

Q1: What's Gene? → What would they answer?

↓  
Textbook for junior:  
for grade 8

DNA? RNA?  
genetic?  
heredity?

History:

- Something that control organism's shape-characteristics

↑ what's that?

etc...

- DNAs & RNAs.

↑ what's that?

- Chains that made up of nucleotide.

↑ what's that?

- Coding Sequences made up of 4 bases.

ATC G (U)

Communication → Q: Can you imagine just 4 kinds of bases  
are responsible for almost all information storage?

Yes



No



Q: How?

Do you think what could store

our information of what we look like?

The truth is ....

balabala--- (the central dogma)

Problem: How to articulate it?  
(vividly!)

examples

- a. Morse Code.
- b. Electronic devices.

Mechanism: codons

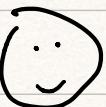
(ribosome, tRNAs)

3 bases → 1 Amino Acid. (scientists had proved through experiment)

Question: 4 bases → ? AAs.

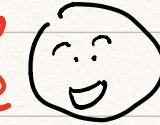
[ATGC] . ?

1 / 0



[ATG] C ?

2



if it's true. → examples:

[Start condition]

it would be a big problem if  
insert one base.

Q2: What's genetic engineering? And what it could be applied for?

prepared answer

① Scissors?

② Tape / glue

③ pure chemical reactions!

Artificially change the gene.

How?

Enzyme to cut : ~~test~~ - - e -

Enzyme to ligate : ligase.

binding site

Q: to edit what?

carrier / genome X



example: Plasmid.

Bacteriophage.

De novo Synthesis → look up / or create sequences.

primer.

if you are scientists, which genes do you prefer to

change / Add / Remove?

Have you imagine that you could build a "life"?

/ class activity: find start codon,

a. insulin

b. - - -

transgenesis food.

Q: Is it harmful?

Next course:

Syn~.



↳ connect the whole gene.

Next Course.

A — III II I —

Q: Would you eat transgenosis food?

Questions for the next class: How to form a complete electronic circuit?