Answer questions 1-16 on your own paper

Use the diagram of DNA to the right to answer the questions

1. This is a shape called a double helix.
2. How many strands (gray part in diagram) are there in a DNA molecule?
3. Name the 4 bases in DNA
4. How are the bases paired together? What goes with what?

1. What is the whole name of DNA?
2. How are the base pairs held together?
3. What 2 molecules make up the backbone of DNA?
4. What 3 things make up a nucleotide?

DNA replication: The steps are shown below (read the explanations and answer the questions).



1. **Notice the original 2 strands are dark blue**
2. **Notice the enzyme helicase unwinds and separates the strands**
3. **Notice the original DNA is the template for the new (light blue) nucleotides to be put down by DNA polymerase**
4. **Notice the 2 DNA molecules are now half original and half new**
5. What does the enzyme helicase do?
6. Look at the diagram, why does DNA need to be unwound and separated?
7. What does DNA polymerase do?
8. Replication is called semi-conservative because it becomes half new and half old strands. If the 2 molecules in letter (d) were to replicate again making 4 DNA molecules (and the new strands were green) what would the colors of the 4 new ones be?
9. What goes with cytosine?
10. What goes with guanine?
11. What goes with thymine?
12. What goes with adenine?