

The Zodiacal Constellations

What does it really mean to be a "Leo," "Cancer," or Taurus"? How did the ancients get these "sun signs"? With this activity, you can help your students answer these questions..

Materials Needed (per set up)

- 2 small Styrofoam balls, one larger than the other
- index cards
- constellation pictures (see attached)
- small binder clips
- butcher paper
- pens or pencils

What To Do

- (1) Use the metal washers as stands for the Styrofoam balls. In this activity, the larger ball will represent the sun and the smaller ball will represent the earth. See **Figure 1**.

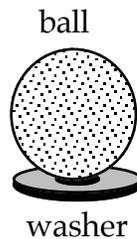


Figure 1

- (2) Place a large piece of butcher paper on a large table. Draw a 3 foot diameter circle on the paper. This will represent the earth's orbit around the sun. Place the sun in the center of the circle and label the earth's position during the months of June, September, December, and March (see **Figure 2**).

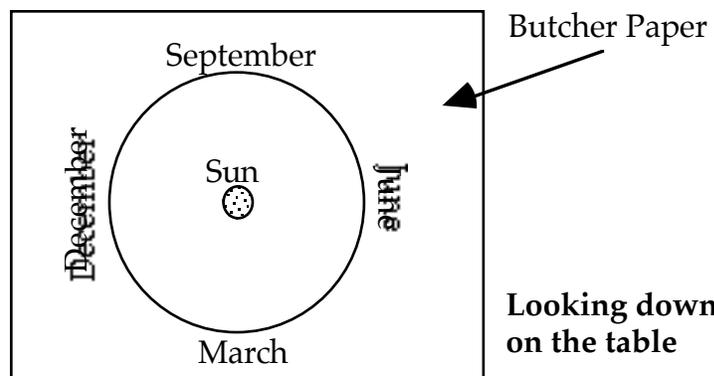


Figure 2

- (3) Label each of the twelve index cards with a zodiacal constellation. You can decorate the card anyway you wish, or you can cut out the attached diagrams of the constellations.
- (4) Place a binder clip on each of the cards. This will serve as a stand for your cards (**Figure 3**).

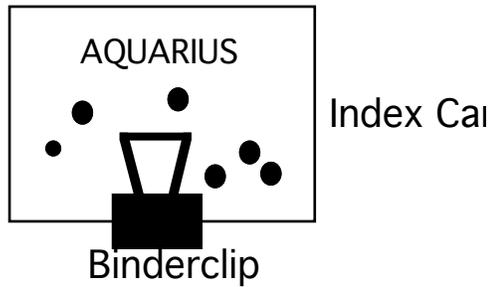


Figure 3

- (5) Look at **Table 1**. This table lists the names of each of the twelve constellations of the zodiac and gives the month that the sun appears to pass through each of these star patterns. Of course, you can't see the sun pass through these constellations because you can't see stars in the daytime. But you have to imagine that we could dim the sun's light so you *could* see the sun pass through these star patterns.

Arrange these 12 cards in a circle outside the orbit of the earth. This circle should represent the position of the 12 zodiacal constellations relative to the earth's orbit about the sun. (see **Figure 4**).

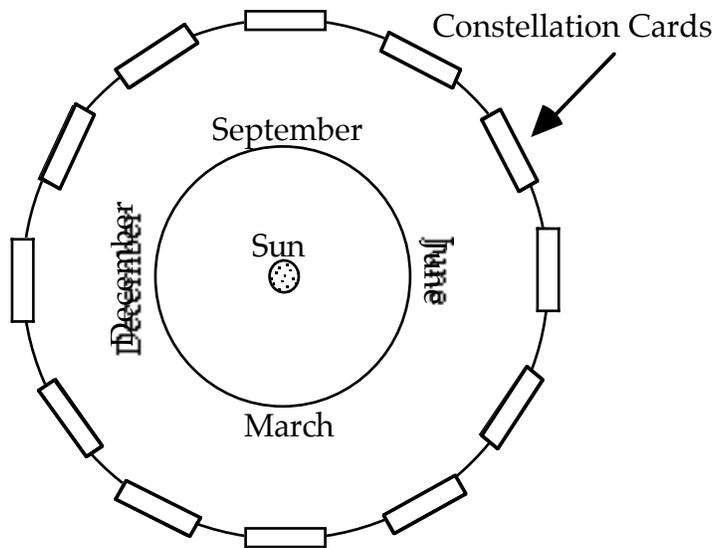


Figure 4

Table 1: The Constellations of the Zodiac

Name Of The Constellation	The Sun Will Appear To Be In That Constellation From . . .
Capricorn	Jan 21 - Feb 21
Aquarius	Feb 21 - Mar 21
Pisces	Mar 21 - April 21
Aries	April 21 - May 21
Taurus	May 21 - June 21
Gemini	June 21 - July 21
Cancer	July 21 - Aug 21
Leo	Aug 21 - Sept 21
Virgo	Sept 21 - Oct 21
Libra	Oct 21 - Nov 21
Scorpio	Nov 21 - Dec 21
Sagittarius	Dec 21 - Jan 21

What Going On:

During the course of a year, the sun appears to drift against a background of 12 constellations. These twelve constellations are called the Zodiacal Constellations. Each one takes up about 30° of the sky -- together they make up a 360 circle. You probably recognize these constellations as the 12 astrological signs. Yours is no doubt among them.

Of the 88 constellations recognized today, the zodiacal constellations are the most ancient. It was the Babylonians who invented astrology. Astrology, as practiced today, is about 2000 years old! According to astrology, the position of the sun and planets relative to these 12 constellations on the day of your birth determine your character -- and even your future.

You may have noticed that the actual dates when the sun will pass through these constellations does not seem to match the dates of your particular sun sign. For example, if you are an Aquarius, the sun was actually in Capricorn when you were born. What's going on?

It turns out that the sun signs used today are the same sun signs that were used 2000 years ago. When astrology was invented, an Aquarius was really born between Jan 21 and Feb 21. But back then, the earth's axis was pointing toward a different part of the sky. The

earth's axis is wobbling like a top. The axis completes one "wobble" every 26,000 years. So, in the last 2000 years, the earth has gone 1/12th of the way around. We are now almost exactly one sign out of phase with the original astrological signs -- but our modern sun signs don't reflect this difference. This is just one of many criticisms that scientists express toward the belief in astrology.