

In this activity, students color and cut inexpensive paper plates to form a handy reminder of the phases of the moon. Students can leave the plates white to represent the moon or add color and details to each plate.

Materials

3½ paper plates for each student	markers, crayons or paints
pencils	rulers
paper punch	scissors
small paper fasteners	

Directions

For painted or colored moons:

1. Students will color one plate black. This plate represents the new moon. Leave this plate whole.
2. Paint two plates like a full moon. They can be painted white, yellow or gray. Students can add craters, dark areas or any other details.
3. Cut one plate in half. This will be the first and last quarter moon. Each student will only use only half the plate. Color it the same as the other moon plates that were not black. Two students can share one plate.

For unpainted moons:

1. You will still need one black colored plate and 2½ plain white plates.

Cutting and assembly

1. Once the plates are all prepared it is time to show students how to cut the plates. The students will only cut one of the moon colored (or white) plates. The rest of the moons will stay the way they are for assembly.
2. Show students how to find the center of a plate by gently folding it in half just at the edges or by making a tiny mark at the top and bottom of the plate using a ruler placed in the center of the plate circle. These two marks are for beginning the drawing of the crescent. The leftover part of the plate will form the gibbous moon.
3. Using a pencil, show students how to lightly trace an arc from one mark to the other.
WARNING: Take a look at their arcs before you let them cut them out. Tell them they need to make the cut as smooth as possible.
4. You are now ready for assembly. Place the black moon on a work area first, then stack each one on top in this order: crescent, quarter, gibbous, full. Hold all together at the top and punch a hole in all layers making sure the hole goes through all plates. You will have to double check this for younger students or do it yourself.
5. You can now review the phases using the assembled booklet. Also, students can write the phase name on the back or front.
6. The book works for the complete 29 day cycle of the phases just by turning it upside down so that the lit side of the moon is on the opposite side. The new moon (black plate) serves as a way to show the dark, unlit side when any of the plates of partial phases (crescent, quarter, gibbous) are rotated down onto it.

crescent from the Latin word *cresco* meaning *to grow*

gibbous from the Latin word *gibbus* meaning *hump on the back*

phase from the Greek word *phaino* meaning *to appear, to bring to light*

waning from the Middle English word *wanien* or *wanen* meaning *to lessen*

waxing from the German word *wachsen* meaning *to grow*