

Name _____

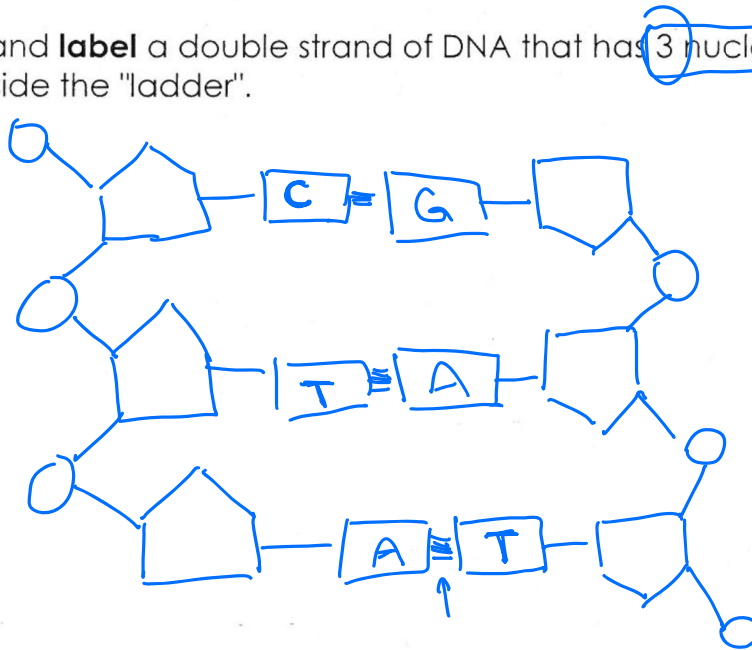
Date _____

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Cracking the Genetic Code

A. Draw and label a double strand of DNA that has 3 nucleotides joined together on each side the "ladder".

legend
○ = phosphate
□ = sugar
□ = base
≡ ← hydrogen bond



B. What are the names of the **NITROGEN BASES** for **DNA**. Then beside it, write down the name of the base pair.

Nitrogen Base		Its Base pair
1. (A) Adenine	≡	(T) Thymine
2. (T) Thymine		(A) Adenine
3. (G) Guanine		(C) Cytosine
4. (C) Cytosine		(G) Guanine

C. Write down the **base pairs** for the following strand of DNA.

TAC GAA AGT TCT CCG CGT TGT CAC
ATG CTT TCA AGA GGC GCA ACA GTG

Cracking the Genetic Code

DNA's instructions are very specific and are held in a code. The code is written with only 4 different nitrogen bases, but can be in any order and in various lengths.

--> think of an alphabet with only 4 letters

The four different nitrogen bases are:

- Adenine (A)**
- Cytosine (C)**
- Guanine (G)**
- Thymine (T)**

The bases will only join together in a specific way:

A --- T and **C --- G**

This is called **base pairing**.

Ex. Write in the correct base pair for the following strand of DNA:

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

now do the worksheet!

Activity 4-1B Creating DNA Messages ~15 minutes

Video: DNA Replication

Activity 4-1C Modelling DNA - or cut & paste activity

Base-pairing notes

Lab: 4-1D Extracting DNA from Strawberries