

twinkle, twinkle



Stars look pointy and seem to twinkle because we see them through the layers of the *atmosphere* — the gasses that surround our planet. The movement of air and dust in the atmosphere bends (*refracts*) a star's light in different directions. Because the light is scattered by the time it reaches our eyes on Earth, stars appear to twinkle.

Even though stars do not twinkle or have points, these huge, hot balls of gas do shine. In this craft activity, your child will explore the shape and brightness of stars and constellations by making a mobile.

Supplies

- >> Aluminum foil
- >> Black thread
- >> Scissors, pen or pencil, ruler, glue, and tape
- >> Cardboard (at least 8 x 11 ½ inches in size)
- >> White paper
- >> Black construction paper and paint

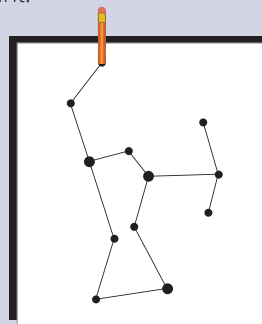
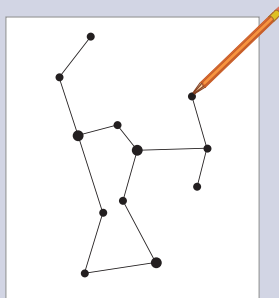
Getting Started

In his book *Find the Constellations*, author H.A. Rey explains why some stars appear brighter than others. Talk with your child about the brightest star of all — our sun — and ask her why she thinks stars in the night sky seem smaller and much less brighter.

Because stars are very far away, they look small to us. They may also appear less bright because of a difference in distance or a difference in size. If you can, spend time outside on a dark clear night looking up at the stars. See if you can find the Indian girl and her seven brothers from Paul Goble's *Her Seven Brothers* in the Big Dipper. (The Sky Views in *Find the Constellations* can help you find these stars.)

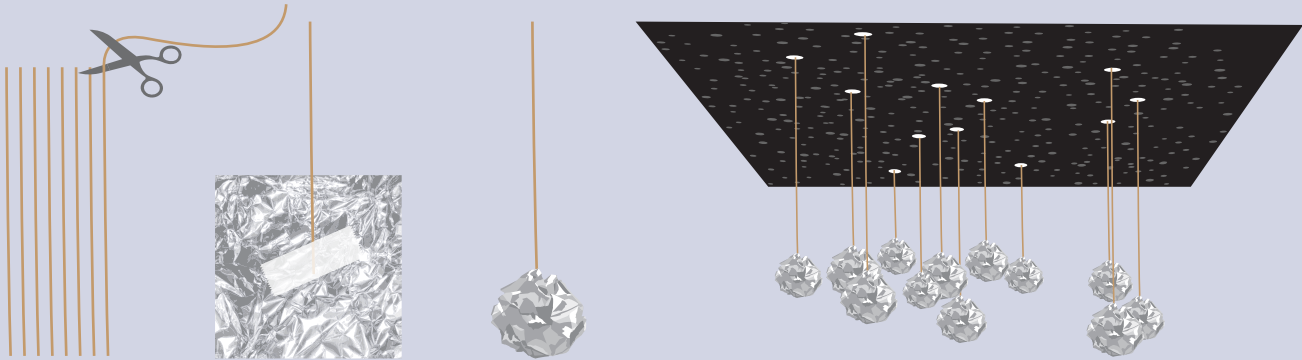
To bring the stars inside, have your child select a constellation from the book you've read. Talk with her about the stars in her selection. Are they very bright or of a lesser *magnitude* — the measure of a star's brightness? How are the stars arranged? What does she like about the shape of the constellation?

As you discuss, have her cover the cardboard with a piece of black paper and glue it in place. Then let her draw the constellation or trace it from the book onto white paper. Then place the tracing over the black-covered cardboard and use the pencil or pen to poke holes into the cardboard where she's drawn the stars. Now that her constellation is in place, she can surround it with more stars using drops of white or silver paint.





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While the paint dries, have your child measure and cut lengths of thread about 2 feet long. She'll need a thread for each hole she's poked in the cardboard. She will also need a square of aluminum foil to make a star for each thread. She can make her stars as large as she likes, but foil squares should be at least seven inches.

Have her tape a thread in the center of an aluminum foil square. Then have her squeeze and shape the foil into a ball around the end of the thread. It's a bright, round star!

When all her stars are ready, help her pull the end of a thread through each of the poked holes in the cardboard. Tape the thread to the back of the cardboard to secure it in the "sky." You and your child may want to review the constellation chart as you pull threads through, making some of the threads shorter for stars that are less bright or squeeze the foil even tighter to make the stars smaller for stars that seem smaller.

Hang the mobile on the ceiling with tape or tacks. Have your child lie under it. Can she find the picture in her constellation?