

## Title: Solar Observation with a Telescope

Objective: Students will safely observe the sun and learn about solar features such as sunspots, prominences, and solar flares using a solar filter and telescope.

### Materials:

Telescope with solar filter

Solar viewing guide

### Procedure:

#### Introduction (10 minutes)

Start the class by discussing the importance of observing the sun safely and the potential dangers of looking directly at the sun.

Explain the purpose of the project and the objectives of the lesson.

#### Solar Viewing Safety (15 minutes)

Review the proper safety precautions when viewing the sun and how to use the solar viewing guide.

#### Solar Observation (60 minutes)

Provide each student or group with a telescope equipped with a solar filter.

Demonstrate how to properly aim the telescope at the sun and adjust the focus.

Allow each student or group to take turns observing the sun and identifying solar features.

Each team will use the cell mount to take a photo of the sun. Students will print their photos, and use rulers to measure sizes.

#### Data Analysis:

Teams will be provided the diameter of the sun and asked to calculate the size of the sunspots. If no sunspots exist, a teacher version will be given to students.

#### Discussion and Conclusion (15 minutes)

Reconvene as a class to discuss what students observed through the telescope.

Ask students to share their observations and what they learned about solar features.

Summarize the importance of observing the sun safely and how solar telescopes are a valuable tool for studying our star.

#### Assessment:

Students will be assessed on their participation in the project and their ability to safely observe the sun, identify solar features, and use the telescope.

They will come up in teams to get point for their assessment.

#### Extension:

Students can research and write a report on a specific solar feature they observed through the telescope, such as sunspots or prominences.

Students can also create a presentation on the importance of solar telescopes in scientific research.

Note: It is important to emphasize the safety of observing the sun and provide proper supervision throughout the project. It is also important to ensure that the telescope and solar filter are in good condition and properly calibrated before use.