



Girl Scouts of Eastern Oklahoma
and IBM® present the
ASTRONOMY CLUB PATCH PROGRAM
"Reaching for the Stars"
Level: Juniors

STEP 1: LEARN ABOUT THE SOLAR SYSTEM

- Which planets are visible to the naked eye?
 - Locate one or more and tell what part of the sky (direction), date, and time you located it.
- What is in our Solar System?
 - Explain the differences of those things in it.
 - Draw a simple diagram of the Solar System.

STEP 2: LEARN ABOUT THE SUN

- Learn how to use a sundial and tell someone how to do it.
 - How can you tell directions using the sun?
 - Using the stick method, show how to find north, south, east, and west.
 - Explain why some days are longer than others.

STEP 3: LEARN ABOUT THE MOON

- Observe the moon on the first or last quarter. Using a moon map and a telescope or binoculars, locate valleys, ridges, or mountain ranges on the surface. Answer the following questions:
 - How long does it take the moon to complete an orbit around the earth?
 - What causes the phases of the moon?
 - How does the moon's orbit affect the tides on earth?
 - How old is the moon?
 - How were the craters formed?
 - When did the first American walk on the moon and who was it?
 - How many times have we gone to the moon?

STEP 4: LEARN ABOUT THE STARS

- Learn how to use a star map.
 - Learn the map symbols and be able to show others what they mean.
 - Obtain a star map for stargazing at your location and time. Use the library, internet, or astronomy publications.
- Learn what constellations are visible for each season (spring, summer, fall and winter).
 - Why are some only visible at those times?
 - Make a calendar of when they can be seen.



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- Locate the North Star.
 - What is the other name for it?
 - Use it to locate at least two other major stars and name them.

STEP 5: LEARN ABOUT COMETS, METEORS, AND METEORITES

- Describe what comets, meteors, and meteorites are.
 - How are they different?
- Find out when a meteor shower will be visible in your area and observe with your parents or your troop.
 - How many are visible per hour?
 - What part of the sky were they visible?
 - What time were there the most?

STEP 6: LEARN MORE ABOUT ASTRONOMY

- Is there a planetarium in your town?
 - Visit it and share your experience with a group.
- Interview an astronomer.
 - What do they do?
 - What education is needed to become an astronomer?
- Start a neighborhood astronomy club or start one with your troop that you can meet with on campouts.
 - If other troops are there, involve them and help them start their own club.
 - Ask a local astronomy club to help you if needed.

CONGRATULATIONS ... YOU HAVE EARNED YOUR PATCH!

Patches can be purchased either online at gseok.org or in the Girl Scout Store.