

Name: _____

Date: _____

Sun Lab

Part 1 Sun Spots

Purpose: To determine the rotation rate of the sun based on sunspots observed over several days

Theory: Sunspots are cooler areas on the photosphere of the sun. They do not move of their own accord but rotate with the sun. We can determine the rotation rate of the sun based on the motion of the sunspots. We are going to work backwards to trace the path of several sunspots over the course of the last 14 days.

Materials:

Transparency

Computer with Internet

Water Soluble Pen

Website: <http://sohowww.nascom.nasa.gov/data/realtime-images.html>

Procedure:

- 1) Gather your materials.
- 2) For 14 days bring up the Soho website and find MDI Magnetogram. Click on "More 512x512".
- 3) Hold up the transparency over today's Magnetogram and place a dot at the center of two sun spots on the far right of the sun. Note the date for each spot.
- 4) Hold up the transparency over yesterday's Magnetogram and place a dot at the center of the same two spots. Connect the two points with a straight line. Continue this for a total of 14 days. If the sunspot rotates out of view stop measuring it. Note the date for each data point.
- 5) Write your name on the top of the transparency and turn in with your work.

Questions:

- 1) Which direction do the sunspots rotate, clockwise or counterclockwise? Which direction does the sun rotate?
- 2) What is the rotation rate of the sun?

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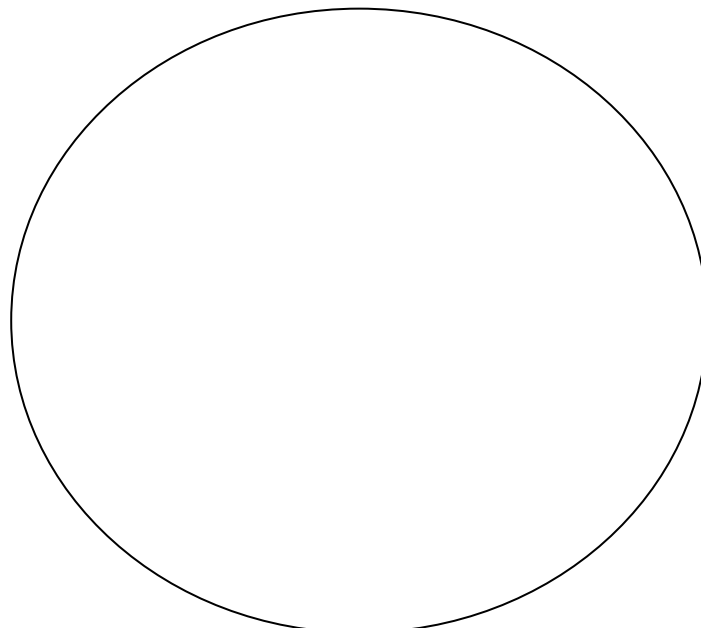
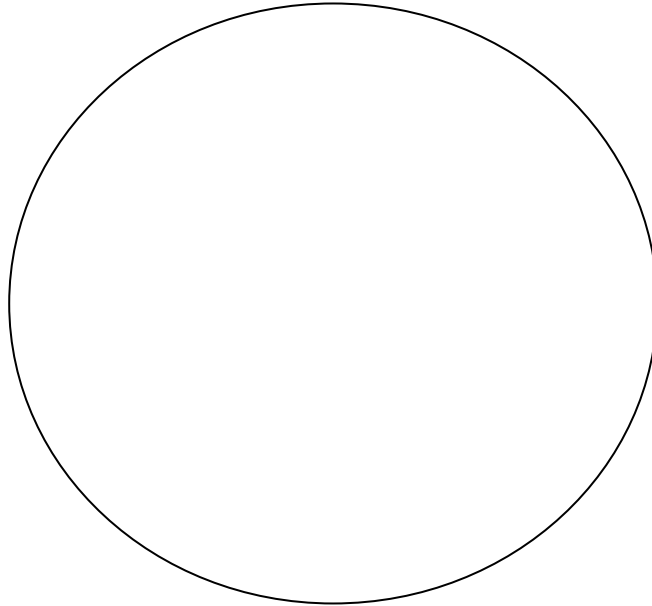
Date: _____

Sun Lab

Part 2 16" Telescope

NEVER LOOK DIRECTLY AT THE SUN WITH UNPROTECTED EYES!!!!

A. Using the 16" telescope find, draw, and label a sunspot and a solar flare. Include granulation when visible. Note seeing conditions.



Name: _____

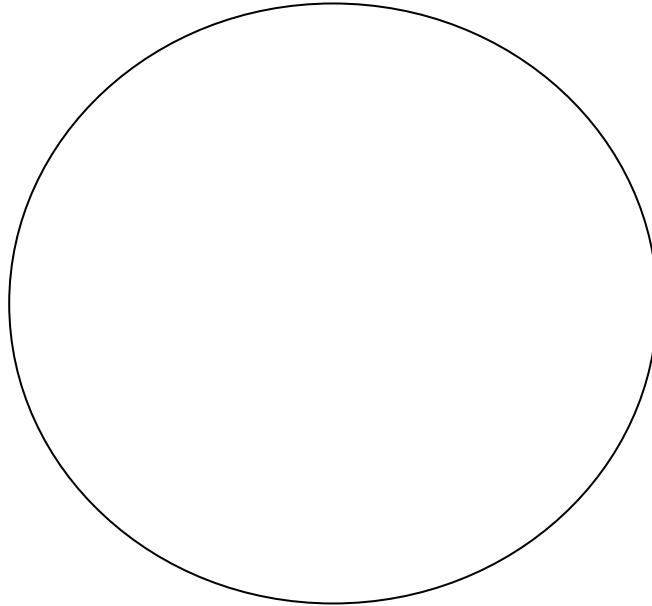
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Sun Lab

Part 3 8" Telescopes

NEVER LOOK DIRECTLY AT THE SUN WITH UNPROTECTED EYES!!!!

A. Using the 8" telescope draw two images of the sun. Note magnification and seeing conditions. Draw and label a sun spots, solar flare, and include the granulation if visible.



B. Go to the following webpage: <http://www.solarmonitor.org/index.php> and find the solar object (sunspot or solar flare) that you drew. Print the image of the sun that contains your object and circle it. Turn the page in with your lab.