Animated Bat
Animation makes pictures move

SCREECH at THE REACH
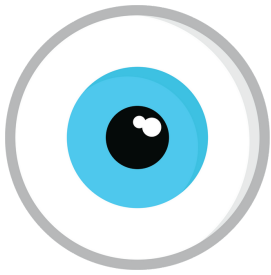
Persistence of Vision

This simple toy uses persistence of vision to make it look like a picture is moving. Animation works because your brain remembers the first image you see, even if you're only seeing it briefly. When you see another image that is slightly different but in the same space, your brain fills in the missing information and it looks like the image moved. Most animations are created at a rate of 24 to 60 images per second (or frames per second.)

Use these bat images to make a thaumatrope ("wonder turner") which is an old-fashioned animation toy.

1. Color and cut out the two bat images below:

2. Cut out a 3-4 inch diameter circle out of cardstock and punch two holes directly across from each other. Glue or tape the images onto the paper disk, one on each side. Make sure you place them in the very center of the circle so they match. Flip the disk over (from top to bottom, not left to right) to make sure they are oriented correctly when the disk spins (see the example below).

3. Add a loop of string (or a rubber band) to each hole.

4. Hold a string in each hand and pull it taut. Have someone wind up the thaumatrope by flipping the disk at least 30 times. Then gently pull the strings to make it spin really fast. Your bat is flying!

Side 1

Side 2
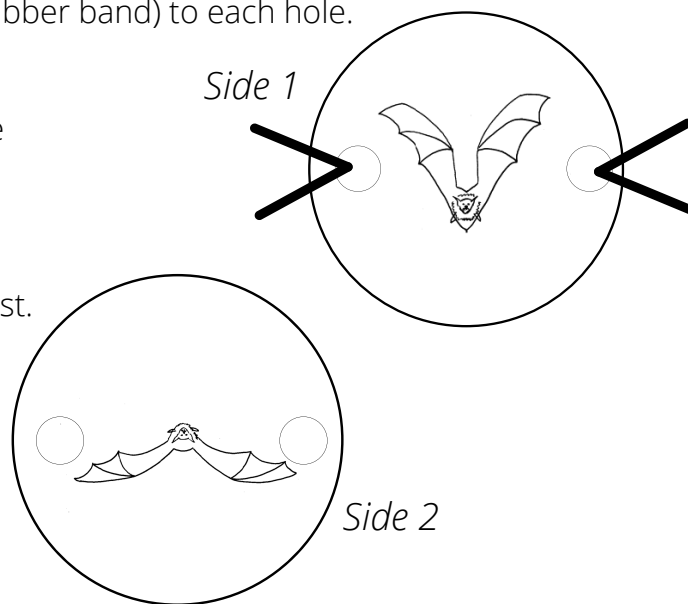
Cool Bat Fact....

Why do bats roost upside-down, hanging by their toes? Unlike birds, bats are too heavy to take off flying upwards. They use gravity to take off, dropping down from a high spot, then start flapping once they're already in the air.

But once a bat is in flight, it is much more agile than a bird, changing direc-tion quickly to catch flying insect prey.

Take it further...

Use what you learned about persistence of vision to design your own thaumatrope.
- What other creatures can you animate?
- Is there another way to make the disk spin, instead of string?
- If you want to draw even more, try making a flipbook with a stack of paper. Even a simple drawing can come to life!
- How could you use this same principle with photos?