



## Dancing Raisin

### Materials

- tall clear glass
- water
- 2T vinegar
- raisin
- 1/2 - 1 tsp. baking soda

### Directions

- 1) Fill a glass 3/4 full of water; add vinegar. Do not stir.
- 2) Drop raisin in glass. Watch it drop to the bottom of the glass.
- 3) Add baking soda; DO NOT STIR. Adjust amount of baking soda for glass size (1/2 tsp. for smaller glass; 1tsp. for larger one).
- 4) Watch as the carbon dioxide bubbles attach themselves to the raisin and raise it to the surface. As they "let go" of the raisin, it falls back to the bottom and starts collecting bubbles again.
- 5) Talk about why the bubbles collect on the raisin; what the bubbles are and why they float upwards. (Raisins are denser than the liquid so

initially they sink to the bottom of the glass. The baking soda releases carbon dioxide bubbles. When these bubbles stick to the rough surface of a raisin, the raisin is lifted because of the increase in buoyancy. When the raisin reaches the surface, the bubbles pop, and the carbon dioxide gas escapes into the air; this causes the raisin to lose buoyancy and sink. This rising and sinking of the raisins continues until most of the carbon dioxide has escaped. Furthermore, with time the raisin gets soggy and becomes too heavy to rise to the surface. The reason why the raisin floats to the top is because the bubbles stick to the sides of the raisin and make the raisin more buoyant. Buoyant means that something floats easily. The bubbles make the raisin float the way a life jacket makes a person float.)