Make Your Own Light Box

Play with light and colors with a homemade sensory experience.

Materials:

Transparent plastic storage container with transparent lid*, 1-3 *indoor LED* holiday string lights, white paper towels or tissue paper, tape. *Container can be any size. A medium or large size with a flatter profile works best.

Caution: Children should be closely supervised during this activity. Use only indoor LED string lights. Exterior lights get hot to the touch and can pose a fire risk.

Instructions:

Step 1: Place several strings of indoor LED holiday lights in the container. You need enough lights to shine through the lid. Leave the plug end on the outside of the box.

Step 2: Tape a single layer of paper towels to the underside of the container lid. This will create a backlit play surface.

Step 3: Close the lid. With most containers, the cord with the plug will easily fit. If needed, loosely close one side of the lid and secure with tape if needed.

Step 4: Darken the room and plug in your light box! Remember to unplug the lights when you are finished.

See the activity sheet for play suggestions!

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Light Box Activities

Activity 1: Explore Light Through Colors and Shapes

Materials:

Homemade light box, translucent paper in different colors (paper streamers, tissue paper, or cellophane wrap works well), scissors.

Instructions:

Cut different shapes from your translucent paper, in a variety of colors. Arrange them on the light box to make designs.

Explore how light shines through the paper. Try layering two colors on top of each other. How does the color change? Does the light shine as brightly?

Activity 2: Light Drawing

Materials:

Homemade light box, flour or play sand.

Note: This activity can be messy. Choose a surface that is easy to sweep.

Instructions:

Pour a layer of flour or sand on top of your closed light box. Run your fingers through the flour or sand to create drawings. Make different designs! Experiment with the way the light shines through.

Where Does Light Come From?

Light is made from chemical reactions between atoms: the tiny building blocks that make up everything in the universe.

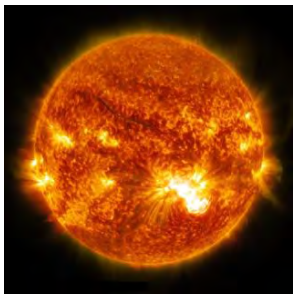

Image: NASA.

Stars Produce Light

Stars like our Sun make visible light through chemical reactions between helium and hydrogen atoms. Without the Sun, there would be no life on Earth. We see light from many other stars in the universe. Many stars are much bigger than our Sun, but they look small to us because they are much farther away.

All the Colors of the Rainbow and More

The sun's light travels in waves. It looks white, but is made up of many different colors, or wavelengths. Sometimes when sunlight shines through rain we see those different colors in a rainbow. Sunlight also makes light that the human eye can't see, such as ultraviolet and infrared light.

Image: Needpix.com

Light is the Fastest Known Traveler in the Universe!

We don't know of anything that can travel faster than light. Light from the Sun reaches the Earth in about 8 minutes. That's a speed of over 670 million miles (1.08 billion kilometers) per hour! Light can travel 7 times around the Earth in just one second.

Images from pxhere.com

Who Else Makes Light?

On Earth, humans have figured out how to create light when sunlight isn't available. From fire to electricity to glowsticks we have found new ways to light homes, travel at night, and enjoy light.

Other animals make light with chemical reactions in their own bodies! *Bioluminescence* is very common in the ocean. Many deep-sea animals have adapted to make light as a way to avoid predators, find food, or attract a mate. On land, bioluminescence is rare, but fireflies are one example. Scientists will likely discover more examples of animals making their own light!

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