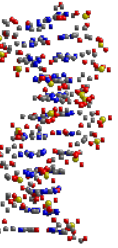
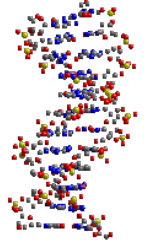


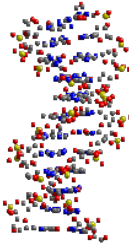
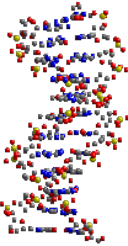
LESSON 3

SCIENCE



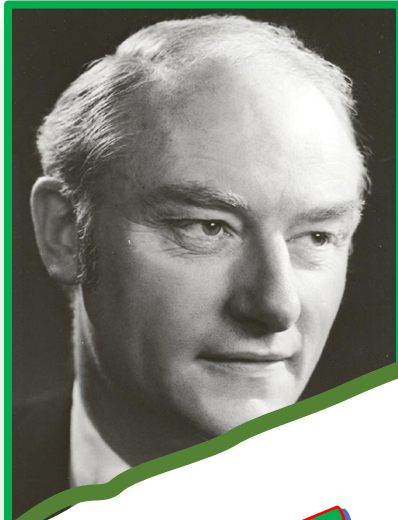


The Discovery of the DNA structure



A GROUP WORK

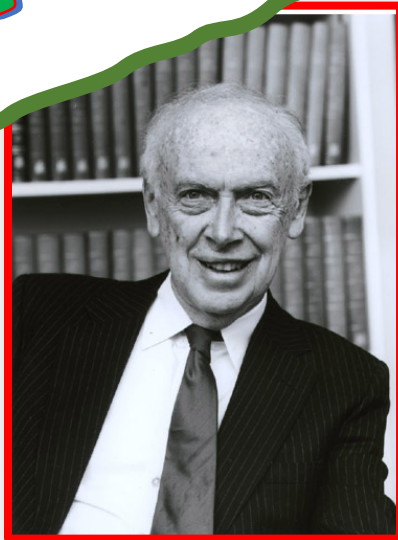
WAS IT A REAL GROUP WORK?



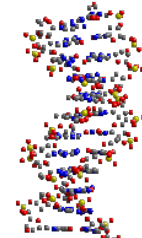
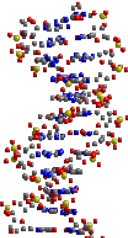
Maurice Wilkins
Pongaroa, 1916
London, 2004



Rosalind
Franklin
London, 1920
London, 1958

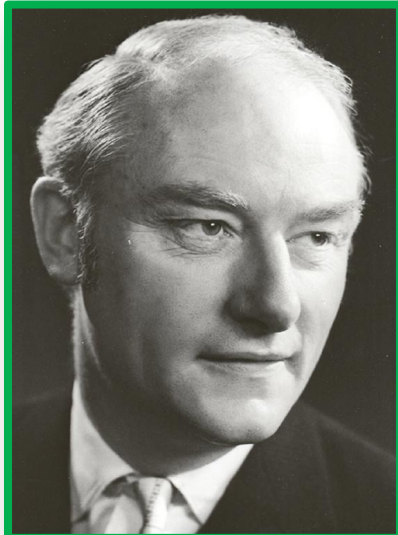


James Watson
Chicago, 1928



"THE GREAT RACE"

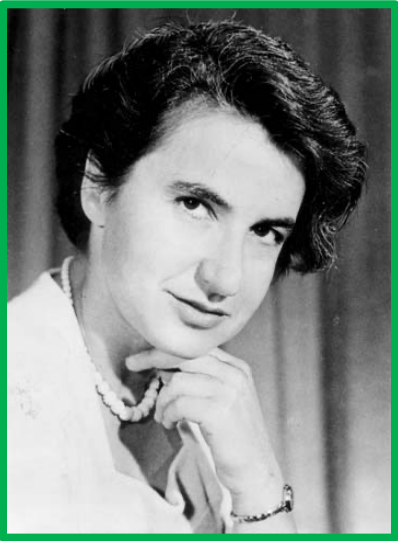
University of London



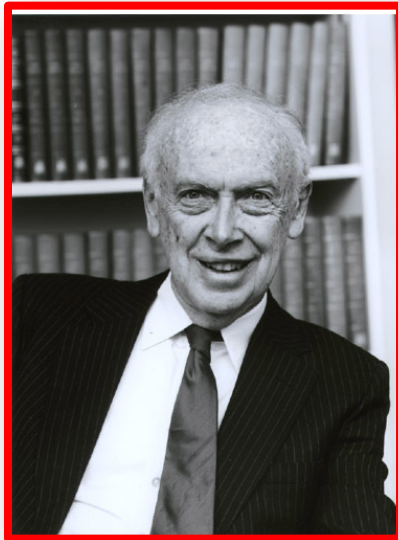
Francis Crick
Northampton, 1916
San Diego, 2004



Maurice Wilkins
Pongaroa, 1916
London, 2004

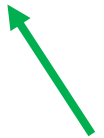


Rosalind Franklin
London, 1920
London, 1958



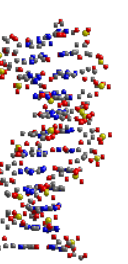
James Watson
Chicago, 1928

University of Cambridge





Nobel Prize in 1962



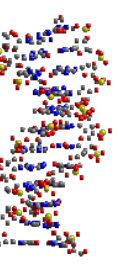
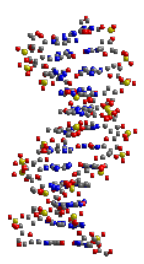
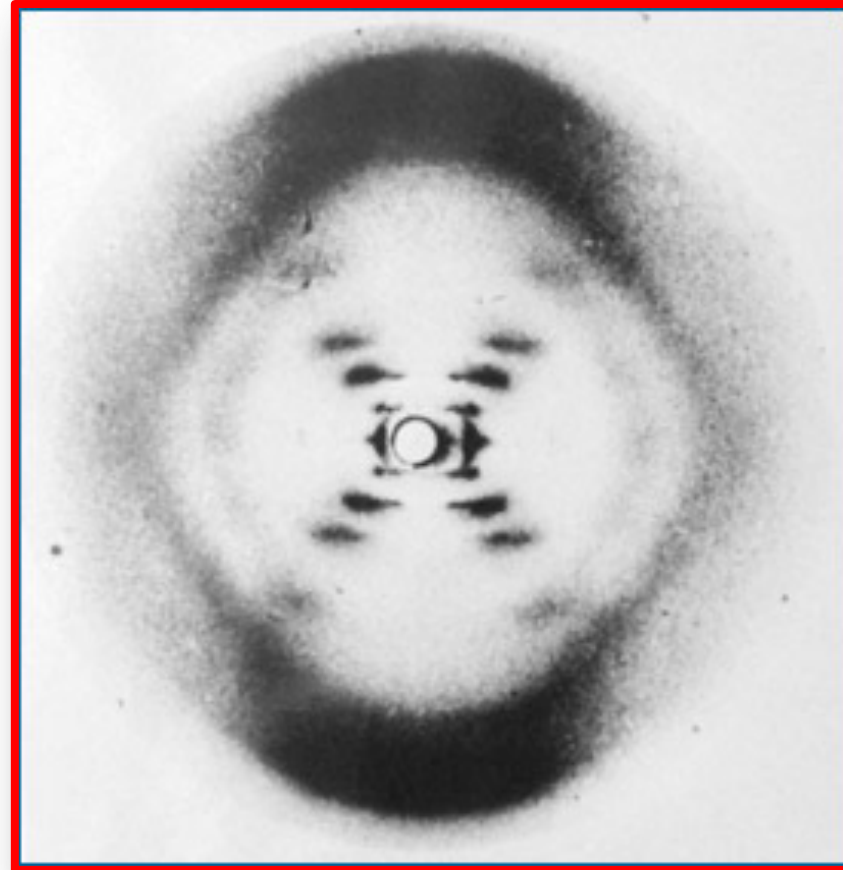


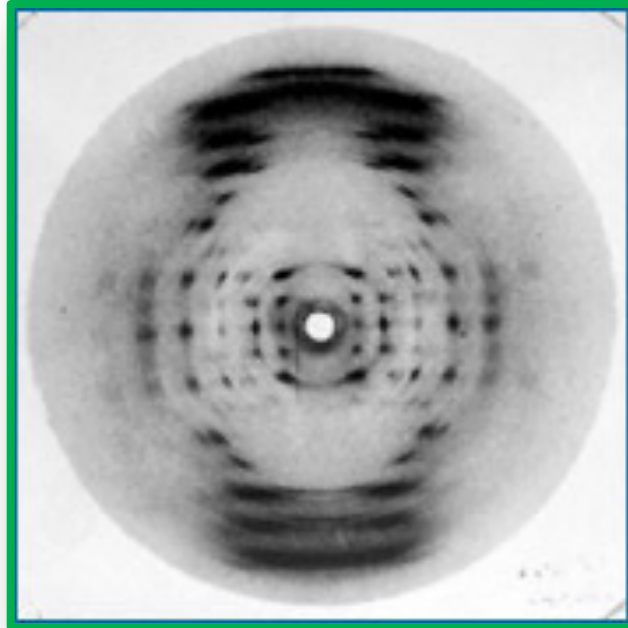
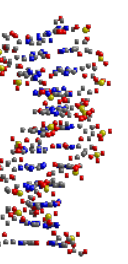
IMAGE B51



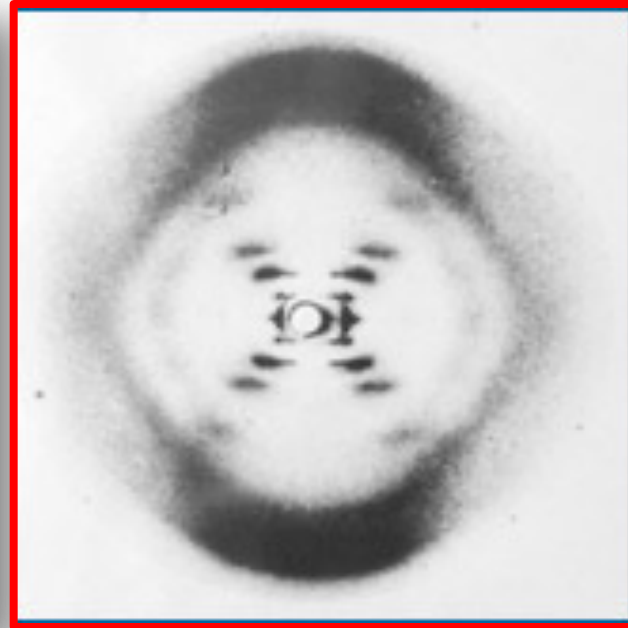
It was the 51st image taken



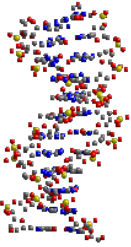
EUREKA!!!



The dry A form held
less water

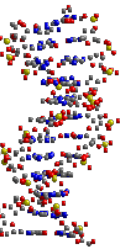


In the wet B form
water molecules
cling to the DNA,
causing it to stretch out



Nature n. 4356

April 25, 1953

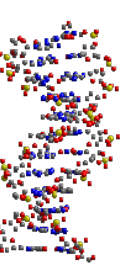


READING ACTIVITY – INTERSEMIOTIC TRANSLATION

- Read what Watson & Crick published on *Nature*
- Divide the text in Introduction - Development - Conclusions
- Find out the main key-points for each of them



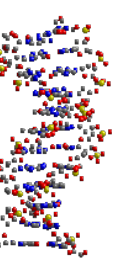
Inside Microlanguage 1



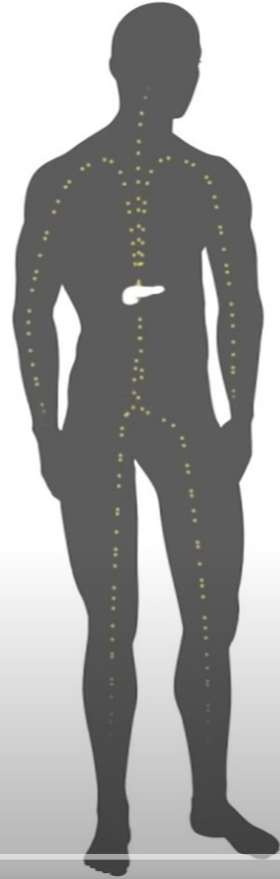
- ☞ Chromosome /'krəʊməsəʊm/ = Cromosoma
- ☞ Crystalline /'krɪstəlaɪn/ = Cristallino
- ☞ Deoxyribonucleic acid /di,ɒksi,raɪbəʊnju:,kleɪɪk 'æsɪd/ =
Acido desossiribonucleico
- ☞ Gene /dʒi:n/= Gene
- ☞ Helix /'hi:lɪks/ = Elica; Helices /'hɛlɪ,si:z/ = Eliche
- ☞ Heredity /hɪ'redɪtɪ/ = Ereditarietà
- ☞ Hydrogen /'haɪdrədʒən/ = Idrogeno
- ☞ Magnesium /mæg'ni:ziəm/ = Magnesio
- ☞ Molecule /'mɒlɪkjʊ:l/ = Molecola



Inside Microlanguage 2



- ☞ Nitrogen /'naɪtrədʒən/ = Azoto
- ☞ Nitrogenous /naɪ'trɒdʒɪnəs/ = Azotato
- ☞ Oxygen /'ɒksɪdʒ[ə]n/ = Ossigeno
- ☞ Pattern /'pætən/ = Schema
- ☞ Phosphate /'fɒsfeɪt/ = Fosfato
- ☞ Phosphorus /'fɒsfərəs/ = Fosforo
- ☞ Protein /'prəʊti:n/ = Proteina
- ☞ Ratio /'reɪʃɪəʊ/ = Proporzione
- ☞ X-ray /'eks'reɪ/ = Raggi X



TED
Ed

2:30 / 4:26

▶ ⏪ 🔊 🔍 ⏩ ⚙️ HD 📺 🖥️ 📶 🗑️

How is DNA made of?



Do you know the names of the four nucleotides?



What's the difference between a man and a mushroom?

How is DNA made of?

It's made of chains of four smaller molecules called nucleotides



Do you know the names of the four nucleotides?



What's the difference between a man and a mushroom?

How is DNA made of?

It's made of chains of four smaller molecules called nucleotides



Do you know the names of the four nucleotides?

Adenine and guanine, cytosine and thymine



What's the difference between a man and a mushroom?

How is DNA made of?

It's made of chains of four smaller molecules called nucleotides



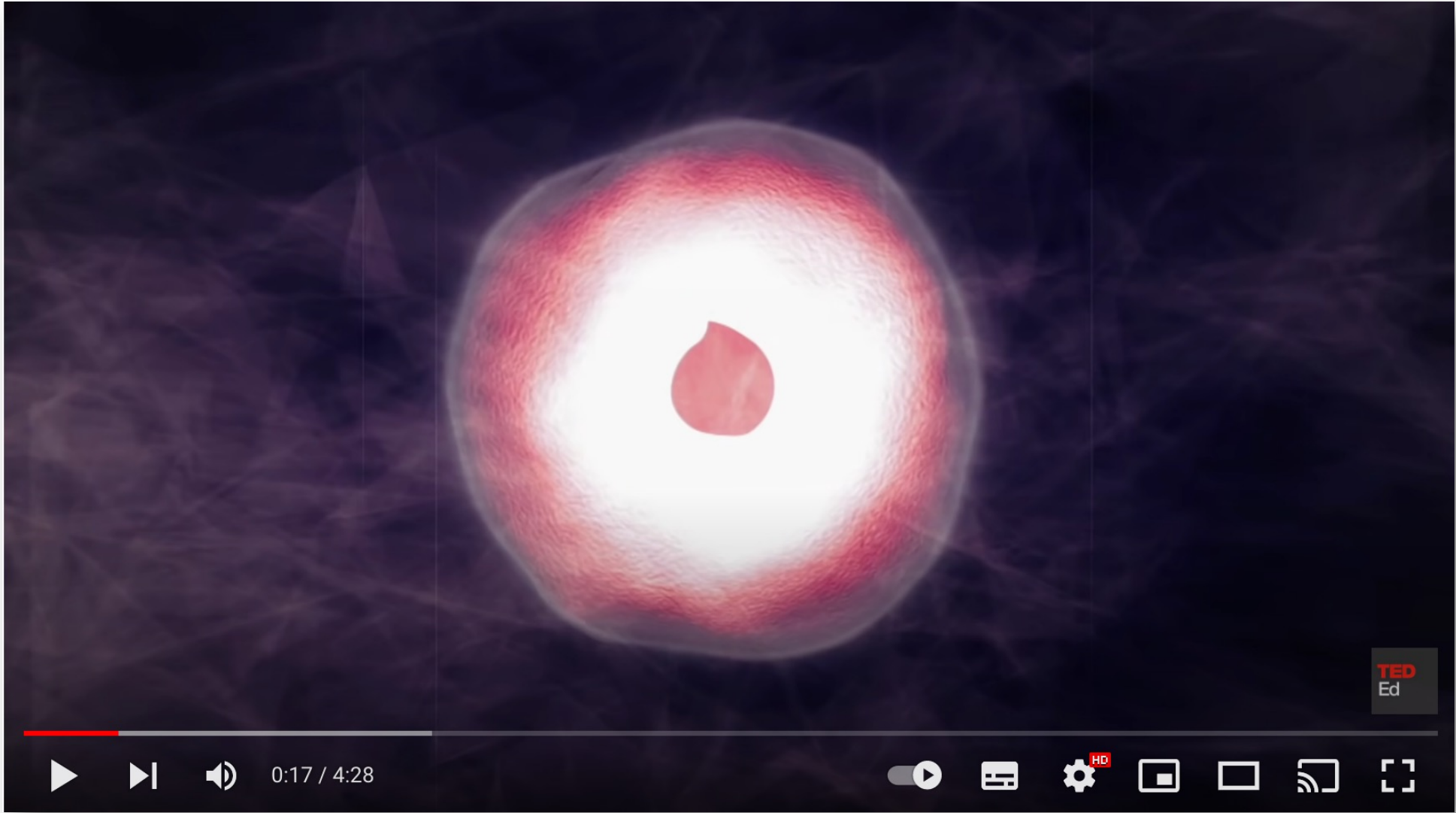
Do you know the names of the four nucleotides?

Adenine and guanine, cytosine and thymine



What's the difference between a man and a mushroom?

The sequence of these nucleotides in the long DNA chain



LISTENING ACTIVITY
LOOKING FOR METAPHORS, SIMILES AND PERSONIFICATIONS

The book of you **is...**

If your body wants to make something, **it...**

Its own tiny compartment **is...**

Christmas lights **are...**

Little beads **are...**

A long, beaded necklace **is...**

An old telephone cord **is...**

46 chapters **are...**

30 million letters **are...**

A few pages of nonsense **are...**

Excess pages **are...**

A set of bookmarks **tells you...**

LISTENING ACTIVITY
LOOKING FOR METAPHORS, SIMILES AND PERSONIFICATIONS

The book of you **is...**

your genome

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goes back to the instruction book, looks it up and puts it together

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Its own tiny compartment **is...**

the nucleus of the cell

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A few pages of nonsense are...	instructions which we throw out (introns) and instructions which we keep (exons)
Excess pages are...	
A set of bookmarks tells you...	

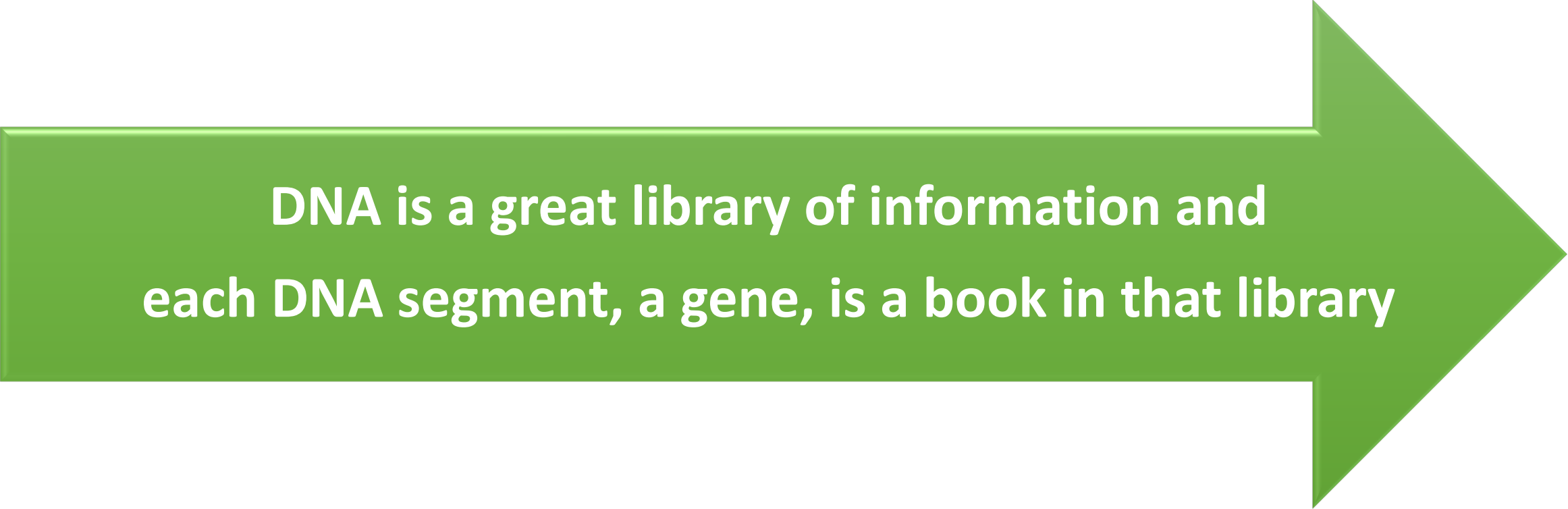
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Excess pages are...	nasty little infections by ancestors, for example
A set of bookmarks tells you...	exactly which pages it needs to look up

THE FANTASTIC METAPHOR GAME GOES ON...



DNA is a great library of information and
each DNA segment, a gene, is a book in that library