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

Lab Partner: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ LAB # \_\_\_\_\_\_\_\_

PHASES OF THE MOON

**Introduction:** The moon is our only natural satellite, meaning that it revolves around the Earth. It revolves and rotates at the same rate (27.3 days) so we are always seeing the same half of the moon. Because the sun shines light on it, half of it is always lit up, but we don’t always see the same picture. This is because the moon is orbiting around Earth at the same time. The changing position of the moon around Earth changes the part that is receiving light from the sun, hence the phases appear. Think this is confusing? Just be glad you don’t live on Jupiter… they have over 40 moons!

**Purpose:**

* Make connections between physical orientation and phases seen on Earth
* See the cyclical relationship of the moon’s phases

**Materials:** two tone softball

**Procedure:**

1. With your partner, figure out who is older. The older partner will be person A and the younger partner will be person B. List who is who below so you can keep it straight.
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Person A will stand on the cross hair of the tiles, they will be the Earth.
3. Person B will stand on the outside of the tiles, approximately 1 tile radius from the crosshair. This person holds the softball WITH THE LIT HALF ALWAYS FACING THE STAIRCASE AND THE DARK HALF ALWAYS FACING THE SOUTH GYM.
4. With person A on the crosshair of the tile facing west, person B will stand one tile away so that the sun is in between them and the Earth. Person B is now at position #1 (see next sheet)
5. While person B holds the lit part of the softball towards the Sun and revolves through each position, person A draws what the softball looks like to them.
   1. Person B will walk through positions 1-8(1,3, 5, 7 for 8I) while person A draws.
   2. Person A will rotate so that they are always facing the softball.
6. Person A records all drawings in the outer circles on the next page.
7. Person A and B will switch positions and person B will get a chance to record their data.

**Questions:** When each task is complete place a check mark next to the appropriate line.

* Draw the phase as seen from Earth in the outer circles.
* Now for the inner circles… Shade in the part of the moon that is dark. (Remember where the sun is)
* Put the phase name in the corresponding box.

B

SUN- STAIRCASE

#1

#5

#8

#7

#6

#4

#3

#2