

Don't Duck Look Up Educator's Guide

Synopsis:

This show presents the benefits of observing one's surroundings. Dudley is a duckling who lives on a farm. Dudley discovers many exciting features of the day and night skies with the help of the farm animals and his friends. He observes the blue sky and apparent motion of the Sun caused by the spinning Earth. Dudley becomes very wet during an afternoon thunderstorm. That evening he watches a sunset with his friends and they share ideas for pictures in the sky using stars. We observe the Moon and the motion of the stars at night. Finally, we watch the brightening of the sky during sunrise and the beginning of a new day.

Glossary:

Glossary terms are provided for the benefit of the teacher. However, it is recommended that students be introduced to some of the words listed below.

Cloud	White or grey puffy objects seen in the sky which block the Sun, stars, planets, and Moon from our view, and may cause rain or snow.
Constellation	A group of stars connected to form an imaginary picture in the sky.
Darkness	When there is no light visible.
Day	When the Sun is in the sky from your location.
Directions	North, south, east, and west, used to observe motion in the sky.
Earth	The planet we live on.
Evening	When the Sun sets in the West, evening marks the end of the day and beginning of night.
Moon	A natural satellite of a planet. Earth's moon is called the Moon.
Morning	When the Sun rises in the East, morning marks the end of night and the beginning of each day.
Night	When the Sun is not in the sky from your location.
Planet	Any one of the eight major bodies in orbit around the Sun.
Rotate	To turn around a center.
Sky	The place outside, above and all around you.
Star	We see stars most frequently as tiny points of light in the night sky. Our Sun is a star.
Sun	Star in the center of our Solar System that gives light to the daytime sky. The Sun is the closest star to Earth.

Earth is Turning Activity

The General Idea:

This is a class participatory demonstration through which students learn that at all times the Sun shines on Earth and makes day for different people in different places. In one complete turn each child experiences both day and night. Morning and evening may be introduced as the times between day and night.

Getting Ready:

Students should know that Earth is a giant ball on which people, plants, and animals live together. Review the song to the tune "Are You Sleeping", which can be sung during the activity.

Earth is turning.
Earth is turning.
All the time.
All the time.

Day becomes the nighttime.
Night becomes the daytime.
On and on.
On and on.

What You Need:

- Large open floor space in a darkened room
- Bare light bulb, preferably low wattage (a table or floor lamp without its shade works well)
- Extension cord as required for plugging in the light
- Classroom Globe

What To Do:

1. Place the lamp at the center of the classroom be prepared to darken the lights when needed.
2. Arrange the students, in groups of four, spread out around the light.
3. Have each group of four stand back to back, in a small circle, and link arms. Each circle should be fairly tight.
4. Each group will be pretending to be Earth.
5. Signal the students to begin rotating by taking very slow baby step to their left. Each circle should remain at the same point around the circle at this time. Students facing the Sun are in daytime, and will see it go off to the right. Those not facing the Sun are in nighttime, and will see it appear from the left.
6. Repeat several times while directing observation of how it seems like the "Sun" is moving from left to right when it's really "Earth" that's turning.
7. Try singing the "Earth is Turning" song, while the students rotate.
8. A globe may come in handy for further demonstration.
9. Advanced Movement - If students are agile enough, you may want to try having the groups revolve around the sun while rotating.
10. Give students breaks between attempts so that they don't get dizzy.
11. Use the globe to demonstrate rotation and revolution if students are unable to do the advanced movements.

Discussion and Demonstration of Understanding:

1. After one rotation, ask "How long does it take for Earth to do what you just did?" Earth takes 24 hours to complete one rotation.
2. Stop the students rotating. Ask for those students in "day" to stand on their tiptoes. Repeat same for morning, night, and evening.
3. Ask students to name some things seen in the sky during day and/or night.

Match Games

The General Idea:

This activity exercises recognition skills by matching icons of sky objects. The Sun/star, Earth/planet and Moon icons may be used in a variety of match-type games. Emphasis can be placed on the idea that even though objects don't always look the same, as a whole they may not change.

Getting Ready:

Explain to the students:

1. The Sun and stars are shaped like balls, but are often represented with points.
2. Even though the shape of the Moon doesn't look round all the time, it is always shaped like a ball.
3. Land masses on Earth are different shapes. Different sides of Earth look different
4. Planets look different from one another.

What You Need:

- Photocopies of enclosed Sun/star, Earth/planet and Moon icons
- Crayons, markers, or colored pencils
- Scissors
- Glue or paste
- 3x5 index cards

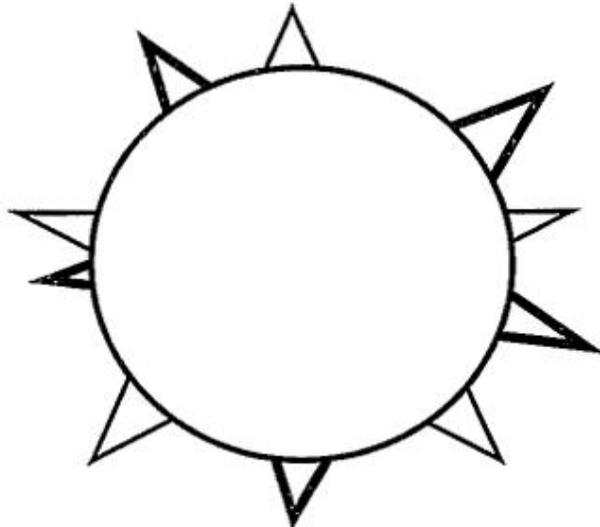
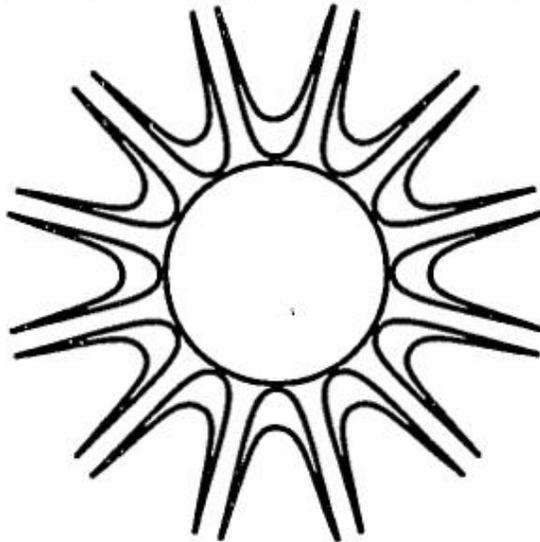
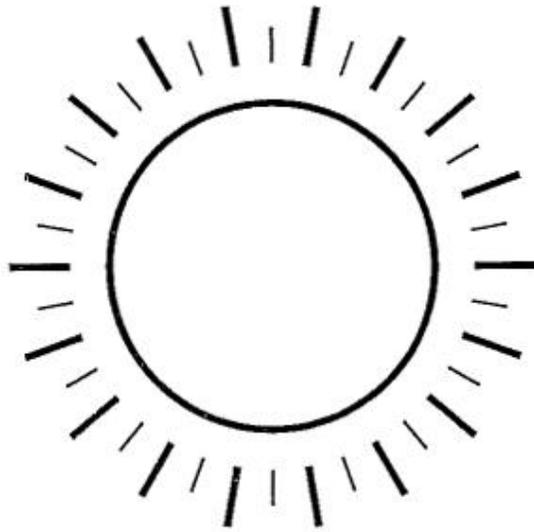
What To Do:

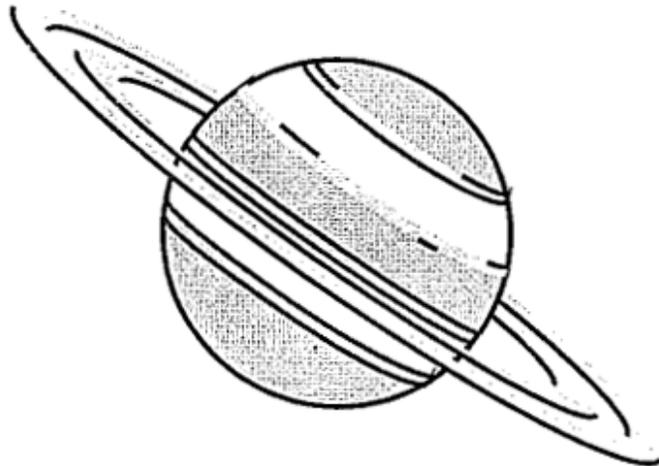
1. Have students color the icons.
2. Teacher or students should cut icons along dotted lines.
3. Teacher or students should glue the icons to the index cards.
4. Match Game may be organized for a class activity, small group, or one-on-one. Supply as many icon copies as needed.
5. Arrange a mixed group of icon cards and ask student(s) to pick out which is the Sun/star, Moon, or Earth/planet.
6. Arrange a mixed group of icon cards and ask student(s) to pick out which is not the Sun/star, Moon, or Earth/planet.
7. Repeat as desired with as many cards as appropriate for your group.
8. Spread a duplicated set of cards face down in a grid pattern for a concentration-type or memory matching game. Match pairs by exact icon or similar subject (i.e. star, planet, or moon)
9. Additional Activity – Have students create their own icon images for the cards.

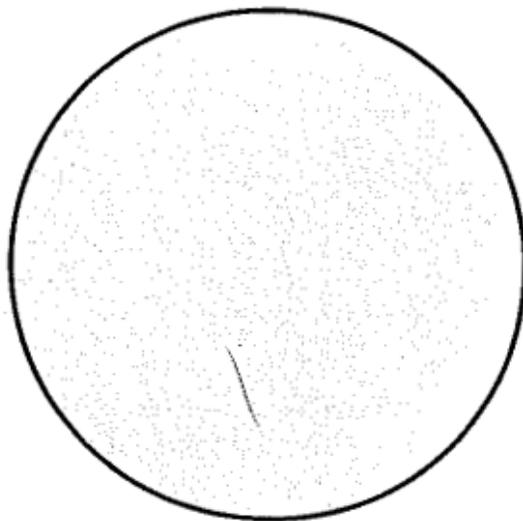
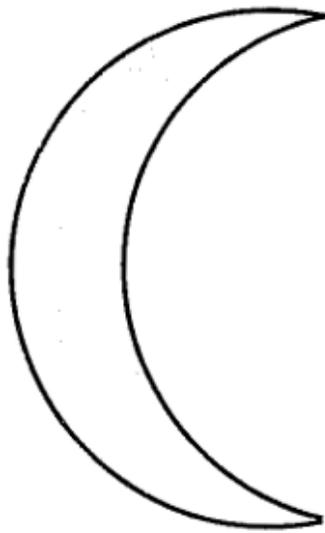
Discussion:

1. The Sun is a star, and like all stars, is shaped like a ball. Even though they are sometimes drawn with points, stars are not pointed.
2. The Moon doesn't always look the same, but the different shapes we see repeat again and again over time.
3. Different views of Earth show different shapes of land. The different shapes of land are all parts of the whole Earth.
4. Earth is not the only planet. Each of the eight planets are different. Have students create their own icon cards, one for each Planet.

Match Game Icons







Make a Mobile

The General Idea:

Each student will make his/her own mobile to hang over their desk or take home. The three components of the mobile represent the Sun, Earth, and Moon, but may be generalized as star, planet, and moon (natural satellite of a planet). Through discussion, the students find out what factors make stars, planets and moons different kinds of objects.

Getting Ready:

Sun, Earth, and Moon may be introduced before, during and/or after construction of the mobile. Some facts to know are:

- The Sun is a star, but not the only one.
- Stars are many different colors and sizes.
- The Sun is the nearest star to Earth and that is why it looks different than the other stars.
- Real stars do not have points, they are round.
- Earth is one of eight planets that circle our Sun. There are other planets circling other stars.
- We live on Earth with all the animals and plants.
- All planets in our Solar System orbit the Sun.
- The Moon orbits the Earth as the Earth orbits the Sun.
- Other moons orbit other planets.

What You Need:

- Photocopies of enclosed mobile icons
- Crayons, markers, or colored pencils
- Scissors
- String or Yarn
- Paper Punch
- Glue or paste
- 3x5 index cards
- Optional: wire hanger

What To Do:

1. Have students color enough the icons for both sides of the index cards.
2. Cut out the icons and glue to both sides of the index cards.
3. Cut out the shapes and punch holes where marked.
4. String parts together. Optionally, use the wire hanger as a stable structure for the mobile by tying the strings to the hanger.

Discussion:

1. The Sun, Earth, and Moon are each only one example of a star, planet, and natural satellite.
2. The eight planets in our Solar System are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.
3. If desired, try using a mnemonic to remember the order of the planets. Use one of these or make up one of your own:
 - My Very Excellent Mother Just Served Us Nachos
 - Mary's Violet Eyes Make John Stay Up Nights
4. In basic terms, stars, planets, and moons are different from each other in that stars shine light (in our Solar System, planets and moons reflect sunlight), planets move around stars, and moons move around planets.

Mobile Icons

