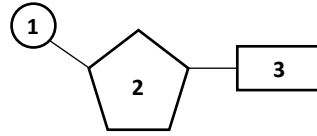
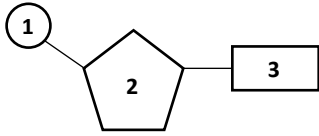


## A 1.2 Nucleic Acids

1. Compare the RNA and DNA \_\_\_\_\_ represented here:



RNA: \_\_\_\_\_ acid

DNA: \_\_\_\_\_ acid

1. \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_ sugar

2. \_\_\_\_\_ sugar

3. \_\_\_\_\_ bases:

3. \_\_\_\_\_ bases:

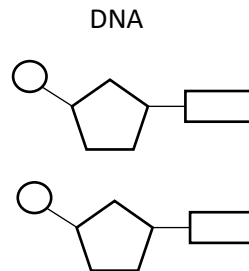
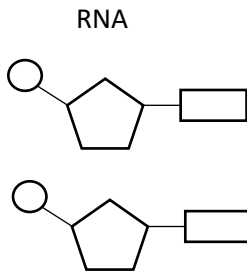
i. \_\_\_\_\_ = \_\_\_\_\_

i. \_\_\_\_\_ = \_\_\_\_\_

ii. \_\_\_\_\_ ≡ \_\_\_\_\_

ii. \_\_\_\_\_ ≡ \_\_\_\_\_

2. These \_\_\_\_\_ can link together forming strands. Complete the schematics of the strands of RNA and DNA below to compare their structures. Label all molecules, bonds and bases.



A \_\_\_\_\_ - \_\_\_\_\_ bond, which is a type of \_\_\_\_\_ bond, forms the strong \_\_\_\_\_ of both the DNA and RNA strands. This is formed via a \_\_\_\_\_ reaction because \_\_\_\_\_ is released. \_\_\_\_\_ bases join through \_\_\_\_\_ bonds. These bonds are best shown with a dashed or dotted line, to help differentiate them from \_\_\_\_\_ bonds. These bonds will only form between \_\_\_\_\_ base \_\_\_\_\_. There is a \_\_\_\_\_ bond between \_\_\_\_\_ and \_\_\_\_\_, and a \_\_\_\_\_ bond between \_\_\_\_\_ and \_\_\_\_\_.

3. In your drawing, you should be able to see that the strands in DNA are \_\_\_\_\_.

4. In an examination, it is simplest to compare RNA and DNA using a table. Complete the following:

Characteristic	RNA	DNA
Type of pentose (include a sketch)		
Bases (and which bond to each other!)		
Number of strands		

5. \_\_\_\_\_ is the \_\_\_\_\_ material of all living organisms. It is important to note that some viruses use \_\_\_\_\_ but they are not considered to be \_\_\_\_\_.

6. It is interesting to note that the \_\_\_\_\_ of the genetic \_\_\_\_\_ across organisms is evidence of a universal \_\_\_\_\_.

7. Without looking back at the previous page, make your own labelled drawing of RNA and DNA in the space below. Then compare. Did you remember all the details?

8. \_\_\_\_\_ is virtually limitless in its ability to store information. This is because it can form strands of any length, and the 4 bases can be put together in any order. Read this article for more information:

[Using DNA for data storage | Harvard Magazine](#)