Candy DNA Kit

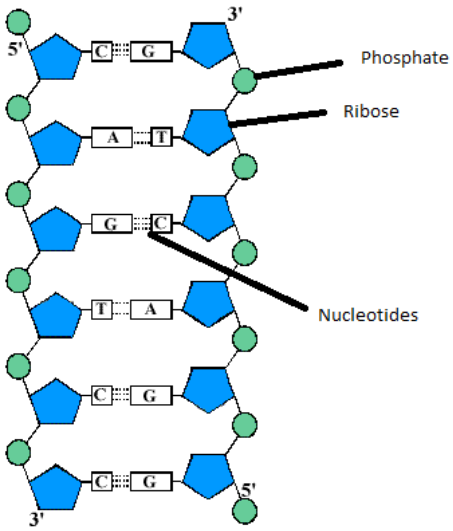
Objective: Understand the structure and makeup of DNA. Students will build a DNA double helix from toothpicks, gummy bears, and licorice chains. Students will demonstrate an understanding of base-pairing and the double helix.

Meets TN State Standards:
0707.4.4 Investigate the relationships among DNA, genes, and chromosomes.

Pre-lesson: Teachers should walk students through the DNA Powerpoint before the Scientist arrives in the classroom.

Introduction:
Discuss/Review the following (write underlined vocabulary words on the board):

- DNA = deoxyribonucleic acid
- The genetic material of a cell, codes for all genes
- DNA is built like a ladder
    - The "legs" are composed of ribose & phosphate linkages.
        - Ribose is a sugar. Anyone heard of high fructose corn syrup? It's in sodas and is very sweet! Fructose is a sugar. Ribose is similar.
    - The "rungs" are composed of four building blocks, called nucleotides = A,G,T, & C.
- Draw the following ladder on the board, make note that it is a model of DNA:



- Together nucleotides = letters of genetic alphabet
- Genes are like sentences of genetic material that code for traits.

Materials:
-toothpicks
-gummy bears
-twizzlers, 2 per group

Procedure:

Write the following relationships on the board:
Red= A, pairs with Green = T
Yellow = G pairs with Clear = C
A pairs with T, G pairs with C!

1. Using toothpicks, connect “base pairs” of gummy bears (make sure they’re matched correctly!)
2. Use toothpicks to connect the “backbone”
3. Repeats steps 1 and 2.
4. Once 8-10 rungs of the “ladder” have been connected, twist and you have a DNA model!

Name:_____ Period:_____

Results:

1. What do the gummy bears represent?

2. What do the toothpicks represent?

3. Describe the pattern of base pair matching for the two strands of DNA. Which bases are paired together?

4. Why do you think DNA is called a **double helix**?

5. Where is DNA found in our bodies?

6. Which of the following do you think contains DNA?

Bananas	Yes/No
Concrete	Yes/No
Fossils	Yes/No
Meat	Yes/No
Metal	Yes/No
Spinach	Yes/No
Strawberries	Yes/No
Puppies	Yes/No

7. Describe the relationship between DNA and genes.

8. What did you learn and like about this activity?