



BREWING UP SOME STEAM CONSTELLATION VIEWER

Materials You Will Need:

- a toilet paper tube
- set of constellation patterns (note: the ones provided have been "flipped" so you will see them the correct way)
- glue stick
- scissors
- black construction paper squares (4 1/2 x 4 1/2 in)
- golf tee
- rubber bands

DIRECTIONS

See the instructional video (by NASA):

<https://youtu.be/HrKRWsrZuYc>



1. Choose a constellation pattern. Cut around the outside, dotted line of the pattern. Glue it to the center of the square of construction paper.



2. While the glue stick is drying, cut the black square into a rough circle shape (it does not have to be perfect), then make cuts from the outer edge of the construction paper into the center, but do not cut the constellation pattern. This allows for easier attaching of the construction paper to the tube.

Constellation Viewer (cont.)

3) Use your golf tee to gently poke out the holes of the constellation pattern. Put a finger on the other side and gently push through the paper at each dot. It helps to turn the tee slightly. Do not press too hard or make the holes too big - just big enough to let light shine through.



4) Center the constellation on top of the cardboard tube and fold the cut wedges down. Secure to the tube by wrapping a rubber band around the folded down wedges. Using a rubber band will allow you to swap out constellation patterns!



5) Close one eye and use the other eye to look through the tube at the constellation pattern!

6) Repeat with as many constellation patterns as you want!

Take this further:

As you get better at identifying these constellation patterns, test yourself by looking through the tube before reading what patterns it is!

Take a look at the night sky and see if you can find the patterns.