

Research Question

Do plants grow better when watered with rainwater compared to tap water?

Hypothesis

We hypothesise that plants watered with rainwater will grow better than plants watered with tap water because rainwater is more natural and may contain fewer chemicals.

Study Site

The plants will be grown indoors or outdoors in a similar environment with the same amount of sunlight and temperature. Both plants will be kept in the same location to ensure fair testing conditions.

Location: Gozo College Karmni Grima Għarb Primary School

GPS coordinates: 36.0582 N, 14.2092 E

Environment: Indoor or outdoor

Climate: Mediterranean climate

Relevant features: Plants will be kept in the same location to ensure fair testing conditions.

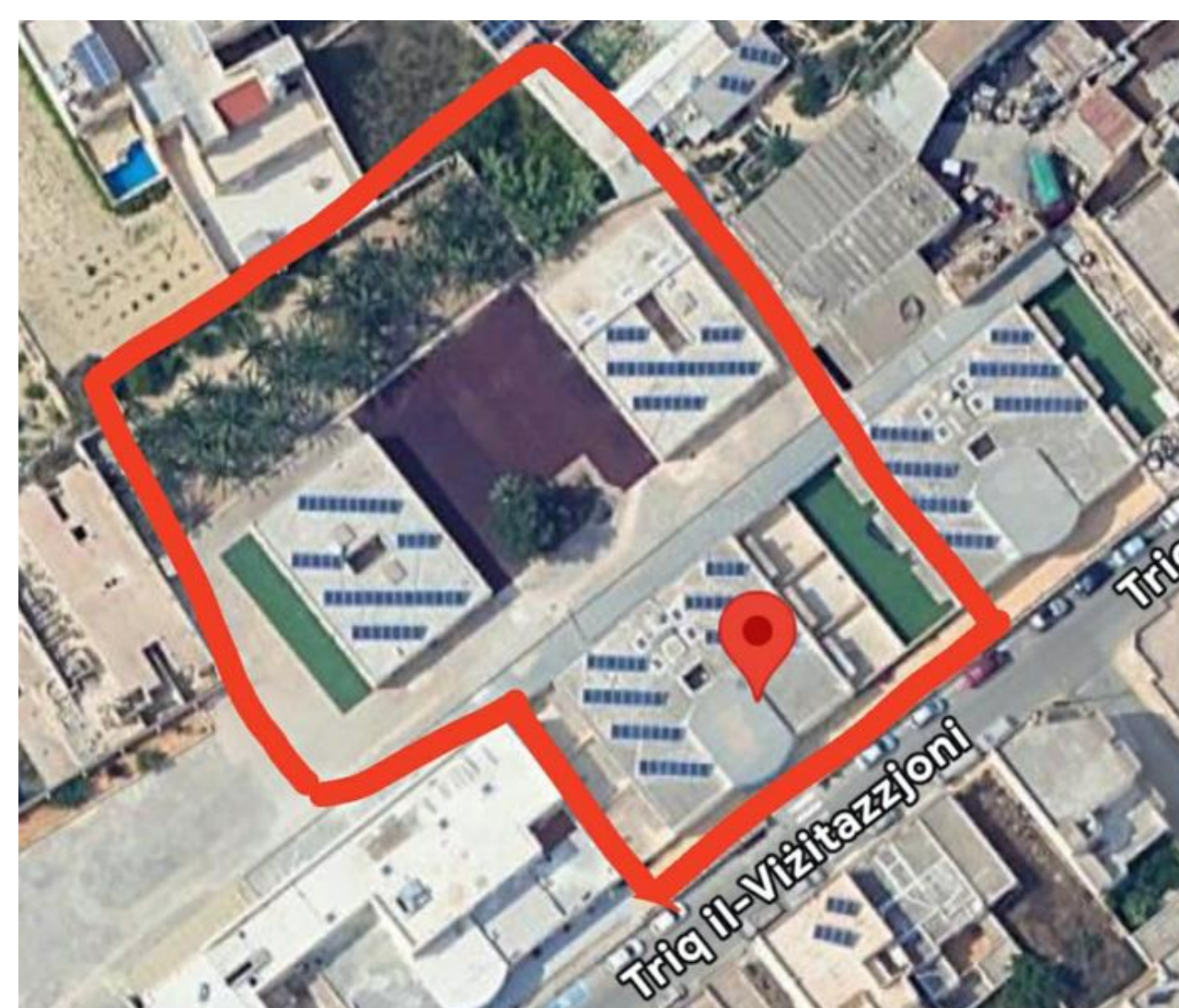


Figure 1 Aerial view of the school – the study site.

Data Collection Plan

A. Data Types and Sources

- Plant growth observations (height, number of leaves, overall health)
- Data will be collected by students through direct observation
- No external data sources will be used

B. Data Collection Schedule

- Observations will be made once per week
- The experiment will run for 8 weeks

C. Equipment and Tools

- Two identical plants
- Rainwater (collected safely)
- Tap water
- Measuring ruler
- Datasheet for recording observations
- Datalogger to measure air temperature and humidity.

D. Who Will Collect the Data?

- Students will collect and record the data by measuring plant height and observing leaf growth once per week under teacher supervision.

Background Information

Plants need water to survive and grow. Different water sources may affect plant growth in different ways. Rainwater is natural and does not usually contain added chemicals, while tap water may contain minerals or chlorine. This experiment was chosen because it is simple, safe, and easy for students to understand while teaching basic scientific observation skills.

Expected Outcomes

- We hope to learn whether rainwater or tap water helps plants grow better.
- This experiment will help students understand how environmental factors affect plant growth and encourage interest in environmental science and sustainability.

Challenges & Considerations

Some challenges may include collecting enough rainwater or keeping watering amounts equal. To overcome this, students will carefully measure water amounts and store rainwater properly.

References

The GLOBE Program. (n.d.). GLOBE protocols. GLOBE.gov.
<https://www.globe.gov/do-globe/globe-protocols>