hammer and the top of the can to distribute the force of the hammering. Do not hammer so hard that the can crumples.



3. Record the heigh above ground level for your reference marks.

Upper mark: _____ mm | Lower mark: _____ mm

4. Record the diameter of each can.

Inner ring: _____ cm | Outer ring: _____ cm

5. If you are using a stopwatch, start it.

6. Pour water into both rings.

   - In the inner ring, pour water to just above the upper reference band.
   - Maintain a level in the outer ring approximately equal to the level in the inner ring. A funnel can help pour water into the outer ring without getting water in the inner ring.
   - The outer ring should not be leaking water to the surface around its rim. If it is, start over in another location, push the outer ring deeper into the soil or pack mud around its base.

GLOBE Soil Infiltration Data Sheet and Field Guide (page 2)

Soil Infiltration Measurements : In the Field, continued

1. As the water level in the inner ring reaches the upper reference mark, read the stopwatch or note the time to the second. This is your start time.

Start Time: _____ min _____ sec

8. As the water level reaches the lower reference mark, record the time as your end time.

End Time: _____ min _____ sec

9. Calculate the time interval by taking the difference between the start and end times.

Interval = End Time – Start Time: _____ min _____ sec

10. Continue repeating steps 6–9 for 45 minutes or until two consecutive interval times are within 10 seconds of one another. Record your data on the table on page 3.

   - Some clays and compacted soils will be impervious to water infiltration, and your water level will hardly drop at all within a 45-minute time period. In this case, record the depth of water change, if any, to the nearest mm. Record the time at which you stopped your observations as the end time. Your infiltration measurement will consist of a single interval.

11. Remove the rings. WAIT FIVE MINUTES.

12. Measure the near-surface (0–5 cm depth) soil moisture from the spot where you just removed the rings. You only need take one sample.

   a) With the trowel, dig a hole 10–15 cm in diameter down to 5 cm. Leave this soil loose in the hole.
   b) Remove from the loose soil any rocks larger than a pea (about 5 mm), large roots, worms, and other animals.
   c) Use your trowel to fill your soil container with at least 100 g of the loose soil.
   d) Immediately seal the container to hold in the moisture.
   e) Follow the Gravimetric Soil Moisture Protocol for lab instructions.

Record mass to the nearest 0.1 gram!

A. Wet weight: _____ g C. Weight of container: _____ g

B. Dry weight : _____ g Soil Water Content = (A-B)/(B-C) = _____ g/g

13. Make two other infiltration measurements within a 5 m diameter area.

   - Do not submit runs that are incomplete (for example, a run that was cut short due to lack of time).
   - If you take more than three sets of measurements, submit your three best sets.

GLOBE Soil Infiltration Data Sheet and Field Guide (page 3)

Soil Infiltration Data Table

	In the field			Optional for data analysis		
	A	B	C	D	E	F
	Start (min / sec)	End (min / sec)	Interval (min / sec) **= B - A**	Midpoint (min) **= A + (C/2)**	Water Level Change (mm)	Flow Rate (mm/min) **= E / C**
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9	/	/	/			

Comments: