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SCIENCE ★ TECHNOLOGY ★ ENGINEERING ★ MATH

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# Flashlight Constellation

Welcome Winter Solstice! Grab a flashlight and tissue paper to design a cool constellation to light up your room during the longest night of the year. Share your unique designs on Instagram: #iheartgirlstart

Fun Fact: National Flashlight Day is December 21st
December 21 is Winter Solstice which is the shortest day, and longest night, of the year. It is believed that National Flashlight Day came about because of all the dark night visits with family during the holidays.

### Materials:

- Flashlight
- Pencil
- Scissors
- Tape or Rubber Band
- Tissue Paper
- Toilet Paper Roll

## How To

1. Cut a 4”X4” square out of the tissue paper
2. Place the tissue paper over one opening of the toilet paper roll and secure using tape or a rubber band.
3. Using the tip of the pencil, gently poke holes into the tissue paper to form a constellation (picture).
4. Now you are ready to display your constellation! Shine the flashlight through the open end of the toilet paper roll so the stars are displaying onto a blank wall.
5. Create a story to go with your constellation!

## Where Do Stars Come From?

A star begins as a giant cloud of gas and dust, called a nebula. Gravity pulls the gas close together to form a gas clump that heats up and becomes a protostar. The protostar continues to heat up until about 15,000,000°C (27,000,032°F!), causing the gas to clump closer together and form a main sequence star— the star we see.

 

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## Where Do Stars Come From Continued...

These stars shine for millions, even billions of years! Then the star cools down, causing the inside to contract, and the outside to expand. The star is now red, and is called a red giant. Eventually, the red giant collapses, causing the star to reach over 100,000,000,000 °C (over 180,000,000,000°F!), resulting in a supernova explosion.

## Career Connection:

***Stellar physicists*** research the formation, evolution, interior and the atmospheres of stars.

Resources: www.nasa.gov

www.enchantedlearning.com

www.astronomynotes.com