FLOATING ODDS I

Bet you can’t make a cork float near the edge of a glass of water!

THE SETUP
Fill a glass with water. Now overfill it by adding water slowly until the surface rises over the edge of the glass. Gently set a cork afloat near the edge. Try to keep it there!

INSIDER INFORMATION
The cork is going to move toward the center no matter how many times you push it toward the edge. If you look at the surface of the water of an overfilled glass, you will see that the surface is curved. The highest point is at the center. The surface tension is pulling toward the center. On a flat surface, the buoyant force of the liquid is straight up and down. But a curved surface tilts the cork slightly and makes the cork move to where the surface is the highest and the pull the strongest—the center not the edge.
FLOATING ODDS II

Bet you can’t make a cork float near the center of a glass of water!

THE SETUP
Empty some of the water from the overfull glass so that the surface of the water is well below the rim of the glass. Gently put the cork in the water. Guide it toward the center if you like. Try to keep the cork there.

INSIDER INFORMATION
The cork is always going to migrate to the edge. If you look at this surface from the side you will see that it is curved but now the curve is concave. The water at the edge, next to the glass is higher than the center. Again the cork tries to float at the highest point because the surface tension is pulling toward the edge.