

# Constellation Designer Wanted!

## Mission: Create a Constellation

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### Target Standard Connections

- Recognize and use connections among mathematical ideas
- Understand how mathematical ideas interconnect and build on one another to produce a coherent whole
- Recognize and apply mathematics in contexts outside of mathematics

### Related Standards Measurement

- Apply appropriate techniques, tools, and formulas to determine measurements

### Geometry

- Use visualization, spatial reasoning, and geometric modeling to solve problems
- Use geometric models to solve problems in other areas of mathematics, such as number and measurement.

### Prior Knowledge

- Experience with measurement instruments (rulers, protractors)
- Experience with metric units of measure
- Experience with geometric shapes, angles, and associated terms and representations

### Teaching Plan

#### Purpose

Children create a constellation of their own design with given parameters to connect their knowledge of measurement and geometry.

#### Materials

Paper, Pencils, Star Field activity sheet

#### Implementation

1. Use the **Star Field** activity sheet with stars labeled A, B, C,...
2. Use a ruler to make line segments connecting the stars into shapes
3. Measure the length of the line segments in centimeters and record the lengths above the line segment it represents on the sheet.
4. Select one obtuse and one acute angle that you will identify and label accurately. [*option* → for older children measure the angles]
5. Create a polygon in the constellation and label it. [*note* → the criteria should be modified to suit different purposes]

Share constellations with class (or parents), having classmates locate a variety of angles. (Constellations may be reproduced on black construction paper or tagboard, poking holes for stars for use with overhead projector). Have children create their own story about their constellation. Share myths with class.

#### Extension

Share real myths about constellations.

#### Resources

[They Dance in the Sky: Native American Star Myths](#), by Jean Guard Monroe and Ray Williamson; ISBN 0-395-39970-X  
[Tales of the Shimmering Sky](#), retold by Susan Milford; ISBN 1-885593-01-5  
[The New Patterns in the Sky](#), by Julius D. W. Staal; ISBN 0-939923-04-01  
[The Box of Stars](#), by Catherine Tennant; ISBN 0-8212-2038-1  
[Star Boy](#), by Paul Goble; ISBN 0-689-71499-8  
[How the Stars Fell Into the Sky](#), by Jerrie Oughton; ISBN 0-395-77938-3

# Star Field

