

**Grade:** 6<sup>th</sup>

**Topic:** Moon Phases

**Title:** *Lunar Lollipops*

**Objective:** Students will model the phases of the moon.

**Standards:**

**6.3.6** - Use models or drawings to explain that the phases of the moon are caused by the moon's orbit around Earth, once in about 28 days, changing what part of the moon is lighted by the sun and how much of that part can be seen from Earth, both during the day and night.

**Materials:** (1 for each student)

- Wrapped lollipop
- Round, white sticker
- Small lamp (students may share)

**Activity:**

1. Students should have one each of the materials list. Have students put the sticker on one side of the lollipop. This represents the moon. Remind students that they should always be facing the sticker part of the moon as it rotates.
2. The lamp represents the sun. The student represents Earth. Have students draw and diagram this in their science notebooks, labeling the objects.
3. Turn off the lights in the classroom. Have students turn on their small lamp.
4. Tell students to hold the lollipop stick (the moon) in their left hand and face the sun.
5. Tell students to hold the moon so that it is between the Earth and the sun.
6. Tell students to notice that the side of the moon facing the Earth has no reflected light shining on it. This phase is called the **NEW MOON**.
7. Have students shade in a **NEW MOON** on a diagram in their student notebooks. Remind students to label the objects in their diagrams.
8. Tell students to move the moon about 45 ° toward the **left** (counter-clockwise) around the sun. Observe the sunlight reflected by the moon. Students should see the right hand edge of the lollipop lit up as a crescent. This is the **WAXING CRESCENT** phase of the moon.
9. Have students shade in the **WAXING CRESCENT** on a diagram in their science notebooks.

10. Tell students to move the moon about  $90^\circ$  toward the **left** around the sun and observe the sunlight reflected by the moon. Students should see the right half lit up. This is the **FIRST QUARTER** phase of the moon.
11. Have students shade in the **FIRST QUARTER** on a diagram in their science notebooks.
12. Tell students to move another  $45^\circ$ . This is the **WAXING GIBBOUS** phase.
13. Have students shade in this phase on a diagram in their science notebooks.
14. Tell students to move the moon another  $45^\circ$ . It should now be directly opposite the sun. This phase is the **FULL MOON**.
15. Have students shade in this phase on a diagram in their science notebooks.
16. Tell students to switch the moon to their right hand.
17. Tell students to keep on moving the moon in  $45^\circ$  increments. They will observe the reverse of the phases; this time with the left hand side of the moon lit up.
18. Have students shade in each phase on a diagram in their science notebooks.

**Assessment:**

0-4 Scale

- 4 – Exceptional
- 3 – Expected
- 2 – Developing
- 1 – Beginning
- 0 – Non-existent

Criteria:

- 1.) Student created an appropriate diagram of the new moon, crescent moons, and full moon. \_\_\_\_\_
  - 2.) Student labeled their diagrams correctly \_\_\_\_\_
  - 3.) Student cooperated and remained on task. + \_\_\_\_\_
- TOTAL \_\_\_\_\_

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TOTAL FINAL SCORE