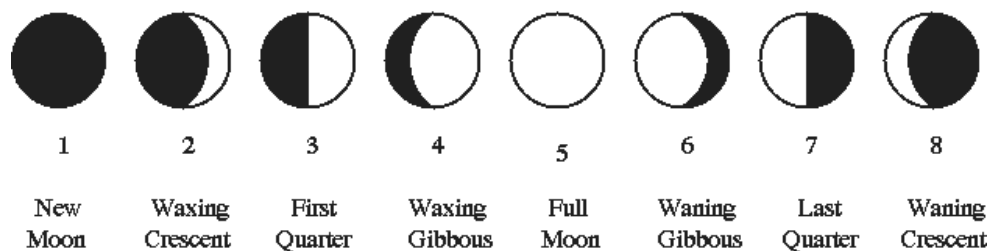


MOON PHASE FLIP BOOKS

Background Information: As the moon circles the Earth, the shape of the moon appears to change; this is because different amounts of the illuminated part of the moon are facing us. The shape varies from a full moon (when the Earth is between the sun and the moon) to a new moon (when the moon is between the sun and the Earth).

The revolution of the Moon around the Earth causes the Moon to appear to change shape in the sky. These apparently different shapes are called "phases" of the Moon.

The Moon passes through a cycle of eight phases which repeats itself every 29.5 days. There is no definite starting point for the cycle, but phases follow one behind the other in a strict order.



The diagram above shows what the different phases of the Moon would look like as seen from Earth.

The Moon repeats certain phases: there are two crescent, gibbous, and half phases each month (each cycle).

New Moon: lighted side of the Moon faces away from the Earth.

Waxing Crescent: a small part of the Moon appears lighted and grows larger on successive days.

First Quarter: the right half of the Moon appears lighted, with the lighted part growing larger on successive days.

Waxing Gibbous: more than half of the Moon appears lighted, with more and more becoming lighted on successive days.

Full Moon: lighted side of the Moon faces toward Earth.

Waning Gibbous: more than half of the Moon appears lighted, with less and less becoming lighted on successive days.

Third Quarter: the left half of the Moon appears lighted, with the lighted part growing smaller on successive days.

Waning Crescent: a small part of the lighted Moon is visible and grows smaller on successive days.

These phases are not exactly identical, however. Look closely at the diagram. You will notice that during phases 1 through 5, the amount of lighted area **INCREASES** over time from **right to left**. When this occurs, the Moon is said to be **WAXING**.

During phases 5 through 8, the amount of light area **DECREASES** (or the darkened area increases) from right to left. When this occurs, the Moon is said to be **WANING**.

So you can tell if the Moon is waxing or waning based on whether the right side of the Moon is dark or light.

(Of course, this only works in the Northern Hemisphere. In the Southern Hemisphere the effect is just the opposite!)

Flip Book Instructions:

Materials:

| | | |
|-------------------|------|----------------|
| Scissors | Glue | 16 index cards |
| Moon phases sheet | Tape | |

1. Read the background information carefully.
2. Cut out each of the moon phases; one at a time.
3. Glue each moon phase onto the LOWER LEFT HAND CORNER of an index card. Match
4. After all of the moon phases are cut out and glued to the index cards, stack the cards in numerical order, starting with card 16. Numbers are next to the Sun.
5. Arrange the cards so that the edges are offset above the card underneath (see drawing and example).
6. Place a long strip of clear packing tape along the back of the cards and overlap the front card for about 1 inch (2.5 cm). This will anchor the cards in place. Run a second strip vertically around the top of the cards. Be sure to avoid locking the cards in place so they will not flip easily.