GRCI SCIENCE Date: _____
SNC1DI

The Sun

Introduction

The sun is one of more than _____ stars in our galaxy. The Sun is approximately _____ away from _____ and is viewed as a huge ball of very hot gas. The three primary gases are _____, _____ and _____.

The Sun is over _____ times the size of Earth's _____ and in terms of its mass, the sun is 333,000 times more _____ than Earth.

Measurements for Large Distances

1. _____
   - _____
   - _____
2. _____
   - _____
   - _____

The Structure of the Sun

1. **The Core**
   Temperature : _____
   _____ is created in the core when _____ of _____ fuse to make helium via _____.

2. **Radiative Zone**
   Temperature: _____
   Passageway for _____ from the core to move via _____.

3. **Convective Zone**
   Temperature: _____
   Hot, bubbling, moving _____from interior rise toward cooler surface and release _____ via convection. Cooled gasses then sink back to _____ to for re-heating.

4. **The Photosphere**
   Temperature: _____
   The photosphere is the _____ and appears as a luminous layer of gas that gives off _____.

5. **The Chromosphere**
   Temperature: _____
   The chromospheres is the _____ part of the Sun's _____.
   It extends thousands of kilometers above the _____.

6. **The Corona**
   Temperature: _____
   The corona is the _____ of the Sun's _____. It is 1 million times _____ then the photosphere and extends millions of kilometers into space, beyond _____ orbit.

Features of the Sun

Sunspots – within the photosphere

- Dark, irregular patches on the _____
- _____ than surrounding gases
- Magnetic "_____" with strong magnetic fields
- Small spots may be active for hours or days, while big spots may be active for months

Solar Prominances – within the chromosphere

- Huge, arching shapes of _____ held in by the Sun's _____
- Violent _____ floating above the Sun
- Reach speeds of up to 600 – 1000 km/s

Solar Flares – within the chromosphere

- Massive eruptions of _____ (usually at the peak of a sunspot cycle)
- _____particles shoot and radiate out into space
- Some reach Earth's _____ and interfere with radio communications or affect _____

Solar Winds

- Holes at the _____ in the corona allow charged particles to escape
- Particle wind blows past _____ and interacts with Earth's _____ and upper _____ causing AURORAS which are also known to us as _____ or _____ lights