

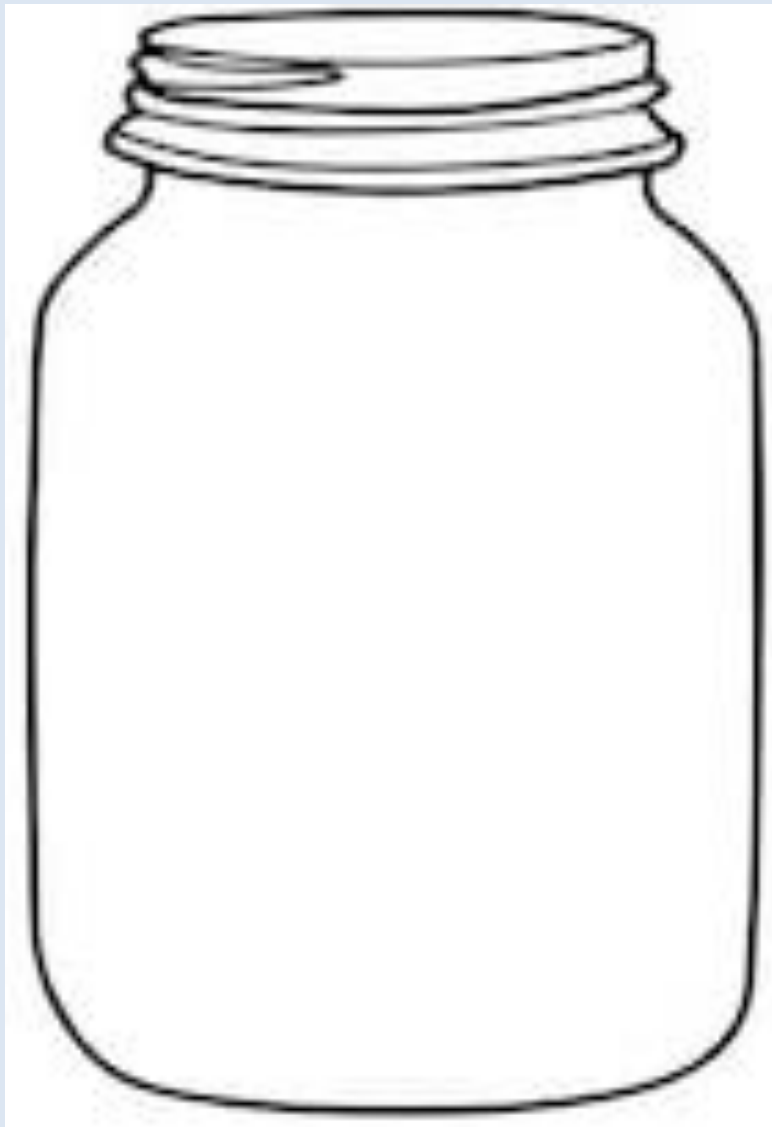


Academy of  
Applied Science



## OZ'S AWESOME TWISTER Lab Notes

**Draw a picture of what you see inside the jar when you swirl it.**



**What happens if you just shake the jar (do not swirl it)?**

**What happens if you do not use the dish soap?**

**What happens if you add a drop of food coloring?**

**Discoveries:**

The jar must spin in a circular motion to create the **centripetal force** that starts the formation of the tornado (**vortex**) because it forces the water droplets to move towards the center. If you simply shake the jar, the water moves rapidly, but it moves in all directions. The dish soap makes suds, which make it easier to see the formation of the vortex as the suds spin and gather in the center of the jar. The food coloring should also make the tornado even more visible as more water droplets gather tightly creating a darker area of color.