DNA Model Directions

Use construction paper to create a model of DNA. The following materials are necessary to create the model.

14 phosphate molecules red oval/ hotdog shape

12 deoxyribose sugars white same oval shape as phosphate, one side cut straight

3 each of the following:

Thymine green point on one end

Adenine yellow “V” cut on one end to match up with adenine

Guanine blue rounded on one end

Cytosine orange half moon to match guanine

3 strips of brown, cut in half for a total of 6, to serve as the hydrogen bond and glue surface for bases.

2 black strips glue base for phosphates and sugars

Scissors

Glue stick/ glue

Create a model of DNA following Chargaff’s rule that shows a sample of the double helix

Start with phosphate at the top of each black strip, glue them on then add a brown hydrogen directly below to form the starting of a “ladder”. Continue this pattern until you have 6 browns glued on.

Next, glue your nitrogen base pairs on the browns so the ends with the shapes line up in the middle of the model. (overlapping saves trying to match shapes).

Finally, glue white sugars in between the phosphates so that they appear to be attached to the bases. The flat side of the sugar needs to go toward the middle of the model.

Label all of the molecules and bonds, spelling counts, no abbreviating. Don’t forget the type of sugar, Deoxyribose, not just sugar.

Vary your pattern in your bases, don’t put all of the same bases on the same side, make it random.

There should not be any brown or black showing, everything should fit together like a puzzle. TAKE YOUR TIME. DNA IS PERFECT. See weebly for pictures of examples.