# The “Balance-of-Nature” Mobile

**Supplies needed**
1 Coat hanger per student
2 Dowels per student (5/16" dowel, approximately 9 inches long)
Saw
Drill or glue
Scraps of tag board or poster board in different colors
Animal and plant stencils
Scissors
Hole punch
Pencils
String or monofilament fishing line in 2 lengths (9", 18") - 4 short and 1 long piece per student
Markers (optional)

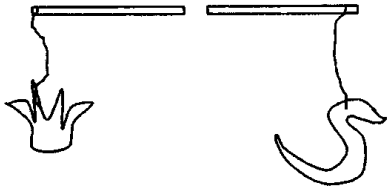

**Figure 1**

**Before the project**
1) Ask the students to bring an old coat hanger from home (reduce, reuse, recycle!)
2) Saw the dowel into 9" sections (dowel is usually sold in 36" rods)
3) Drill a hole about 1/4 - 3/8" from each end of the dowels. The hole should be big enough for the string to be threaded through. If you can’t drill holes, use glue to secure knots.
4) Cut enough string or monofilament for your class
5) Make your own, or buy stencils or cardboard cut-outs of a variety of animals and plants that can be put together in a 3 part food chain. Examples: Grass - Deer - Wolf, Grass - Cow - Tiger, Acorn - Squirrel - Fox, Banana - Fruit Bat - Snake, Grass - Mouse - Snake, Grass - Zebra - Lion, Leaf - Caterpillar - Songbird, etc.

*** Hint, some animal outlines can be used as more than one animal, like, a fox and wolf; mouse and rat; lioness, tiger, and puma.**

**Making a food chain**
Students should each pick 3 stencils (cutouts) for their mobile: a plant, something to eat the plant, and something to eat the herbivore. THE FOOD CHAIN SHOULD BE REALISTIC. They should then transfer the designs to pieces of posterboard and cut them out. A hole should be punched in the top of each piece. Some students may want to draw animals on their own. Students may want to add features to their cut-outs with markers.

**Assembling the mobile**
1) Students should tie a short string to the plant, and a short string to the carnivore. Then they should tie each of those things to different dowel rods (figure 1).
2) Students should put the long string through the hole of the herbivore (don’t tie it.) Then they should tie the ends of that long string onto the remaining ends of the dowel rods. They should leave a couple inches

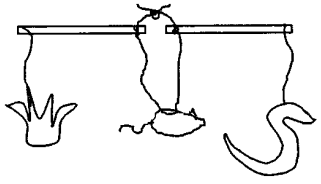

**Figure 2**

of string at each knot to tie together (figure 2).
3) Students should take two short strings and tie the two dowel rods to the hangar.(figure 3)
4) Hang the mobile up and balance it by repositioning the strings connecting the dowel rods to the hanger. Once balanced, apply a drop of glue to the knots to keep them in place, and let dry.

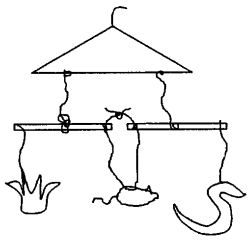

**Figure 3**

**Using the mobile**

Explain that IDEALLY, food chains are balanced, there is enough food for each of the animal in the chain, but, sometimes food chains are thrown out of balance. Brainstorm what would cause a food chain to become unbalanced ( Natural causes: disease, bad weather that affects the amount of plants available, etc. Human causes: poaching (illegal hunting), pesticides and pollution, introduced species, etc.)

Say “What would happen to the food chain if Wolves (or another predator) were all killed?” Have everyone with wolves in their mobile gently push their wolves up to indicate that there are less of them or none of them. What happens to the herbivores (herbivores increase, go down on the mobile), what happens to the plants (plants decrease, go up on the mobile).

Say “What would happen to the food chain if people let their pet cats, dogs, or ferrets loose, in other words, LOTS MORE PREDATORS! Tell students to gently pull their predator down, indicating more predators. What happens to the herbivores (go up, indicating less). What happens to the plants (go down, meaning more plants).