



# Calibrating the Planisphere

## Getting Started

### Classroom Activity

#### Overview

**Age Range:**

14-18

**Prep. Time:**

20 minutes

**Lesson Time:**

40 minutes

**Cost per activity:**

Medium (€15 planispheres)

**Includes the use of:**

Planisphere, pen and paper

#### Outline

Before completing the planisphere exercises it is useful to get the students to calibrate their planispheres against the standard values provided in the teacher guide.

### Pupils will Learn:

- Reading Scales
- Measurement techniques
- How to evaluate precision of measurements
- Group work

### Lesson Plan:

Overview of the time required to complete lesson.

Description	Time	Notes
Introduction to the subject	10 min	Teacher explains why all scientific instruments should be calibrated for accuracy and consistency.

Online Observatory: [onlineobservatory.eu](http://onlineobservatory.eu)

The online observatory collaboration consists of the following partners:

Baldone Observatory, Brorfelde Observatory, Cardiff University, Harestua Solar Observatory, Helsinki Observatory



Activity 1	20 min	Use: ErasmusCalibratingyourPlanisphere.pdf 40, 50 or 60°N
Assessment	10 min	Discussion will establish whether all students have the same answers

## Introduction to the subject:

On the worksheet's students will be taking, entering and interpreting readings from the planisphere. These readings will be checked against answers provided in the teacher guides. Rob Walrecht planispheres are usually consistent so all students should get the same readings. However, there may be an exception in which case the planisphere could be replaced from stock or the students apply a systematic correction to each of their readings. Underlying this calibration exercise is the important scientific principle of checking the reliability and consistency of equipment before use.

## Activity 1:

- Students can work individually or in pairs

Science equipment needs to be calibrated before it is used. Note that Universal Time is used on the Planispheres.

1. Find the star Regulus (a bright star in the constellation of Leo)
2. Students should rotate their planispheres, placing Regulus on the eastern horizon, dissected by the horizon and half visible.
3. Using the scale around the edge students should locate the date 20<sup>th</sup> February.
4. The time should be read and a note made of it.
5. Without adjusting their planispheres students should locate the date where Regulus will rise at 13:00.

## Assessment:

Check that calibrations have been achieved.

Students should compare their answers with those of others in the classroom and the model answers given in the worksheets.

- How much do the answers differ?
- What is the largest variation?
- How precise do the planispheres seem to be?