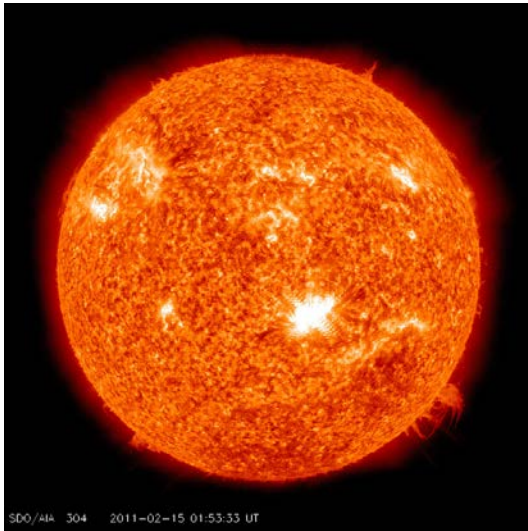


## Module 1: What are the features of the Sun?

### Activity A: Structure of Earth's Star

#### Overview

Image: NASA



Our Sun is a star and it is the closest star to planet Earth. The Sun is also the largest object in our solar system and it contains most of the mass in the entire solar system. Because the Sun has the greatest mass it also has the greatest force of gravity in the solar system. This is the reason why Earth and all the other planets, dwarf planets, asteroids, meteoroids, comets, etc. in our solar system orbit around the Sun. The Sun is the source of energy that enables and sustains life on Earth; without our nearest star we would not be here!

#### Team Goal

Your goal is to know and understand the structure and features (parts) of the Sun.

#### Materials

- Computer with Internet access
- “Solar K-W-L Chart”
- “Sun Primer” data sheet
- “Origami Sun Model” pages
- Yellow & orange highlighters or colored pencils
- Fine tip black pen (Sharpie)
- Scissors
- Ruler
- Pencil

#### Engage & Explore!

##### 1. BUILD Knowledge:

##### Activate prior knowledge about the Sun

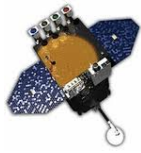
First complete the “Solar K-W-L Chart” as a team to see what you already know (K) about the Sun and what (W) you’d like to know about the Sun. Next, watch the following NASA and NOVA Sun Lab videos to get an introduction to NASA’s Solar Dynamic Observatory (SDO) and learn about the Sun’s structure (parts) and how the Sun functions (works). Afterward, write down what your team has learned (L) about the Sun on your “Solar K-W-L Chart”.

[Intro to SDO Video](#)

[SDO Science Overview Video](#)

[Sun 101 Video](#)

[The Sun's Energy Video](#)



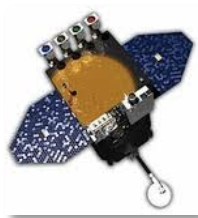
**2. APPLY Learning:**

**Research information about the Sun**

Watch Stanford Solar Center’s “Colors of the Sun” video for an introduction to our nearest star. How big is the Sun? How hot is the Sun? How far is the Sun? Navigate through each of the three Sun comparison sections to compare measurements of familiar objects to learn about the Sun’s size, structure, and constantly changing features. Use a pencil to complete the “Sun Primer” data sheet. Click on the link below to get started and enjoy your solar journey!

[Colors of the Sun Video](#)

[Sun Comparison Activities](#)



**3. DEMONSTRATE Ability:**

**Make a 3-D model of the Sun**

Scientists use models to study objects that are too big, too small, too far, or too difficult to observe directly. Create an origami model of the Sun by using the resources and following the instructions below. Click on the “SunITrek Fact-ary” link below to locate and read the vocabulary definitions for the features of the Sun. Next, using a black pen, correctly label the terms in the correct location on your team’s 3-D “Origami Sun Model”. Feel free to add creative detail to your origami Sun model artifact, which is part of your team’s Module 4 SDO Exploration Museum 3-D Solar Exhibit.

[Sun|Trek Fact-ary](#)

[Sun Origami Model](#) (see attached file)

**Solar Vocabulary:**

- Chromosphere
- Convective Zone
- Core
- Corona
- Photosphere
- Radiative Zone
- Sunspot

***Congratulations, you have completed your first SDO Solar Module!  
You’re on your way to becoming solar student-scientists!***