



The Moon and the Stars Lesson Plan

Aims

- To introduce some of the vocabulary used in texts
- Learning about the Universe and the solar system for the first time
- To describe a diagram orally
- To learn about the phases of the moon.

Grades

- It is suitable for lower secondary school students.

Length – 50-60 minutes

Materials

- Pens
- Worksheets
- Whiteboard
- Moon phases cards
- Moon phases chart
- Scissors
- Glue

Lesson activities

Activity 1 – the Milky Way

Read and listen to the text. Complete the gaps with one word.

Under the Milky Way



People have always been interested in the night sky. They _____ (1) to think that the stars were gods, indeed some of the planets have been named after Roman gods since Roman times. In the middle ages people believed that the Earth was at the centre of the Universe and that the Sun and the stars _____ (2) around us.

In 1543 Copernicus explained scientifically that it is the Earth that revolves both on its own axis and around the sun. This was the beginning of the modern science of astronomy. But the stars still have a strong impact on human thought and culture, as we (3) _____ see from the survival of the much older beliefs of astrology.

Our solar system is located inside a galaxy called the Milky Way, which consists of many billions of stars. Everything in the Universe is constantly (4) _____. Even galaxies themselves are always in motion, swirling around the galactic centre.

The sky we look at is full of stars, the closest of (5) _____ (after the sun) is Proxima Centauri (which is 40 million km away). The reason we can see the stars from so far away is because they have very hot surfaces, like the sun.

The colour of the stars helps us to understand what they are made of, the hottest stars are blue and the coolest are orange and white. Stars have a life just as human beings – they are born, they get older and they (6) _____. When stars die they often just cool down to a small cold ball in the sky, but sometimes they explode and for a short time become very very bright, these stars are (7) _____ as supernovas.

Activity 2

Moon discussion

- Explain that today you will begin a discussion about the moon.
- Ask students to describe when the best time is to see the moon (at night). Ask students if the moon can also be seen during the day (Yes, it can be seen during the day too. At different times of the month it is easier to see).
- Ask them if the moon looks the same every time they look at it. Ask them to explain how it changes. (Sometimes you can only see a little white sliver and sometimes you can see the whole moon.)
- Explain that it takes the moon 29 days (about 1 month) to travel around the earth and the different phases that we see are when the moon is at different points in that orbit.
- Hold up the “Moon Phases Cards” and point out the different phases that the moon goes through.

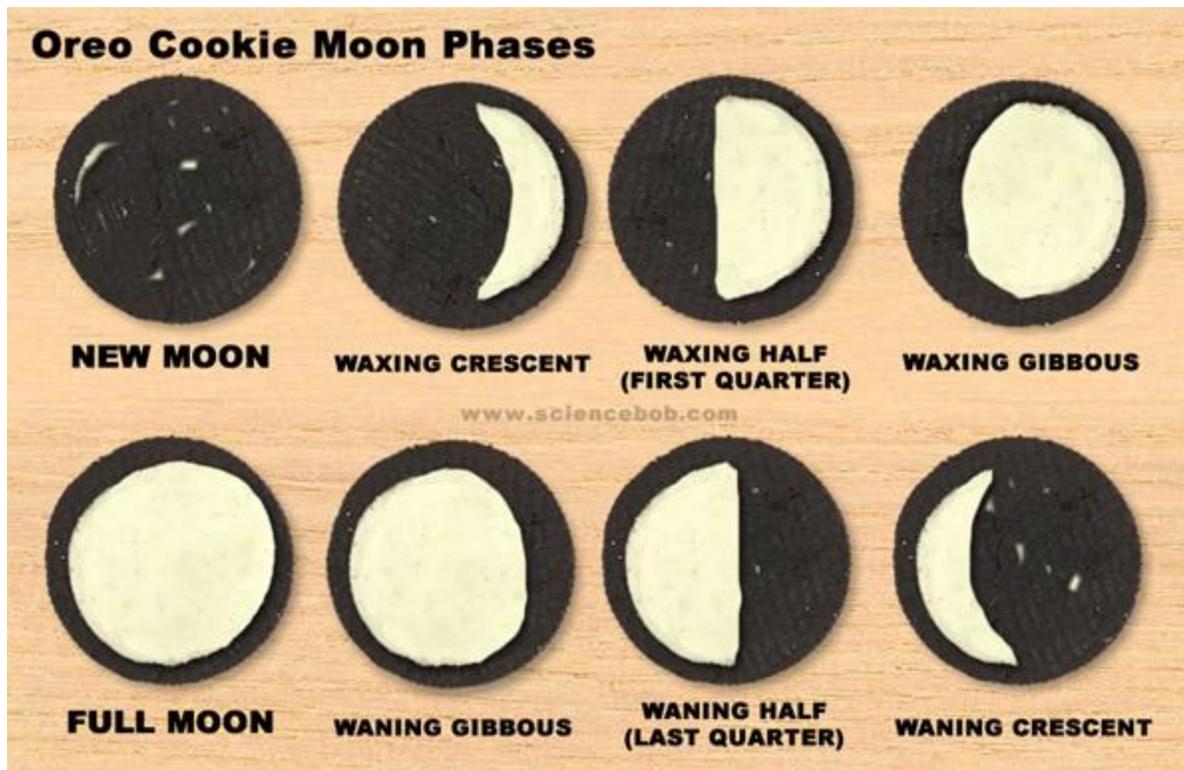
Fun facts to share: We can only see half of the moon from earth, since the other side is always turned away from us.



- As the moon travels around the earth, we see different fractions of the moon, as it is lit by the sun
- “Waxing” means growing and is used to describe the moon as it grows from new moon to full moon
- “Waning” means shrinking and is used to describe the moon as it gets smaller from full moon to new moon.
- The “first quarter” is when the moon has completed $\frac{1}{4}$ of its orbit around the earth. This is when the moon looks like a “half moon.” The “last quarter” is when the moon has completed $\frac{3}{4}$ of its orbit around the earth and also looks like a “half moon” to us.

Activity 3

Cookie moons



1. Divide students into groups of 3-5 students each. Give each group four cookies and a copy of the “Moon Phases Cards” handout.
2. Ask students to twist open their cookies and put both sides down on the table, with the cream side facing up.
3. Ask each group to recreate the eight phases of the moon, using the eight cookie halves and by scraping the cream onto or off their cookies with a popsicle stick, spoon or other tool, to make them



look like the shapes featured on the “Moon Phases Cards.” (Students may need to scrape some of the cream off of one cookie and add more to another to create their phases.)

4. Each group should place their eight moon phases in the order shown in the cards.
5. After each group has placed its cookie moons in order, ask them to check their moon cookies with the phases in the “Moon Phases Cards” to make sure they have their phases in the right order.
6. Have students observe the creations of the other groups.

Activity 4

Moon phase flipbook

1. Give each student the “Moon Phases Flipbook.” Have students cut out each of the 8 pages in the book.
2. Have students put the pages in order from 1 to 8, with 1 on top and 8 on the bottom.
3. For easier flipping, paste each one onto a separate index card.
4. Staple the pages on the left hand side.
5. Have students place their left hand on the left hand side of the book, their right hand along the right side of the book, and use the thumb on their right hand to flip the pages, starting with the top page and going to the bottom.
6. Ask students to flip the pages and observe how the moon changes phases.

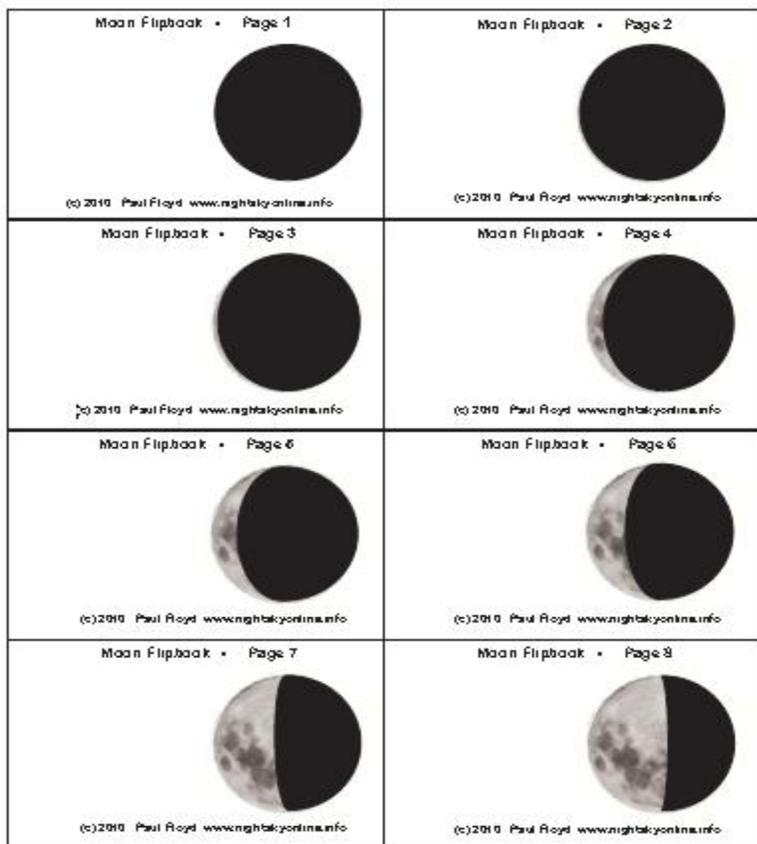
Wrap-up:

1. Lead a discussion about the moon.
2. Ask students to share their observations about the moon and its phases.



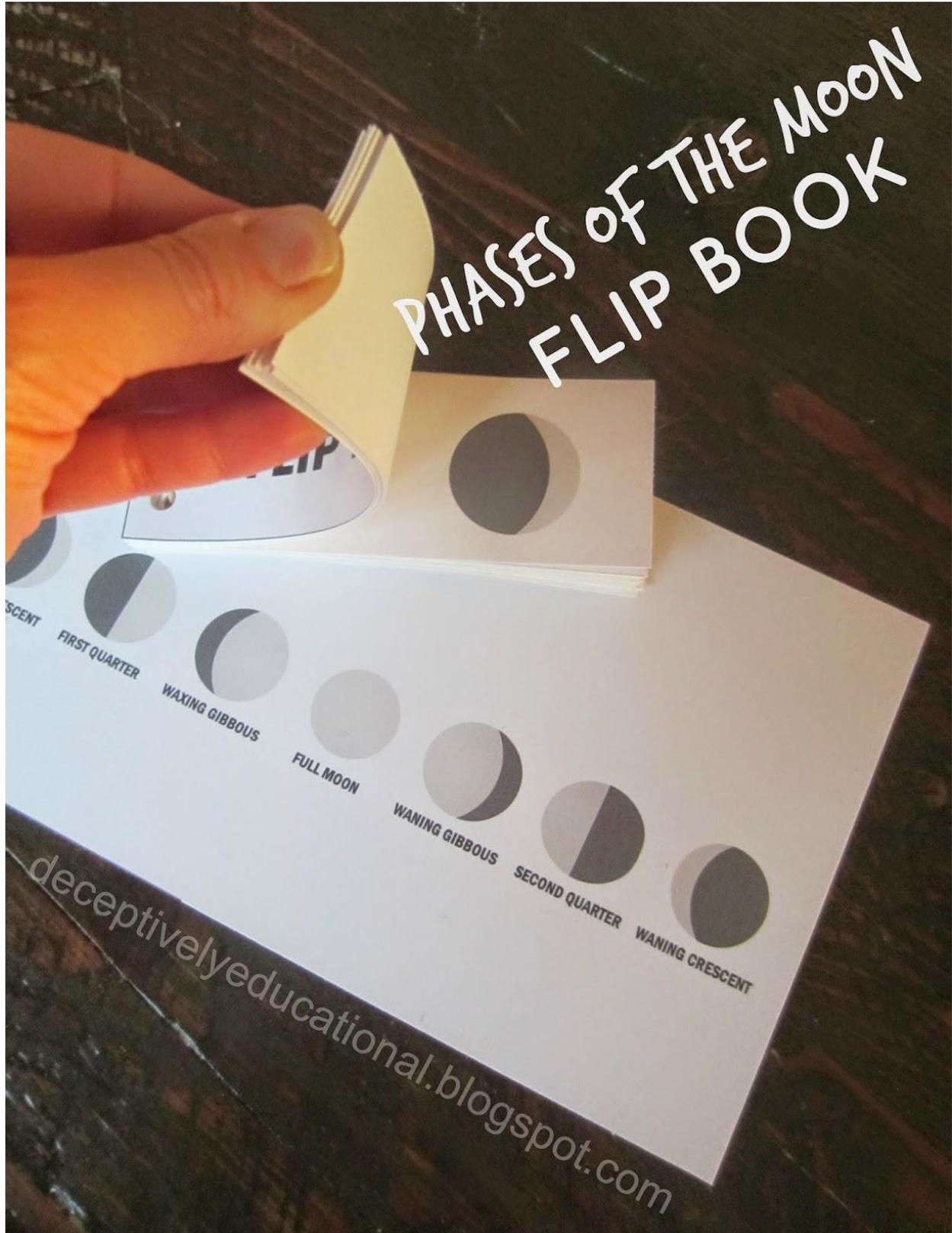
Instructions:

1. Glue the four pages to thin card.
2. Cut out the rectangles and stack them in order.
3. Wrap a strong rubber band around the left hand side of the stack.
4. Use your thumb to flick through the cards to produce an animation.





PHASES OF THE MOON FLIP BOOK



deceptivelyeducational.blogspot.com

