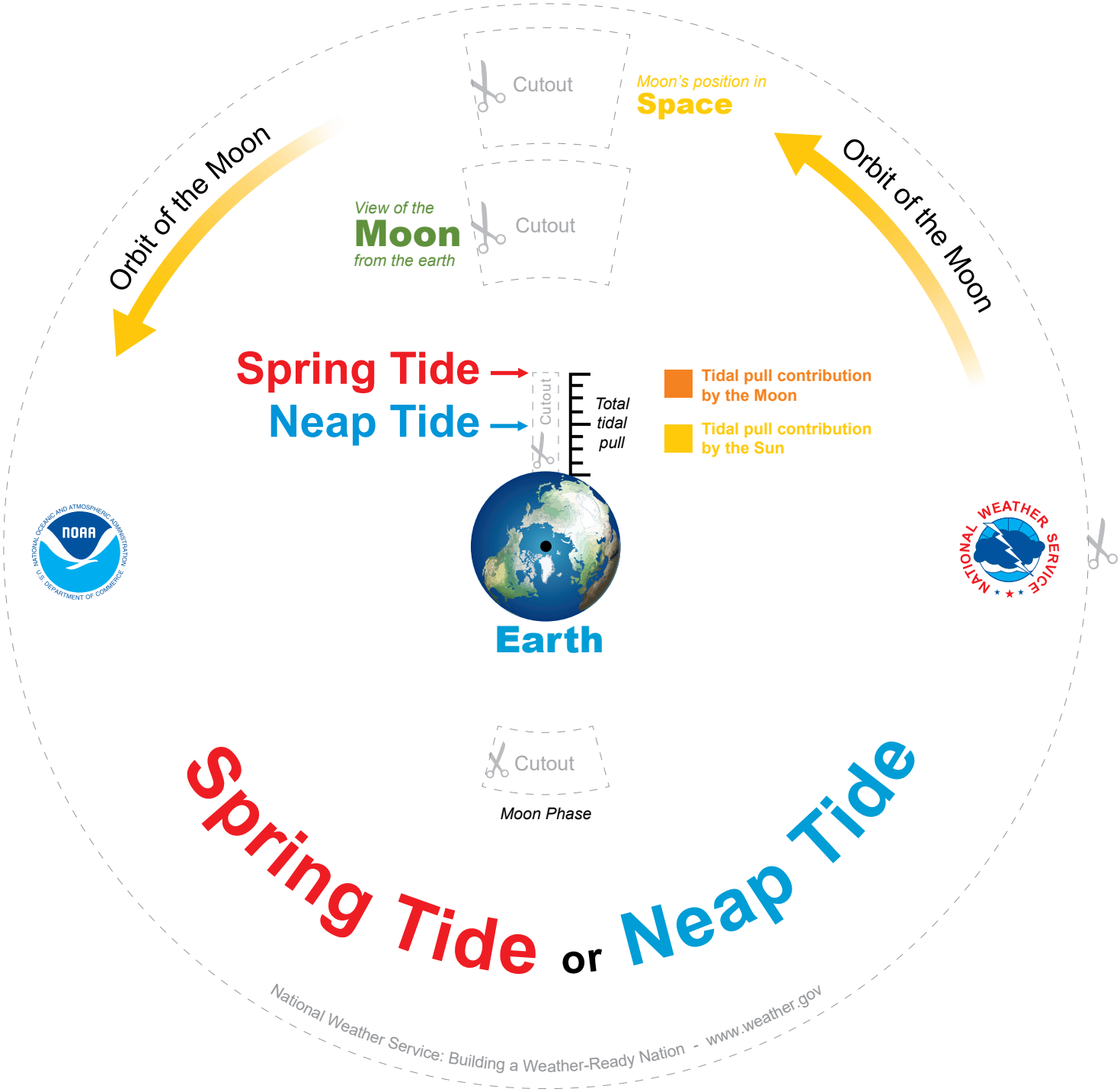

Lesson plan: Moonlight Serenade. Cut along dotted lines and make a small hole in the center of both wheels. Attach wheels together using a brass fastener. Record earth and moon view observations onto observation form. Complete lesson plan and PDF versions of wheels/forms are located at...

http://www.weather.gov/jetstream/ocean/ll_moonphase.html

Sun
New Moon
Waxing Crescent
First Quarter
Waxing Gibbous
Full Moon
Waning Gibbous
Last Quarter
Waning Crescent
Waning Crescent
Last Quarter
Waning Gibbous
Full Moon
Waxing Gibbous
First Quarter
Waxing Gibbous
Waxing Crescent
New Moon

Lesson plan:
Moonlight Serenade

Divide the students into pairs and
distribute one observation form to each student.

Place a lamp on a table or desk and remove the shade.
Turn the lamp on.

Stick a 2” styrofoam ball on the pencil. Darken the room.

Have one of the pair of students hold the ball by the pencil at arms length, blocking out the light from the lamp. Explain they represent the earth, the ball is the moon, and the lamp is the sun.

Comparing the light and dark side of the ball, on the observation form, under the "View from Earth" column, have that person draw/shade what their "moon" looks like. Have the student label this as "New Moon".

Have the other person mark the location of the moon relative to the earth and sun on the dotted line (representing the Moon's orbit) under the "Position in Space" column.

Have the student holding the "Moon" rotate 45° counter-clockwise. Repeat steps 6 and 7. Label this as "Waxing Crescent". Rotate another 45°. Repeat steps 6 and 7. Label this as "First Quarter".

Repeat steps 6 and 7 for each additional 45°, labeling them as "Waxing Gibbous", "Full Moon", "Waning Gibbous", "Last Quarter", and "Waning Crescent" respectfully. Have the students switch positions and repeat the process again.

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