

# Track the Sunspots

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**Objective:** To use NASA photographs to track the movements of three sunspots.

**Grade Level:** K-4

**Subject(s):** Science, Mathematics

**Prep Time:** < 10 minutes

**Duration:** One class period

**Materials Category:** Classroom

National Education Standards	
Science	5
Mathematics	9
Technology (ISTE)	
Technology (ITEA)	
Geography	

## Materials:

- Student Sheets
- Pencils

## Related Links:

SOHO Exploring the Sun

<http://sohowww.nascom.nasa.gov/>

NASA Solar Physics-Why we Study the Sun

<http://science.nasa.gov/ssl/pad/solar/whysolar.htm>

## Supporting NASAexplores Article(s):

Staring at the Sun

[http://www.nasaexplores.com/show2\\_article.php?id=05-201](http://www.nasaexplores.com/show2_article.php?id=05-201)



# Track the Sunspots

Teacher Sheet(s)

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## Pre-lesson Instructions

- Duplicate the Student Sheets.
- If the photographs are not clear enough for students to easily see, use the originals found on the SOHO Web site listed in the Related Links section.
- The NASA Web site listed in the Related Links section has helpful background information on the Sun as well as sunspots.

## Background Information

It was Galileo, in 1610, who made the first European observation of sun spot activity. Sun spots are relatively cooler areas on the Sun that are observed as dark patches. The number of sun spots observed indicates the amount of activity and the length of the solar cycle under observation. A great deal of research focuses on trying to predict sun spot activity and recently, scientists at NASA's Marshall Space Flight Centre reviewed all the current methods. They recommended combining the two best methods, which both use disturbances in the Earth's magnetic field as an indication of 'solar maxima', when the Sun is most active. Magnetic activity that accompanies the sun spots produces changes in the ultra-violet and soft x-ray emissions from the Sun with consequences for the Earth's upper atmosphere.

In this lesson, students will use NASA photographs to track the movements of three sunspots over a period of 12 days.

## Guidelines

1. Read the corresponding NASAexplores K-4 article orally.
2. Discuss SOHO's mission.
3. Discuss sunspots.
4. Distribute the Student Sheets. Show students how to plot the movements of the sunspots on each graph.

## Discussion / Wrap-up

- Go over the Student Sheets orally.

## Extensions

- None



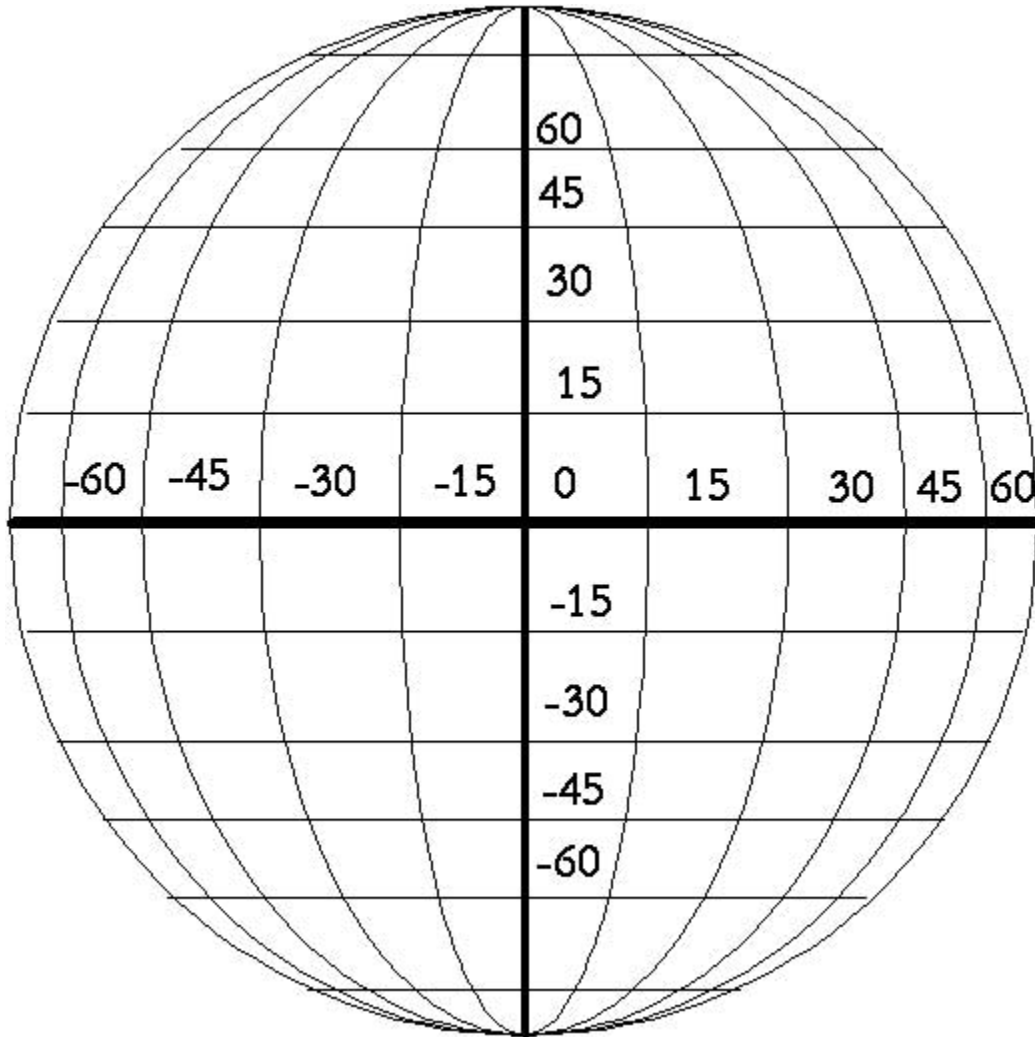
# Track the Sunspots

Student Sheet(s)

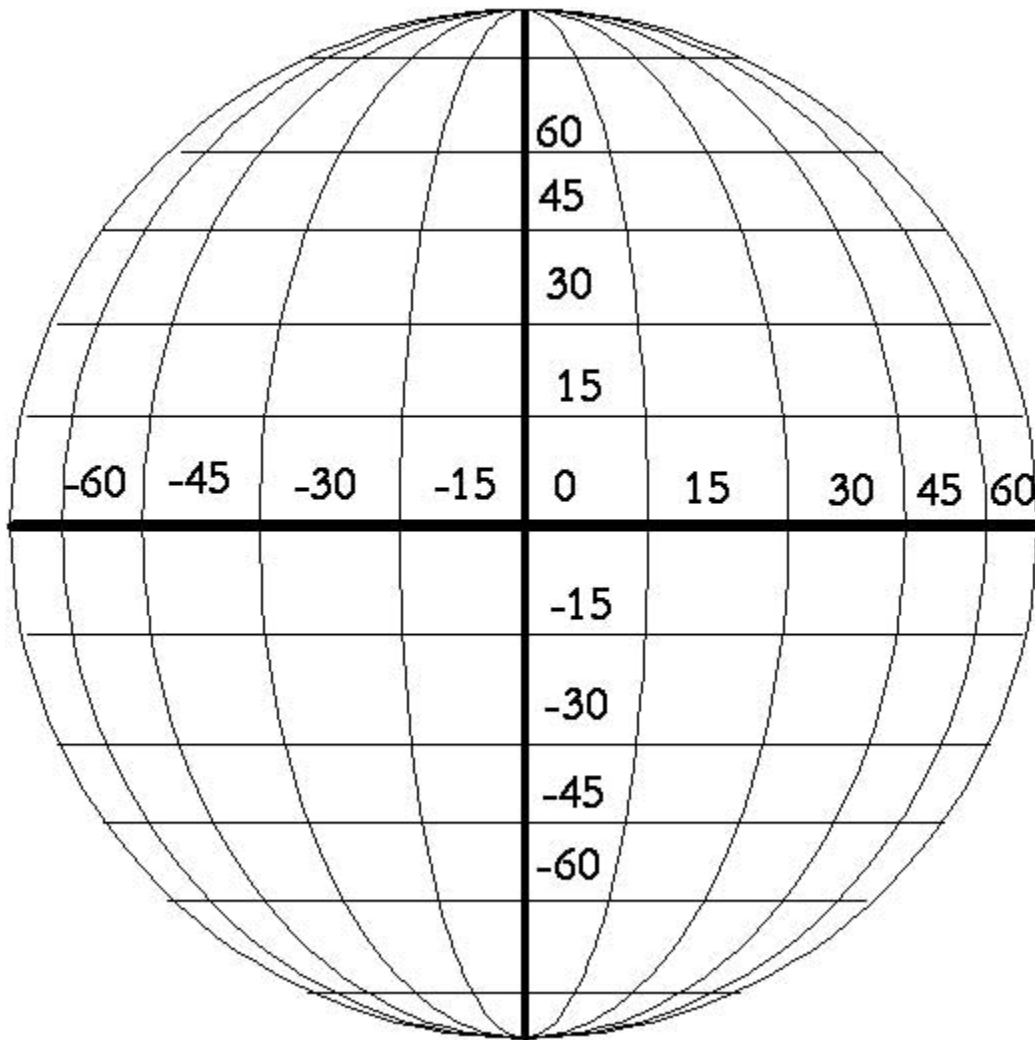
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Watch the sunspots move across the Sun. Use the pictures to mark where the sunspots can be found on the sun each day.

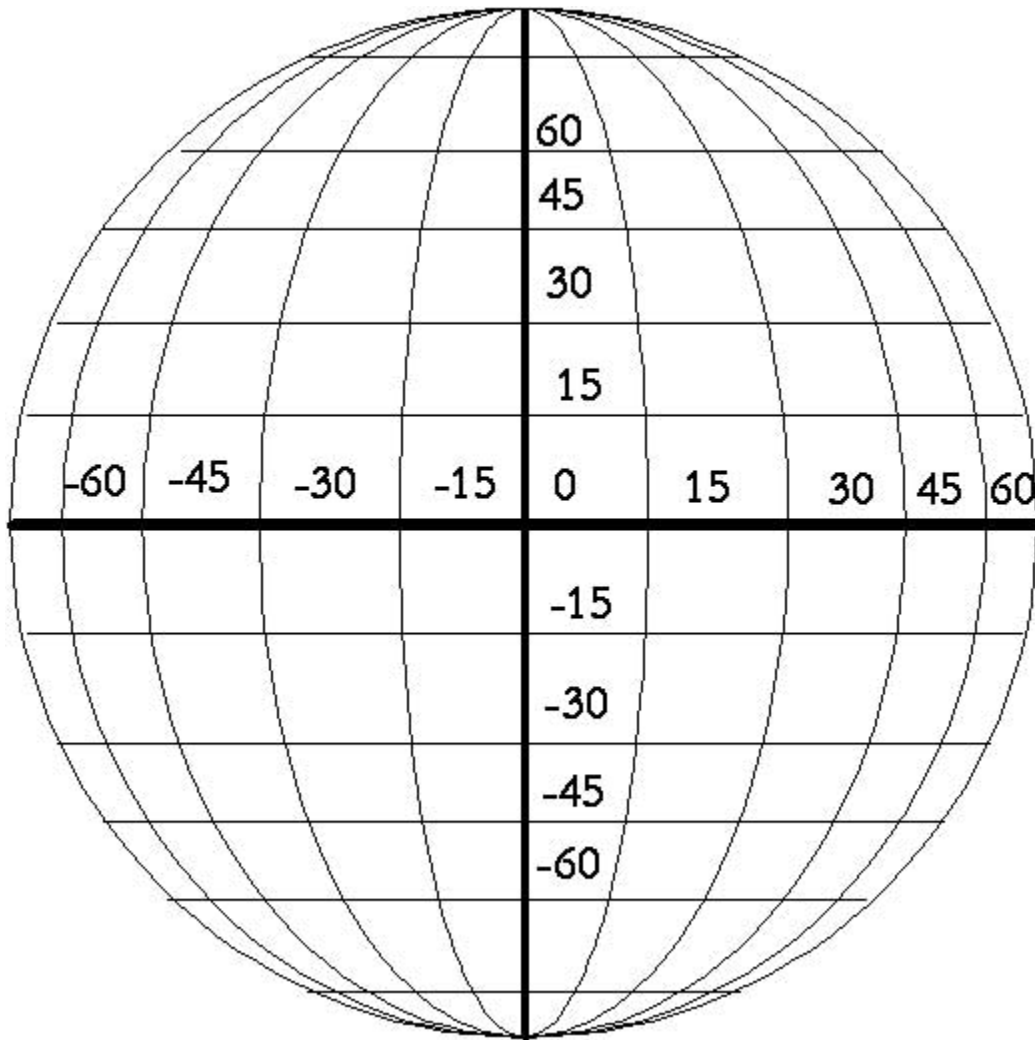
Sunspot A

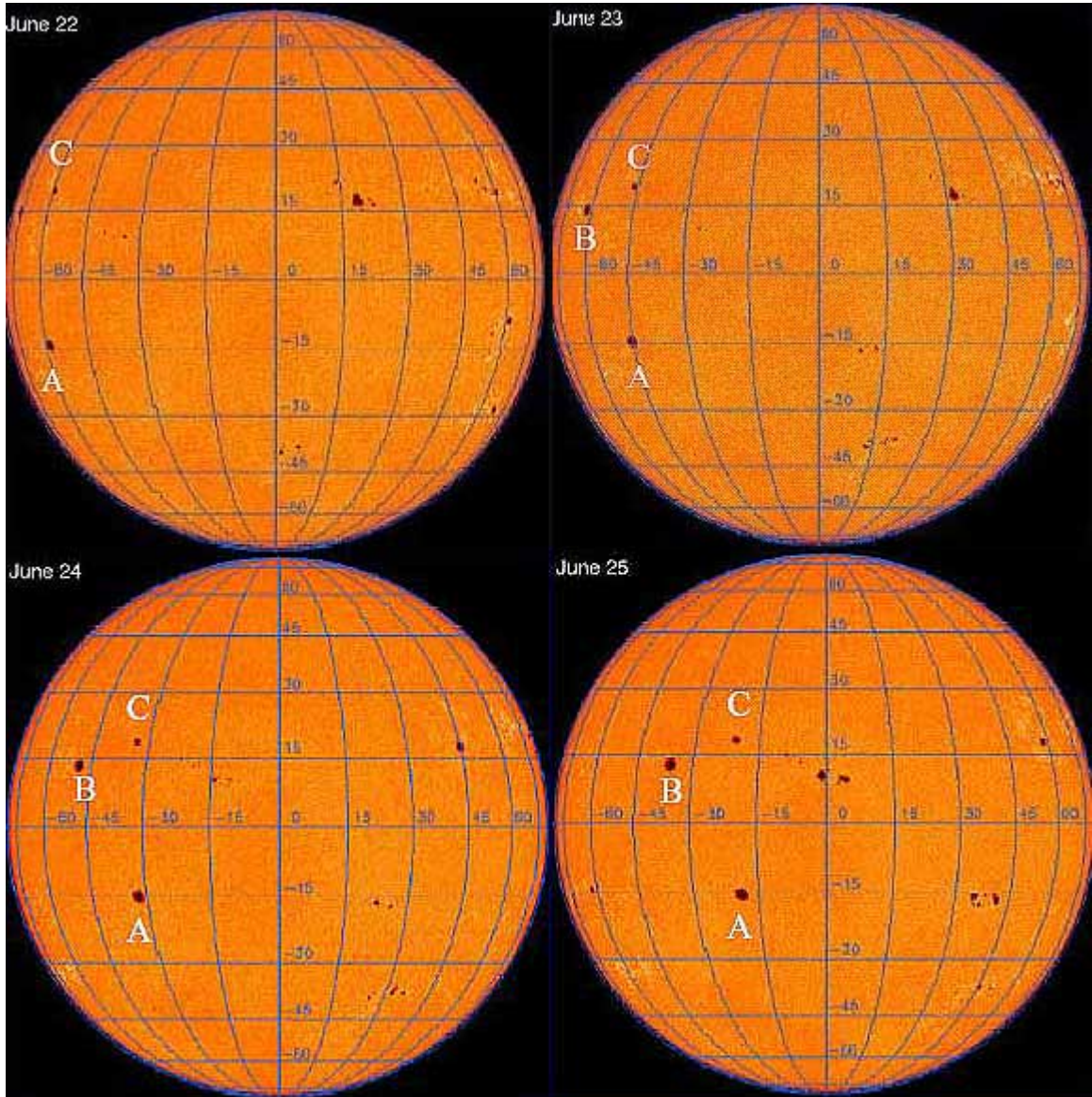


# Sunspot B

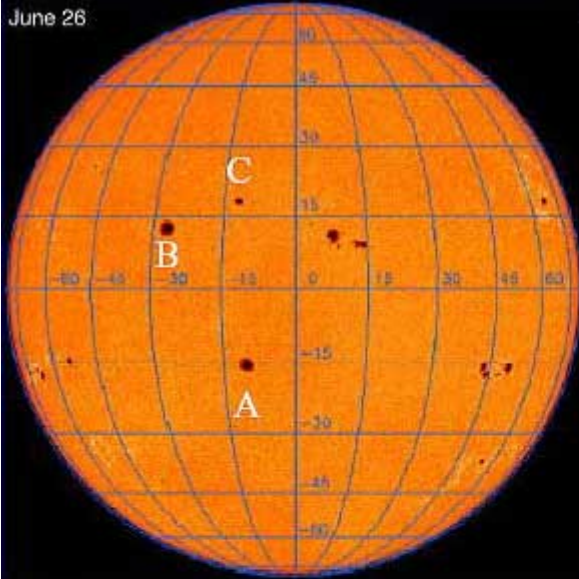


# Sunspot C

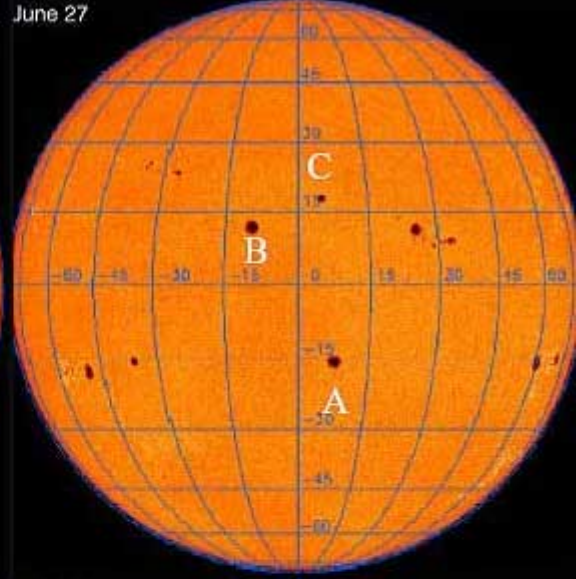




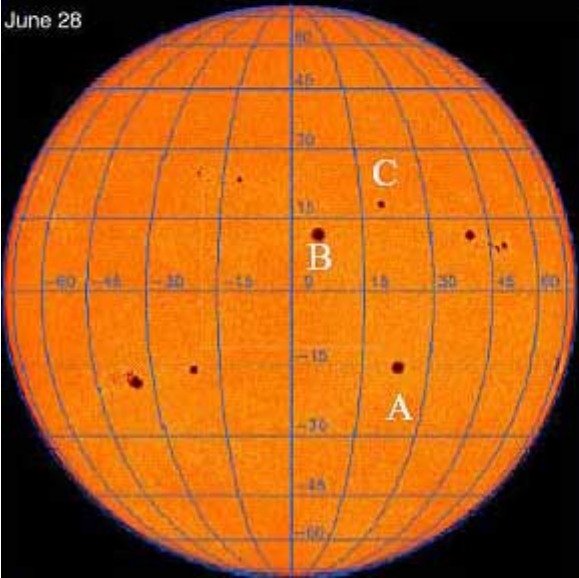
June 26



June 27



June 28



June 29

