



STATEWIDE
STAR PARTY

Pipe Cleaner Constellations

ACTIVITY INSTRUCTIONS

ncscifest.org/starparty

OBJECTIVE

Construct a constellation out of pipe cleaners and beads

SUGGESTED AGE RANGE

Ages 6 and up

ACTIVITY DURATION

10 minutes

MATERIALS

- pipe cleaners or chenille stems
- pony beads
- scissors
- star map or drawings of constellations



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BACKGROUND

We often think of constellations as connect-the-dot pictures made out of stars. To astronomers, though, a constellation is an area of the sky with defined boundaries, a bit like how the U.S. is divided into areas called states. Stars in a constellation can lie at many different distances and aren't necessarily related, other than lying in the same direction from Earth. That is, constellations are arbitrary human inventions—not natural groupings of stars. The International Astronomical Union has divided the sky into 88 constellations, which are recognized by the international scientific community, though different cultures have organized the stars in different ways over time.

PREPARATION

Arrange materials on a table, leaving space for participants to make their creations. Display a star map or drawings of constellations. You may also wish to display a completed example.

PROCEDURE

1. Show examples of constellations from a star map or other drawings. For younger participants, focus on ones that will be easier to make, such as Cassiopeia or perhaps the Big Dipper. (Note for sticklers for accuracy: The Big Dipper is an “asterism,” a familiar star pattern that is not recognized by the International Astronomical Union as a constellation. It's *part* of a constellation: Ursa Major, the Big Bear.)
2. Invite your participants to choose a constellation to recreate. Pony beads represent stars, and pipe cleaners can form lines that connect stars. Some participants may enjoy inventing their own constellation instead.
3. Help your participants figure out how many beads they'll need to represent the stars.
4. Participants will string on the beads and shape the pipe cleaners to form the constellation.
5. As they work, encourage problem solving. It's okay if they undo their work-in-progress and try out different ways to connect and shape their creations. They may discover that scissors can help them create smaller pieces and that twisting pipe cleaners together can help form the more complex constellations. They'll probably want to string the beads on the pipe cleaners before attaching pipe cleaners together.
6. Folding over loose ends can help prevent beads from sliding off.
7. After they return home, participants may wish to use a thread to hang their constellation.