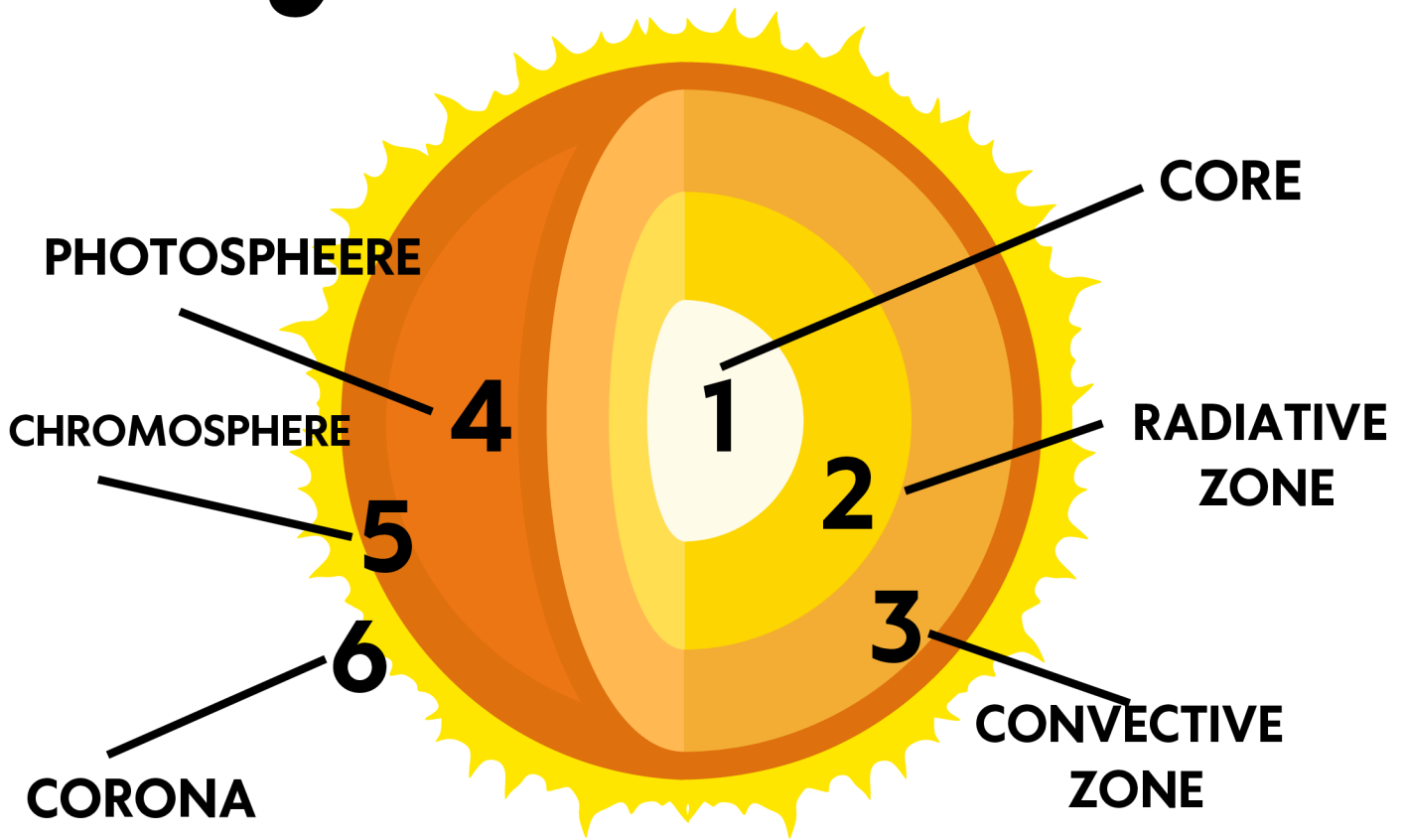


# Layers of the Sun



## 1. Core:

The core is the very center of the sun and is extremely hot and dense. Here, nuclear fusion takes place continuously as hydrogen is converted into helium, releasing a tremendous amount of energy. This energy is the driving force behind the sun's light and warmth, making the core the powerhouse of our star.

## 2. Radiative Zone:

Surrounding the core is the radiative zone, where energy generated in the core begins its long journey outward. In this layer, energy is transferred mainly by radiation, as photons scatter and bounce from one particle to another. Although this process is very slow and can take thousands of years, it is essential for moving energy toward the sun's surface.



### **3. Convective Zone:**

Above the radiative zone lies the convective zone, where energy transfer occurs through the movement of hot plasma. In this layer, warmer plasma rises while cooler plasma sinks, creating convection currents that transport energy much more quickly than radiation alone. This dynamic movement helps prepare the energy for release at the surface of the sun.

### **4. Photosphere:**

The photosphere is the sun's visible surface, the layer from which most of the light is emitted. Although it is not a solid surface, this glowing layer of gas provides the familiar brightness we see from Earth. It marks the boundary between the interior processes of the sun and its outer atmospheric layers.

### **5. Chromosphere:**

Just above the photosphere is the chromosphere, a relatively thin layer of the sun's atmosphere. During a solar eclipse, this layer appears as a reddish rim around the sun because of its high temperature and glowing gases. It is an important region for understanding the sun's magnetic activity and energy dynamics.

### **6. Corona:**

The corona is the outermost layer of the sun's atmosphere, extending millions of kilometers into space. It is surprisingly hot—much hotter than the layers below—and is usually invisible because its light is overwhelmed by the brightness of the photosphere. However, during a total solar eclipse, the corona can be seen as a beautiful, glowing halo, offering scientists valuable clues about solar winds and magnetic fields.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. What is the main function of the sun's core?

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2. Which layer is responsible for transferring energy outward primarily by radiation?

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3. How is energy moved through the convective zone?

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4. What is the outermost layer of the sun called, and when is it visible?

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5. Explain in your own words why the core is crucial for the sun's energy production.

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6. During a solar eclipse, which layer appears as a reddish rim around the sun?

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8. What is the name of the layer that forms the visible surface of the sun?

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4. Which method of energy transfer moves energy faster in the sun—radiation or convection? Explain your answer in one or two sentences.

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