

# Patch Program

## Dark Skies

This patch will help you understand the importance of dark skies and how you can protect this resource. You will learn about light pollution, see the effect of light pollution yourself, learn how you can make changes to reduce light pollution, and share what you have learned with others.

### Grade level requirements:

- **Daisies (grades K-1).** Choose two activities from each category.
- **Brownies (grades 2-3).** Choose two activities from each category.
- **Juniors (grades 4-5).** Choose three activities from each category.
- **Cadettes (grades 6-8).** Choose four activities from each category.
- **Seniors (grades 9-10).** Choose four activities from each category.
- **Ambassadors (grades 11-12).** Choose four activities from each category.

## Discover

Are you ready to see the stars? Hopefully you can! Discover how stars are not seen everywhere and what light pollution is.

- Research light pollution. What is light pollution. What are causes of light pollution? What are the main types of light pollution? Visit the [Texas Parks and Wildlife's Bortle Scale](#) page to help find more. What is the Bortle Scale of Light Pollution? do you think your hometown falls on the Bortle Scale?

- Use [Light Pollution Map](#) to see what light pollution in Texas looks like. Can you locate your home on the map? Do you live in an area with dark night skies or light night skies?
- Can you think of animals that might be affected by light pollution? Research how nocturnal animals are adapted to low light environments. How do you think light pollution might affect these animals? You might consider looking into bats, sea turtles, birds.
- Do you think light pollution affects people? Find out! If so, how?
- Does the color of light make a difference? Why?

## Connect

Find out why it is important to see the night sky. Connect with the night sky a whole new level.

- Go sit outside at night. Avoid looking at lights or the light from screens such as laptops or cell phones. After about 15 minutes, does the night sky seem to change?
- Try to go outside in a place like a big city that has high light pollution and look at the sky. Record your observations of the night sky in this environment. Now try and find a place with lower light pollution, like the countryside or a remote park. Record your observations of the night sky here. Compare what you saw in the city and the country. What was different?
- There are four International Dark Sky Association Parks in Texas. Can you find out which ones they are? Try to visit one of the parks and do some stargazing. Can you see more stars and constellations from these parks than outside where you live? Have you seen the Milky Way? If not, you might be able to see it by visiting one of these parks! What does the Milky Way look like to you? What is the Milky Way? Journal about your experience seeing the Milky Way!
- Go on a night hike, ideally somewhere you are familiar – how does the area differ during the night from the day? How would light pollution affect this area? Can you identify light pollution?
- Take some crayons and write on a notecard. Take the notecards outside at night and try to guess what color the crayon is. Were you able to tell what color it was? Research how light affects your vision.

- Learn about night sky photography. Can you take pictures of the stars with a camera or phone?

## Take Action

Girl Scouts make the world the better place. Take action to make the world a darker place so that more people can enjoy the night sky.

- Can you think of ways you can reduce light pollution? Investigate if you can make simple changes to reduce your impact on the night sky. Work with an adult to see if you can change lightbulbs, use timers, or reduce light pollution in another way.
- Make a presentation, video, or play to inform your friends or other community members about light pollution and dark skies. Share why reducing light pollution and protecting the night sky is important.
- Write a letter to your local newspaper sharing what you've learned and encouraging other people in your community to make changes to protect the night sky.
- Write to city officials to encourage them to implement dark sky friendly changes around your town.
- Attend or throw a star party.
- Become a Citizen Scientist with [GLOBE at Night](#) to record light pollution in your area.
- Observe [International Dark Sky](#) Week, held the week of the new moon in April each year.
- Encourage your community to put their [Lights Out for Birds](#) during peak migration seasons.