Lecture Note-taking: DNA PowerPoint

1. What is DNA?

2. Where is DNA found?
   • DNA is found in the ________________ of all ___________ and ___________ cells.
   • It is wound up in tight ____________________________.

3. What does DNA look like?
   • Shape of a ________________________ or a ____________________________.
   • The steps of the ladder are called “________________________”
   • The bases are:
     ✓ _____________ (A)
     ✓ _____________ (G)
     ✓ _____________ (T)
     ✓ _____________ (C)

4. Base Pairs
   • Each of the bases have a partner they pair off with.
     • _________________ partners with ________________________________
     • _________________ partners with ________________________________

5. Complementary Strand
   You did a problem on the board, now do one on your own. What is the complementary strand for the sequence below?
   
   T G C A G A T C C A G

6. Mistakes Happen
   • If the _________________ pair off with one another it’s called a ________________.
   • Most mutations are ________________.
   • Some mutations can be ________________.

7. DNA Replication
   • This is when DNA ________________________ of itself.
   • Usually when the _________________, a copy of the instructions (___________) is given to the new cell.
8. How does DNA control the cell?
• A cell’s ___________ needs to _______________________.
• DNA cannot ______________________ to give commands, so it needs to make a smaller copy of itself called ___________.
• RNA leaves the nucleus and is read by the ribosome.
• The _______________ then makes a protein.
• The protein is _________________________.

9. Changing DNA to RNA
• *Transcription*
  • To figure out the RNA sequence, base pairs still need to match up.
  • A with T, C with G (for DNA)
  • In RNA the rules still apply, but anywhere a T should be, it is replaced by ____________ ( __ ).

10. What is the RNA sequence?
After practicing decoding the RNA sequence with the class, try this one on your own.

| G | A | T | A | C | C | T | A | T | G | A | T |

11. What is a gene?
• A gene is a section of DNA that has __________________ for a particular ___________.
• Some genes are _________________ (stronger)
• Some genes are _________________ (weaker)
• Each organism *inherits a gene from each parent.*
• Each organism has __________________ per ___________.

12. Inheritance
• In the example, each flower has a trait for color: ______________ or ______________.
• The offspring inherited a red gene from one parent and a yellow gene from the other parent.
• Red was the ____________________________ , so it is considered *dominant.*

13. Where did the color come from?
• There was a section of DNA which _________________________________.
• The RNA form is made and read into a protein that expresses the color.
*Draw the example:*