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

Textbook for junior: → DNA? RNA?
↘ genetic?
hereditism?

Textbook for grade 8

History:

- Something that control organism's shape-characteristics etc...

↑ what's that?

- DNAs & RNAs.

↑ what's that?

- Chains that made up of nucleotide.

↑ what's that?

- Coding Sequences made up of 4 bases.

↘ ATCG(U)

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

Yes

↓

Q: How?

No

↓

Do you think what could store

our information of what we look like?

examples

a. Morse Code.
b. Electronic devices.

The truth is ....

balabala--- (the central dogma)

Problem: How to articulate it ? (vividly !)

machenism: codons (ribosome. tRNAs)

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

Question: 4 bases → ? AAs.

ATGC ?

1/0

[Start condon]

ATGC ?

2

if it's true. → examples:

?...

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 : rest~ e~

Enzyme to ligate : ligase.

binding site

a. insulin

b. ....

transgenosis food.

Q: to edit what?

carrier / genome X

example: Plasmid.

Bacteriophage.

Q: Is it harmful?

Next course:

Syn~.

De novo Synthesis → look up / or creat 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 condon,

↳ connect the whole gene.

Next Course.

Q: Would you eat transgenosis food?

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