

Teacher information: Analysis of results

These work sheets are intended to make the students gather data from other groups and thus prepare the data basis for the analysis.

Material P21f refers to measurements and observations, which are interesting in the context of water quality studies but are not described in the PULCHRA Collection of Educational materials (electric conductivity, pH). Please refer to other sources or ask the PULCHRA team.

Analysis of results: Plants

Leaf colors

Gather the data on leaf colors (sheet P8) of all groups. Mark with a cross which color each group assigned the leaf, respectively. Compare the results of the groups.

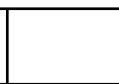
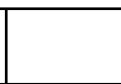
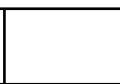
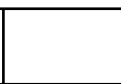
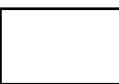
	rather blue/green	rather yellow/green	rather brown/green	rather brown/red
Group 1, Date, time:				
Plant 1				
Plant 2				
Plant 3				
Group 2, Date, time:				
Plant 1				
Plant 2				
Plant 3				
Group 3, Date, time:				
Plant 1				
Plant 2				
Plant 3				
Group 4, Date, time:				
Plant 1				
Plant 2				
Plant 3				
Group 5, Date, time:				
Plant 1				
Plant 2				
Plant 3				

Analysis of results: Plants

Growth stages

Gather the data on growth stages (sheet P15a) of all groups. Note two or three keywords per plant with which all groups have used to describe these plants.

	All groups wrote:
Grasses	
Birch	
Landscape	



Analysis of results: Weather

Wind speed

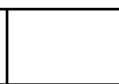
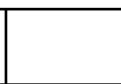
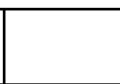
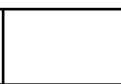
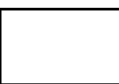
Gather the data on wind speed (sheet P16) of all groups. Compare the results of the groups.
Enter them into the table below.

	Group 1	Group 2	Group 3	Group 4	Group 5
Time					
Wind speed close to the school building					
Wind speed at the schoolyard					

Temperature

Gather the data on air temperature (sheet P16) of all groups. Compare the results of the groups.
Enter them into the table below.

	Group 1	Group 2	Group 3	Group 4	Group 5
Time					
Temperature close to the school building					
Temperature at the schoolyard					



Analysis of results: Weather

Clouds and temperature

Gather the data on clouds and temperature of ground and air (sheet P17a) of all groups.

Compare the results of the groups. Enter them into the table below.

	Group 1	Group 2	Group 3	Group 4	Group 5
cloud cover					
cloud type					
ground temperature					
air temperature					

Analysis of results: Soil and water

Infiltration

Gather the data on infiltration (sheet P36) of all groups. Compare the results of the groups. Enter them into the table below.

	distance in cm	time in minutes	= cm per hour***
EXAMPLE	<i>7 cm</i>	<i>36 minutes</i>	<i>11.64 cm per hour</i>
Group 1			
Group 2			
Group 3			
Group 4			
Group 5			

*** You have to calculate that with rule of three. You can use the calculator.

This is the solution for the **EXAMPLE** using the rule of three:

$$\begin{array}{lcl}
 7 \text{ cm} & \rightarrow & 36 \text{ minutes} \\
 : 36 & & : 36 \\
 \hline
 0.194 \text{ cm} & \rightarrow & 1 \text{ minute} \\
 \cdot 60 & & \cdot 60 \\
 \hline
 11.64 \text{ cm} & \rightarrow & 60 \text{ minutes}
 \end{array}$$

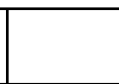
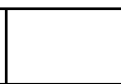
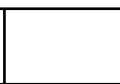
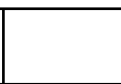
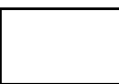
Analysis of results: Soil

Soil identification

Gather the data on soil properties (sheet P18a) of all groups. Find out, what the majority of groups wrote about each soil property. If you disagree with the majority's opinion for a reason, discuss this with your teacher. Enter the results into the table below.

For gravel and roots, make up your mind how to depict the result as a number.

property	result
Color	
Structure	
Consistency	
Texture	
Gravel	
Roots	



Analysis of results: Water

Visible depth

Gather the data on visible depth (sheet P14a) of all groups. Compare the results of the groups. Enter them into the table below. For leaves, small animals, and particulate matter, make up your mind how to depict the result as a number.

	Group 1	Group 2	Group 3	Group 4	Group 5
Date, time					
leaves or parts of leaves					
small animals					
particulate matter					
visible depth					

Other measurements

Gather the data on pH, temperature, and electric conductivity (sheet P14b and P14c) of all groups. Compare the results of the groups. Enter them into the table below.

	Group 1	Group 2	Group 3	Group 4	Group 5
Date, time					
pH					
temperature					
electric conductivity					





Analysis of results: Water

Flow velocity

Gather the data on flow velocity (sheet P14d) of all groups. Compare the results of the groups.
Enter them into the table below.

	Group 1	Group 2	Group 3	Group 4	Group 5
Date, time					
In the middle					
near the bank, <u>left</u> side (in flow direction)					
near the bank, <u>right</u> side (in flow direction)					