

Anatolian Rover Challenge 2022

**Science Report Template**

Team Name :

University :

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# General Needs and Information

* All information that is not part of the science team members should be cited in a proper way. APA 7th format is recommended. Related papers or books should be preferred instead of websites.
* The report must be a maximum 3 pages long in total.
* The **Science Report** will not be scored individually for ARC 2022. The points of Mission 4 will be affected by this report. Information given in this report and data collected throughout the mission will be discussed with jury members.

# Background of the Science Team Members

A paragraph of the team's history, attended competitions and experience should be stated. A table of active members including the following information should be given: Name (or initial letters), university major, and duty in the team.

# Geomorphology of the Mars Field

A brief overview of the geological features of the area from the given sketch should be made. The geological features are examined in terms of what they are, how they have formed and how they are related to each other based on the formation time. Geological units and their relationship with each other should be described briefly based on the given Mars coordinates.

# The Preferred Landing Site

A landing area that is coherent with the scientific hypothesis should be justified by the teams. Also, the landing site should be a suitable terrain for the rover to land. The teams should provide sufficient explanations for both aspects of the landing site: consistency for the scientific hypothesis and safe landing conditions.

The landing site where the teams start Mission 1 should be shown on the sketch of the challenge area.

# Scientific Hypothesis Definition

A sentence that covers the whole hypothesis, including which feature to be studied and which question to ask should be written at first.

A scientific question of the hypothesis should be defined based on the given sketch of designated area and selected locations on Mars, Eberswalde Crater (23.835°S, 326.381°E) and Ceraunius Tholus (24.015° N, 97.112° W). Teams should explain which feature they are planning to work for the hypothesis. Hypothesis explanation should be made in connection with the landing site.

An important note is that this will be the final version of your hypothesis. During the competitions, the hypothesis stated in the **Science Report** should be followed.

# Approach to Investigate the Hypothesis

Teams are expected to confirm or reject their hypothesis by conducting experiments or analyzing geology. Any method to acquire the necessary knowledge for verifying the scientific hypothesis should be introduced in this section. Teams are expected to convince the suitability of their way of testing the hypothesis and reaching a conclusion from the data obtained. How the selected methods and experiments may help to reject or confirm the hypothesis should be discussed. The experiments selected to verify the hypothesis and reasons why that method is chosen should be explained. Methods used should have geological and/or biological importance, such as determining a property of the geological feature or the existence of life.

The teams should explain their sampling approach. The sample type aimed to collect, the experiments planned to perform on the sample and the expected result after these experiments should be clearly stated. This part should cover the importance of the sample to test the hypothesis. Teams should show its consistency with the hypothesis. The location of the sampling site must be indicated precisely on the sketch.

Each sensor that will be used should be explained briefly. The purpose of using the selected sensors and data that will be gathered are needed to be stated.

Note that any other data that is not gathered by the team during the mission will not be accepted. In addition, randomized experiments that do not contribute to the scientific hypothesis will not yield scores.

# Sketch

Provided sketch of the Mars site should be used to indicate the site where the hypothesis will be tested, landing site and sampling site(s). Arrows, dashed lines, or any other straightforward way can be used to show the sites that teams are concerned about. A proper legend is necessary for the jury to understand these selected sites by teams. The final sketch will be added to this document.

# References

Sources used throughout the report should be properly cited by using APA 7th format.

# The Sketch of the Mars Field

