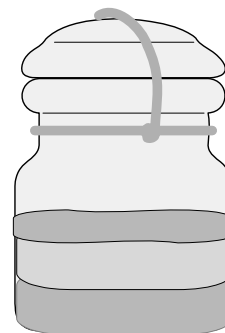


# How Many Layers?

## Materials

Cooking oil  
Water  
Food coloring  
Glass jar or clear drinking glass



## Procedure

1. Make sure the jar or drinking glass is clean and dry.
2. Fill the container about 1/3 full of oil, then add an equal amount of water.  
Note how the oil and water respond to each other, and allow to settle.
3. Have children take a good look at the distinct separation of the oil and water.  
Try to form a good hypothesis as to why one is on top and the other sunk to the bottom.
4. Introduce the idea of adding food coloring to the layers in the container.  
Will the oil, water, or both become colored? Discuss and hypothesize.
5. Slowly add several drops of food coloring to the layers, noticing the reaction it has in the oil, and if it acts differently in the water.
6. After adding the food coloring and watching how the drops move through the layers, shake or stir the container to mix the contents and allow to settle once again. How many layers will there be now?

*Food coloring does not dissolve in oil as it does in water. Instead, it forms little droplets as it passes through the oil to reach the water.*

*Children may wish to test other liquids or even add small solids, to test the strength of layers and how many they can make. Be careful not to include cleaning substances such as bleach and ammonia!*

