



## Nutrition & Physical Activity Education Resources

### Nutrition Education Models

**To make visual of thickened blood vs. normal blood** (useful to teach dehydration & hydration; also diabetes, high amounts of glucose in blood), you will need:

- Four plastic see-through bottles, labels removed and preferably the same size
- Light Karo Syrup (light only refers to color; this product is a sweetener found in the grocery store)
- Red food coloring
- Cocoa powder (just a little to darken “blood” color, this is optional)
- Duct tape, or some other form to secure bottles together

**To make dehydrated or “sticky” blood:** Fill one bottle about  $\frac{3}{4}$  full of Karo syrup and add enough food coloring and cocoa powder to achieve a look and color of blood. Place another empty bottle on top (they should look like an hourglass when put on top of each other) and secure together bottle openings with tape. Remember you will be flipping bottle over and over again so you need to secure it well so it doesn't leak.

**To make normal or well hydrated blood:** Fill another bottle about  $\frac{3}{4}$  full of water and add enough food coloring and cocoa powder to achieve a look and color of blood. Place an empty bottle on top (they should look like an hourglass when put on top of each other) and secure together bottle openings with tape. Remember you will be flipping bottle over and over again so you need to secure it well so it doesn't leak.

**To make sugar or fat content models, use the following conversion which applies to both fat and sugar:** 4 grams in 1 teaspoon. If you know the number of grams of fat or sugar in a portion of food, you may divide the grams by 4 to yield the number of teaspoons of either sugar or fat. For example, if a 12-oz can of soda contains 40 grams of sugar, then  $40 \text{ grams} / 4 \text{ grams} = 10$  teaspoons of sugar. This is most effective when you pair the model with the food item. Use Crisco or lard for fat. A sugar cube is equivalent to 4 grams or 1 teaspoon, so you may use sugar cubes also. See also [www.sugarstacks.com](http://www.sugarstacks.com) for great visuals.



**To make your own portion size kit**, look at references or analogies that are used to demonstrate appropriate portion size of foods. For example, a 3 ounce portion of meat should be the same size as a deck of cards, so you would include a deck of cards in your kit. Try to obtain items to demonstrate portions from all 5 food groups. Use the “What’s in a Serving Size” handout to help you build your own kit, available at

[http://www.fns.usda.gov/tn/Healthy/Portions\\_Kit/serving\\_size.pdf](http://www.fns.usda.gov/tn/Healthy/Portions_Kit/serving_size.pdf)

**To show how much calcium is found in the human skeleton for 5 different life stages**, refer to the “How much Calcium is in our Bones” lesson for 5th graders, use info in box titled “5 life stages” to build calcium models.

[www.idph.state.ia.us/pickabetersnack/common/pdf/milk/5th-Lesson\\_2.pdf](http://www.idph.state.ia.us/pickabetersnack/common/pdf/milk/5th-Lesson_2.pdf)