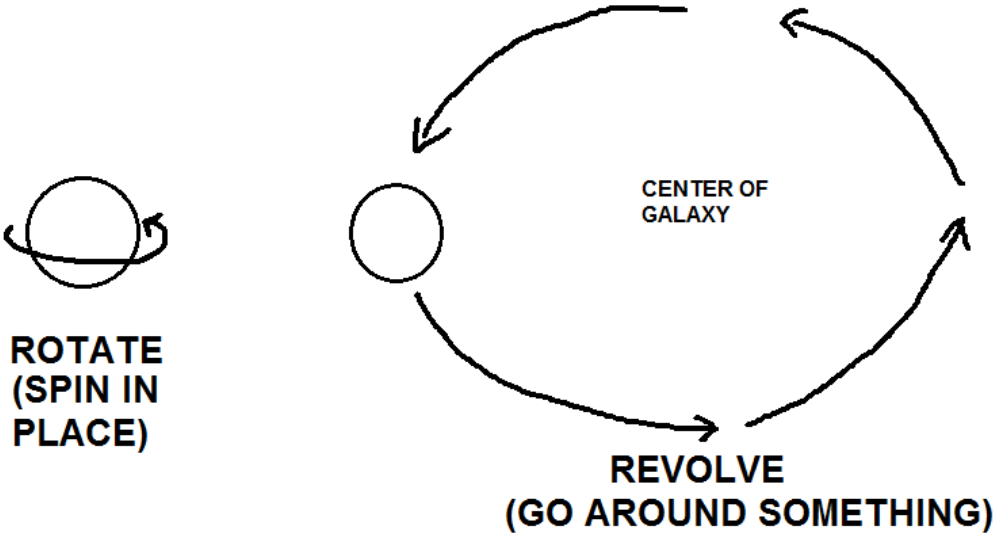
SUN NOTES

NAME_____ HR__

Sun- _____star that is average _____and average _____& is _____ than average

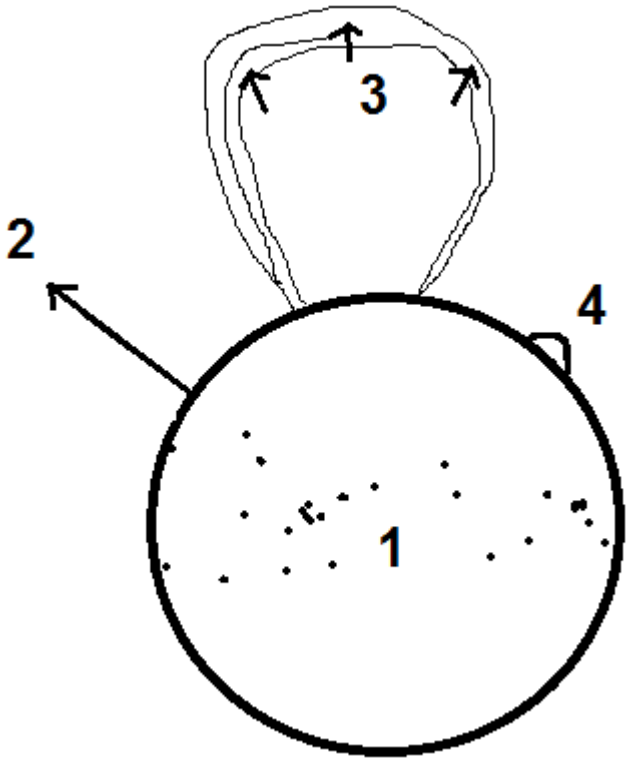
A. SUN PHENOMENA

1. _____- _____, _____area on the sun [like a ticking time bomb that will _____someday]
   a) Happens in an _____cycle—called the Cycle of Solar Activity
   b) Caused by _____ _____ _____
   c) At the end of a cycle, the sun's poles get _____and the twisting starts all over again
   d) Cycle labels:
      (1) **Sunspot _____**- largest number of spots (several per _____)
      (2) **Sunspot _____**- fewer sunspots (1 every two _____)
   e) Sunspots showed us that the sun _____on an axis
      (1) Equator--- ____-day rotation
      (2) Poles--- ____-day rotation
      (3)____ million year



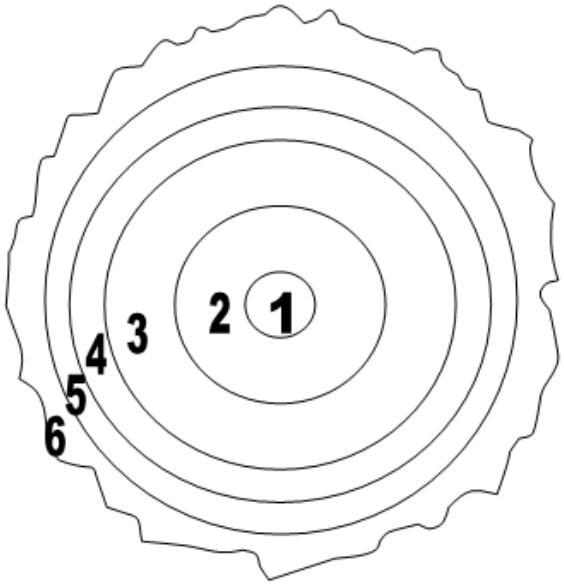
revolution

2. **Solar _____**- a magnetic storm that explodes particles and gases _____ out from the surface of the sun
   a) Messes up ____, _____, _____, _____, _____, and _____
   b) Flares interact with earth's _____ _____ making auroras
      (1) **Aurora borealis**- _____ _____
      (2) **Aurora australis**- _____ _____



   [neutrinos from solar flares follow magnetic _____ toward the poles, then charged particles _____ with particles in ionosphere creating _____. _____ is claimed by some as well]
3. _____- massive_____shaped explosion of _____and _____that erupts from the surface of the sun AKA coronal mass ejections (_____)
4. _____**loop**- gases held up in a _____loop- reach from _____to sunspot
5. **Solar wind** –
   a) streaming electrically charged _____ _____ that constantly escape from the Sun through coronal holes, which are weak spots in the Sun's _____ field.
   b) It is _____ and much _____ than Earth's wind.
   c) Solar wind is traveling at about 1 _____ miles an hour by the time it gets close to Earth.
   d) If it _____ on the Earth's surface, it would obliterate all _____ , but Earth's magnetic field and atmosphere _____ the planet.

B. SUN'S INTERNAL STRUCTURE



1. _____- _____ occurs here
2. _____ **zone**- electromagnetic waves (energy) _____ around like a pinball, taking a _____ years to _____
3. _____ **zone**- heat _____ and cold _____
4. _____ - _____ surface of the sun
5. _____ - the _____ of the sun's _____ (see _____)
6. _____ (crown)- the _____ of the sun's atmosphere (_____through)

C. **How FUSION works**:

1. Hydrogen and hydrogen _____ to make _____ in the core. It takes 4 _____ to make 1 _____. What happens to the missing matter?

2. Tiny bits of _____ are transformed into enormous _____ .
3. Particles and dangerous ionizing _____ WAVES bounce around like a pinball machine for 1 _____ years trying to get _____ .
4. Once it finally gets to the sun's _____ , it has transformed into much safer electromagnetic waves –_____ (heat) and _____ (light).