BIOLOGIA LA UN ALT NIVEL


Inteligența umană
VS
inteligența artificială

ARTIFICIAL INTELLIGENCE IN BIOLOGY EDUCATION

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LEUKOS BV, The Netherlands

Introduction

Artificial intelligence (AI) in biology education can be defined as the deployment of AI in sections of study that help learners and researchers in their areas of concentration, specifically biological sciences. AI provides ways of efficiently surveying and categorizing biological data, thus allowing the integration of various sub-disciplines of biology and the building of models that may unify what are hitherto disparate interest areas (Webb, 2018; Hassoun et al., 2021). It contributes greatly in assisting learning in science, in teaching, and in demonstrating the scientist-student interactions as pertain to the context of teaching and learning science (Good, 1987; Koć-Januchta et al., 2020). Thus, the prospect of future AI applications in the biology educational process suggests bringing in huge amounts of data. This data can be collected, analyzed, and interpreted to make discoveries of a targeted and non-imaginable nature, and to synthesize new ideas and theories connecting different disciplines. This is true because the effort towards the integration of AI in the biology education calls for a joint effort of both the biological and computational scientists, therefore it is agreeable that integration of the two is widely accepted (Hassoun et al., 2021).

Enhancing Biology Education through Artificial Intelligence

It gives a significant meaning toward the improvement of biology education since AI contributes toward the improvement of research methods and the expansion of knowledge on the associated biological concepts. AI technologies specialized for biology enable the users to assimilate data across the sub-disciplinary domains, which form the basis of constructiveness of the comprehensive prediction models and assisting the targeted and untargeted discoveries (Hassoun et al., 2021). In structural biology, it has become possible to enhance the complicated structure prediction tasks with the aid of AI, as demonstrated by AlphaFold2 (Nam, 2023). Furthermore, the presented AI applications in the learning of science contribute to digital education revolutions, students' experience either as learners or interactants with the AI bots (Koć-Januchta et al., 2020). Due to radical re-implementation, AI helps to explore the principles of intelligence and may affect biological intelligence and society on a large scale (Bayaga, 2023). However, one should be careful to use machine learning in biology for achieving high publishing standards and facilitating the AI future in biology (Crovello, 1974).

Personalizing Biology Learning Experiences with AI

AI can effectively integrate this aspect of biology into the students' learning process by employing AI-based approaches which consider the individual differences of the learners and learning rate, feedback as well as inclusively

https://doi.org/10.33225/jbse/24.23.806

Edit content

Last modified 25 Mar 21:04 Match up

Generate content using AI

Activity Title

Regnul Fungi - Recapitulare IX

+ Instruction

Generate content for Match up

Describe what you want your activity to do and we'll generate content using Artificial Intelligence (AI) to get you started.

Activity description

▶ What's useful to include?

e.g. I want to test university students on organic chemistry terms and their definitions

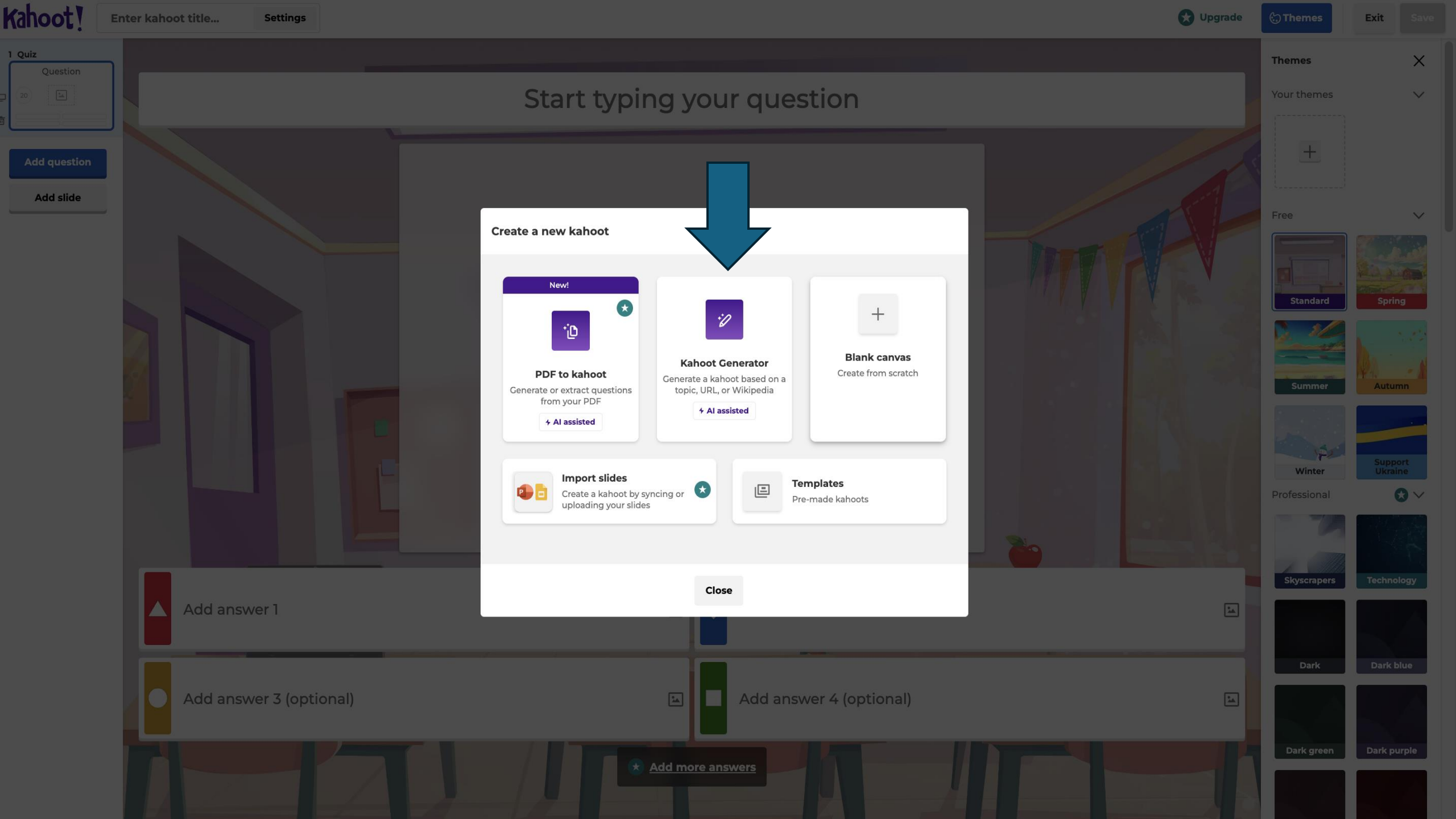
Number of items to add

10

Do you want to replace existing content?

- (•) Replace existing content (including title and instructions)
- ( ) Keep existing content (generate additional items or questions)

Cancel Generate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Exit
Save
1 Quiz
Question
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Add slide
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Create a new kahoot
New!
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AI assisted
Kahoot Generator
Generate a kahoot based on a topic, URL, or Wikipedia
AI assisted
Blank canvas
Create from scratch
Import slides
Create a kahoot by syncing or uploading your slides
Templates
Pre-made kahoots
Close
Add answer 1
Add answer 3 (optional)
Add answer 4 (optional)
Add more answers
Themes
Your themes
Free
Standard
Spring
Summer
Autumn
Winter
Support Ukraine
Professional
Skyscrapers
Technology
Dark
Dark blue
Dark green
Dark purple

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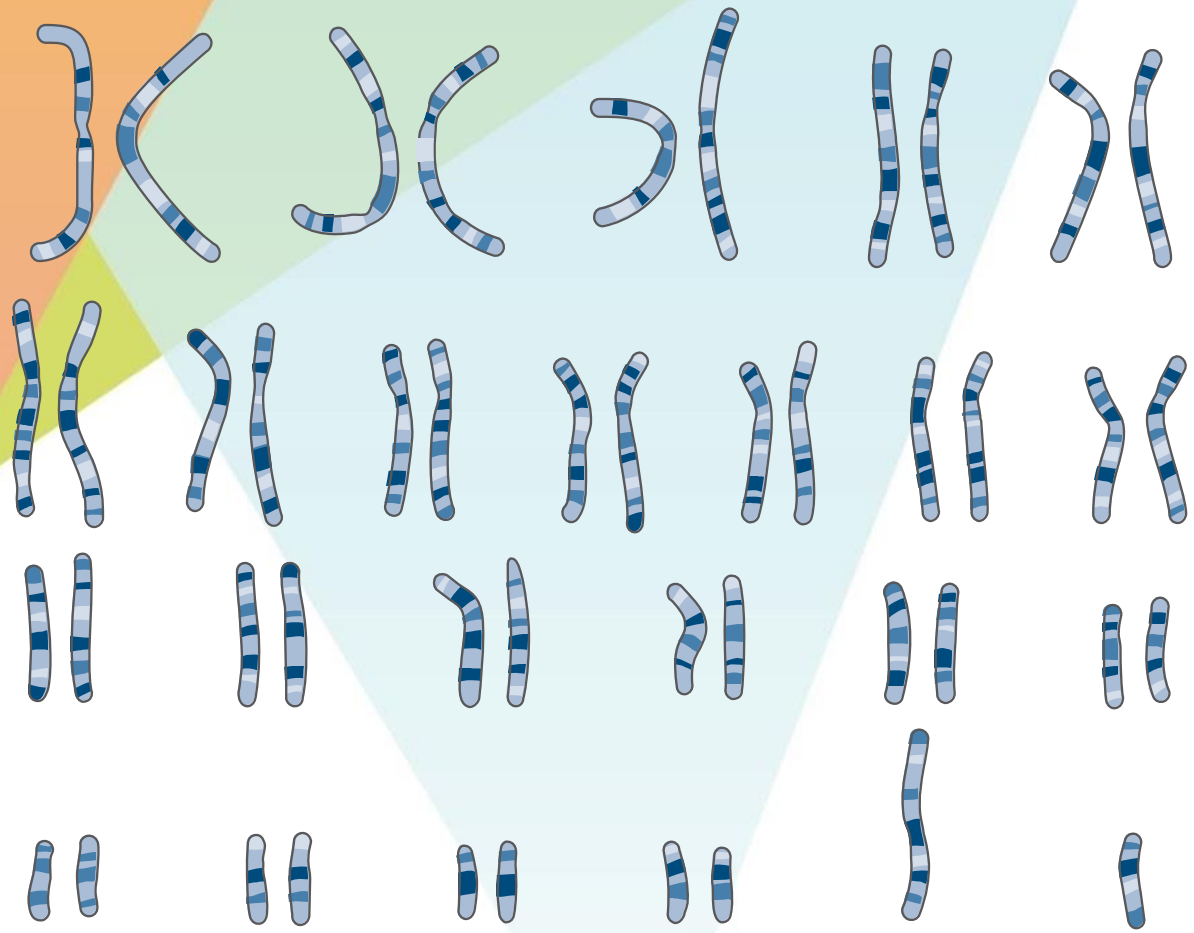
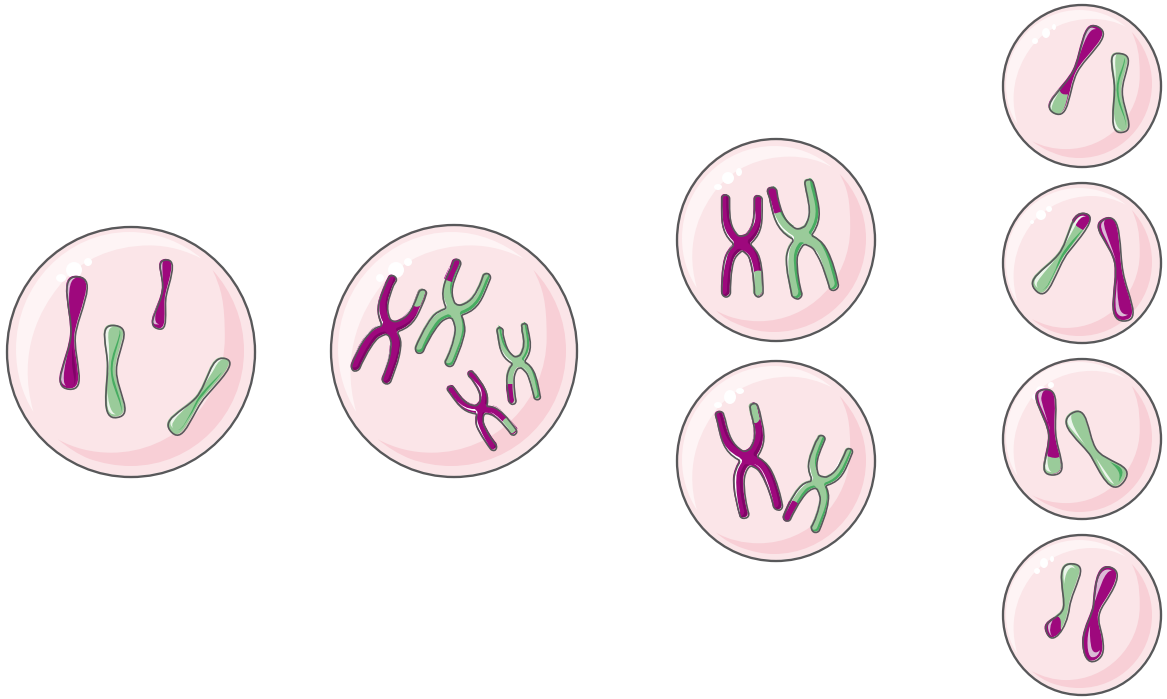


Meiază

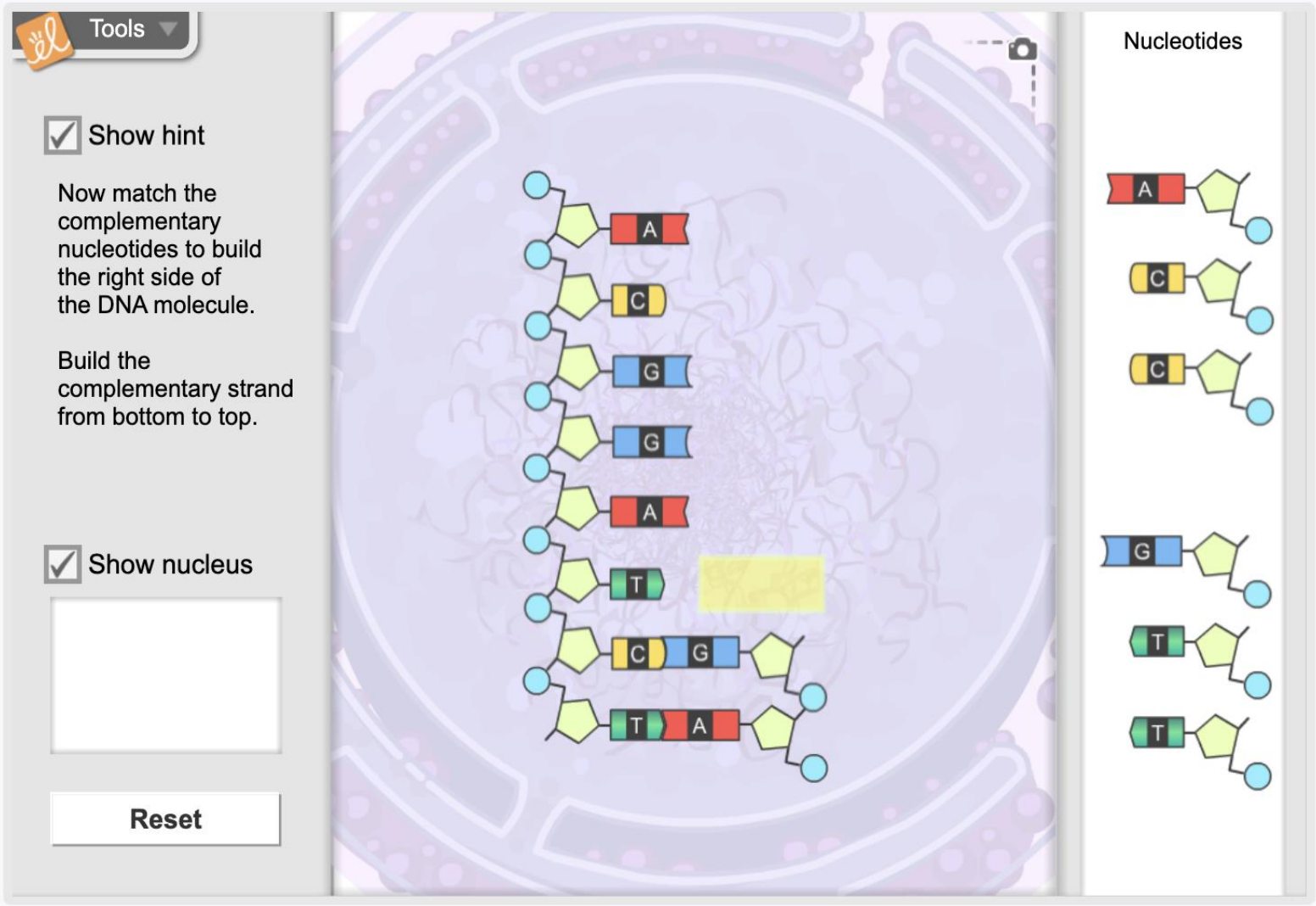


Building DNA

Go to Lesson Info

Extend Your Gizmo Pass

3:56



https://gizmos.explorelearning.com/find-gizmos/launch-gizmo?resourceId=439

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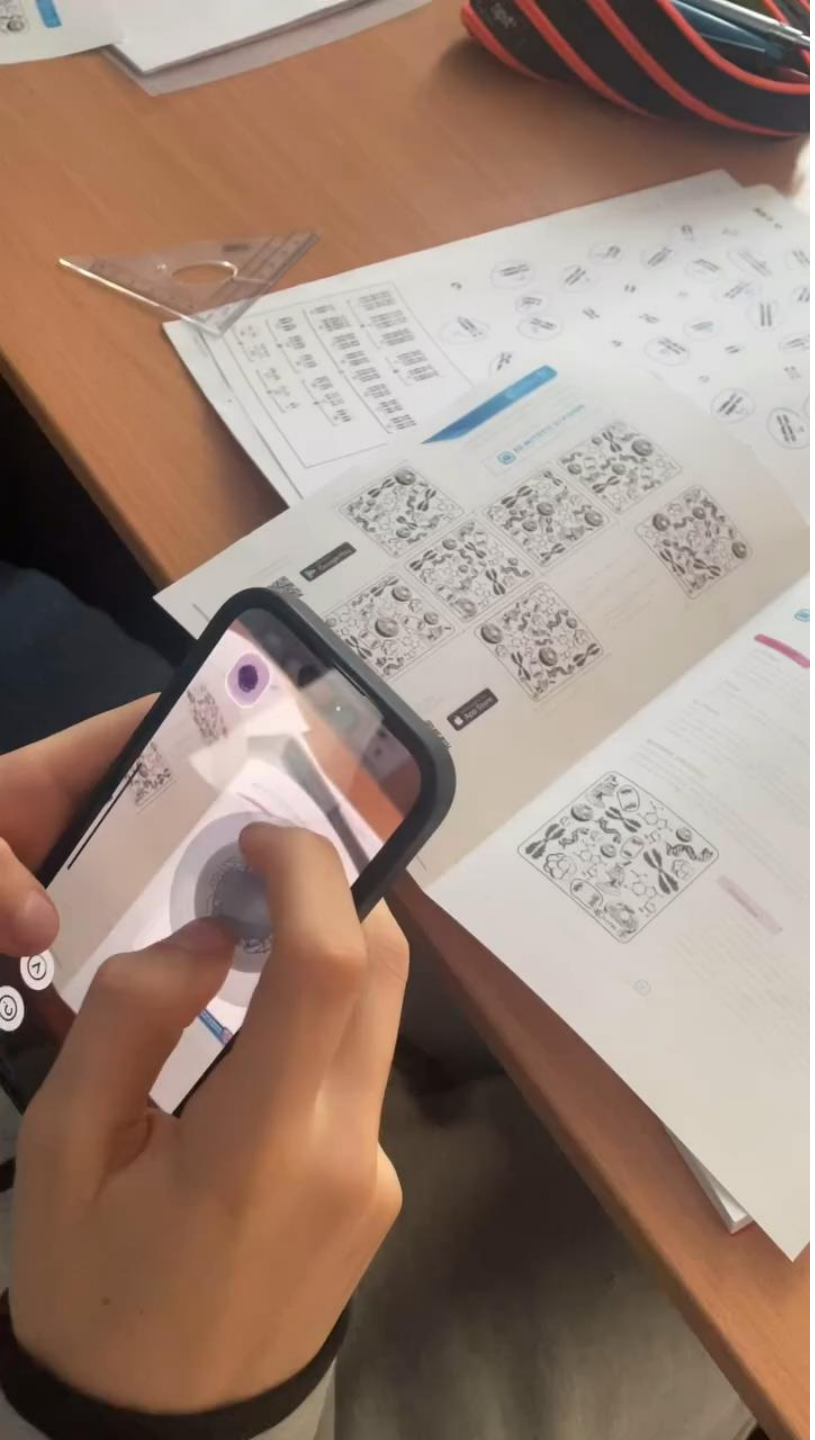
Full Screen




DIVISIÓN MITÓTICA 3D
GUÍA DE
ACTIVIDADES
LIITEC
DIVISIÓN MITÓTICA 3
DIVISIÓN CELULAR MITÓTICA EN REALIDAD AUMENTADA
INSTRUCCIONES
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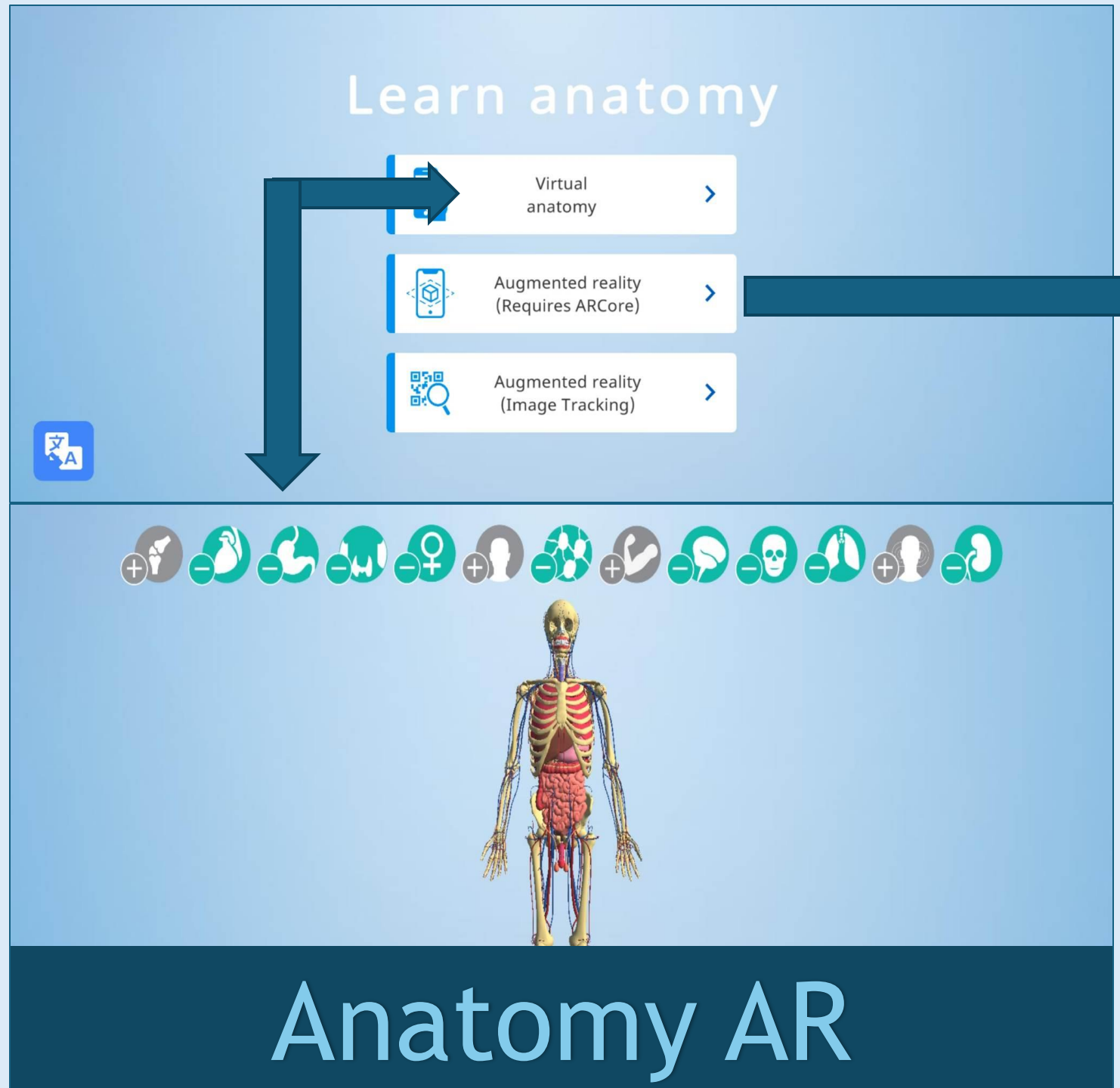
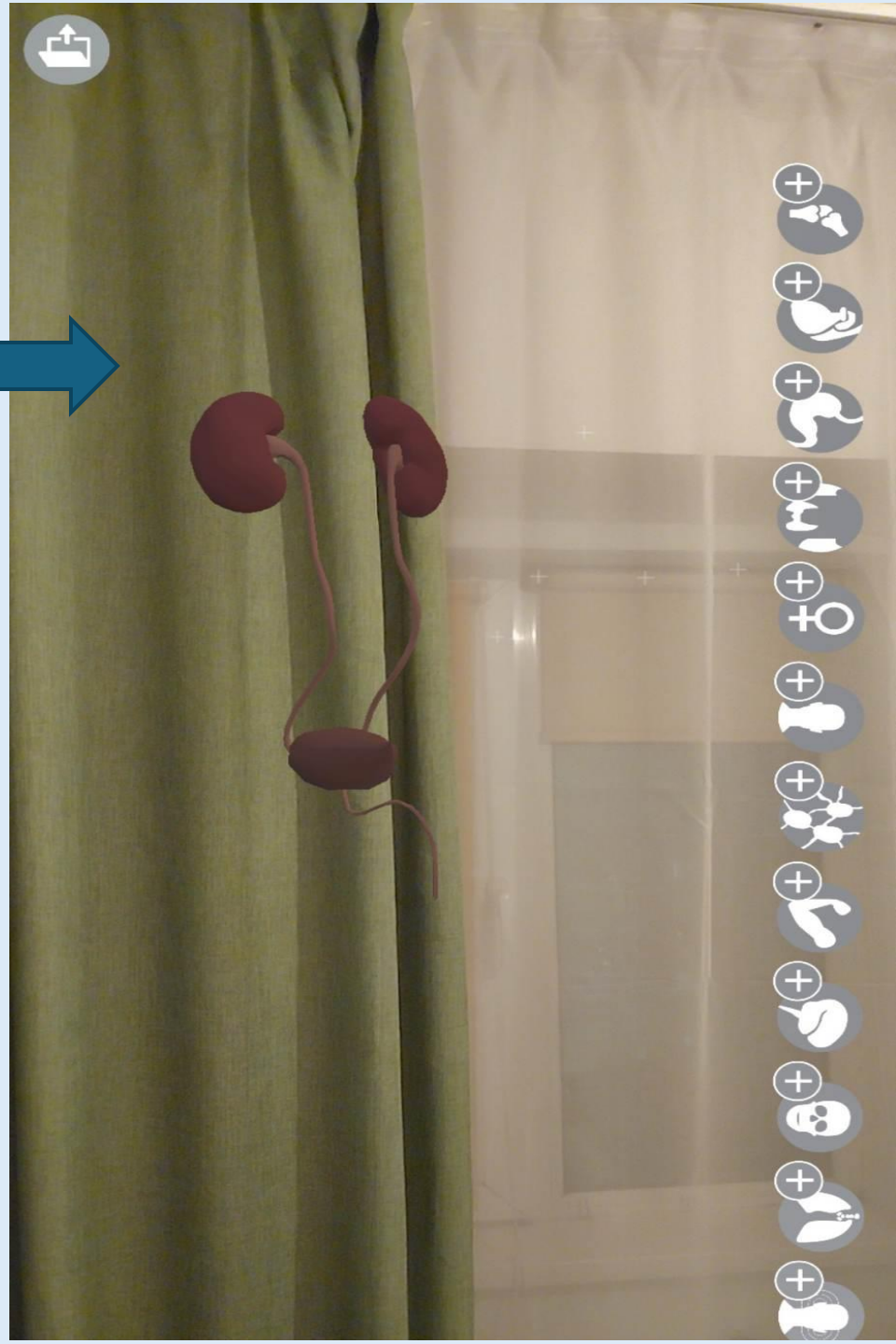
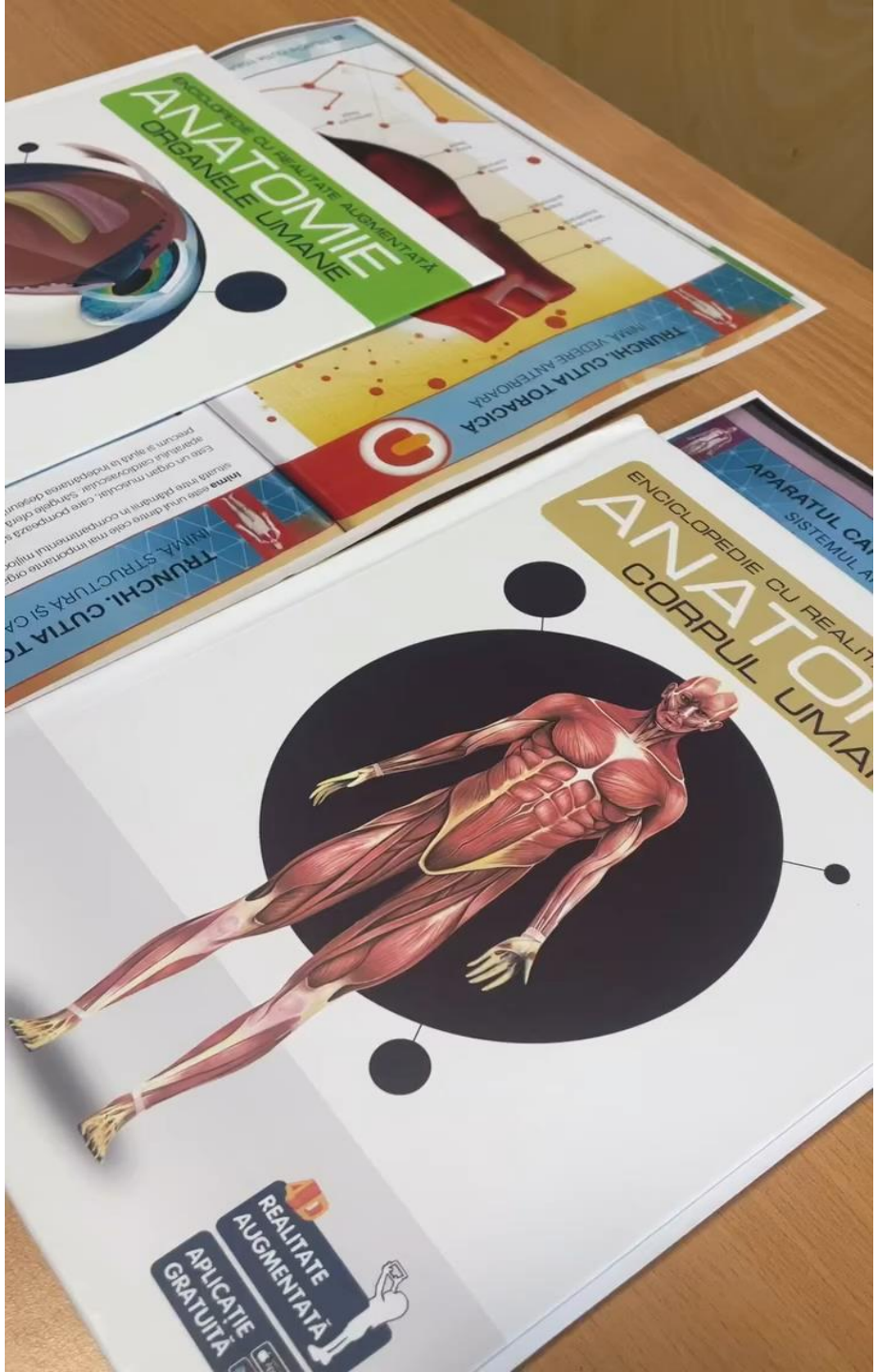
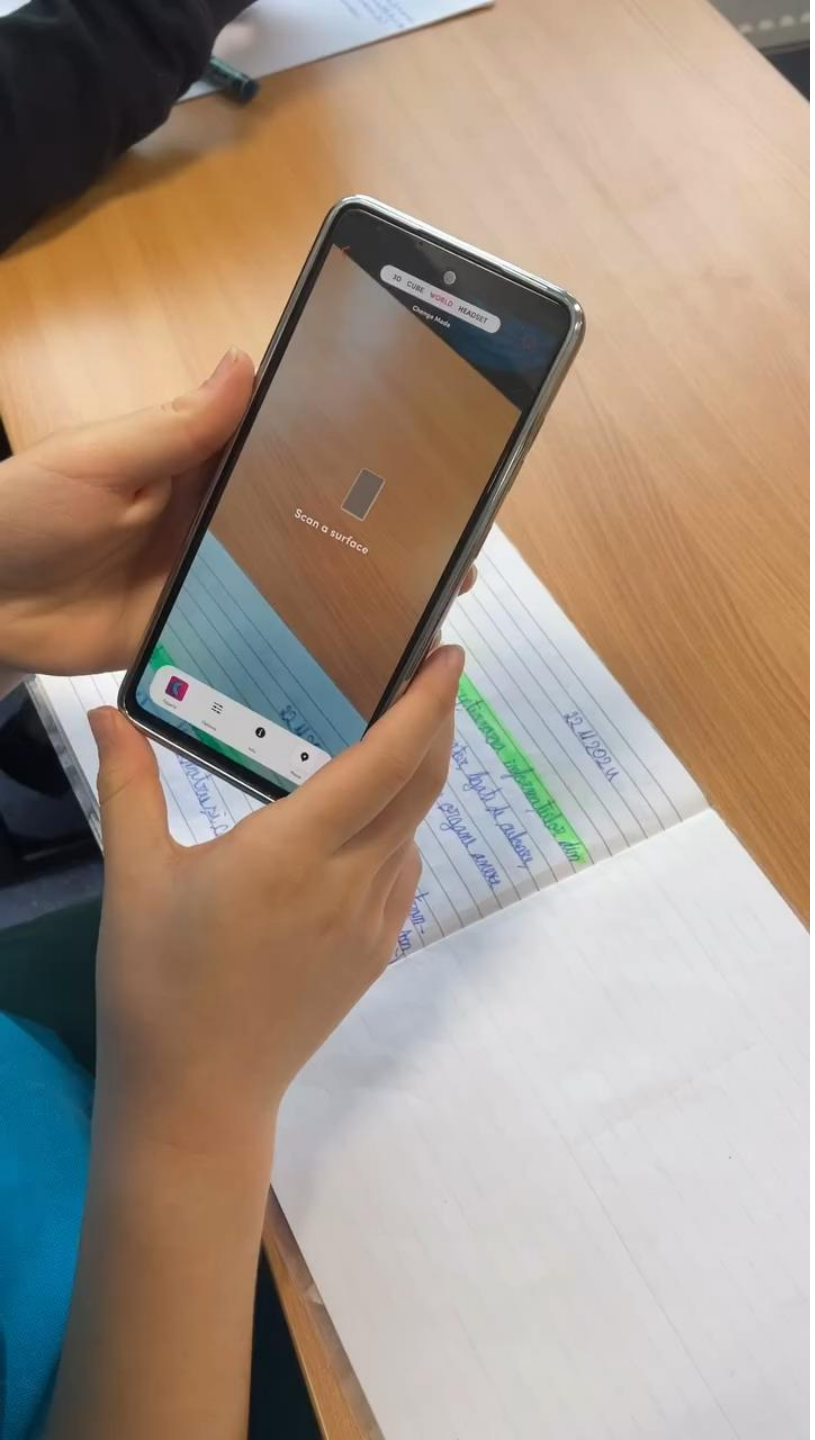
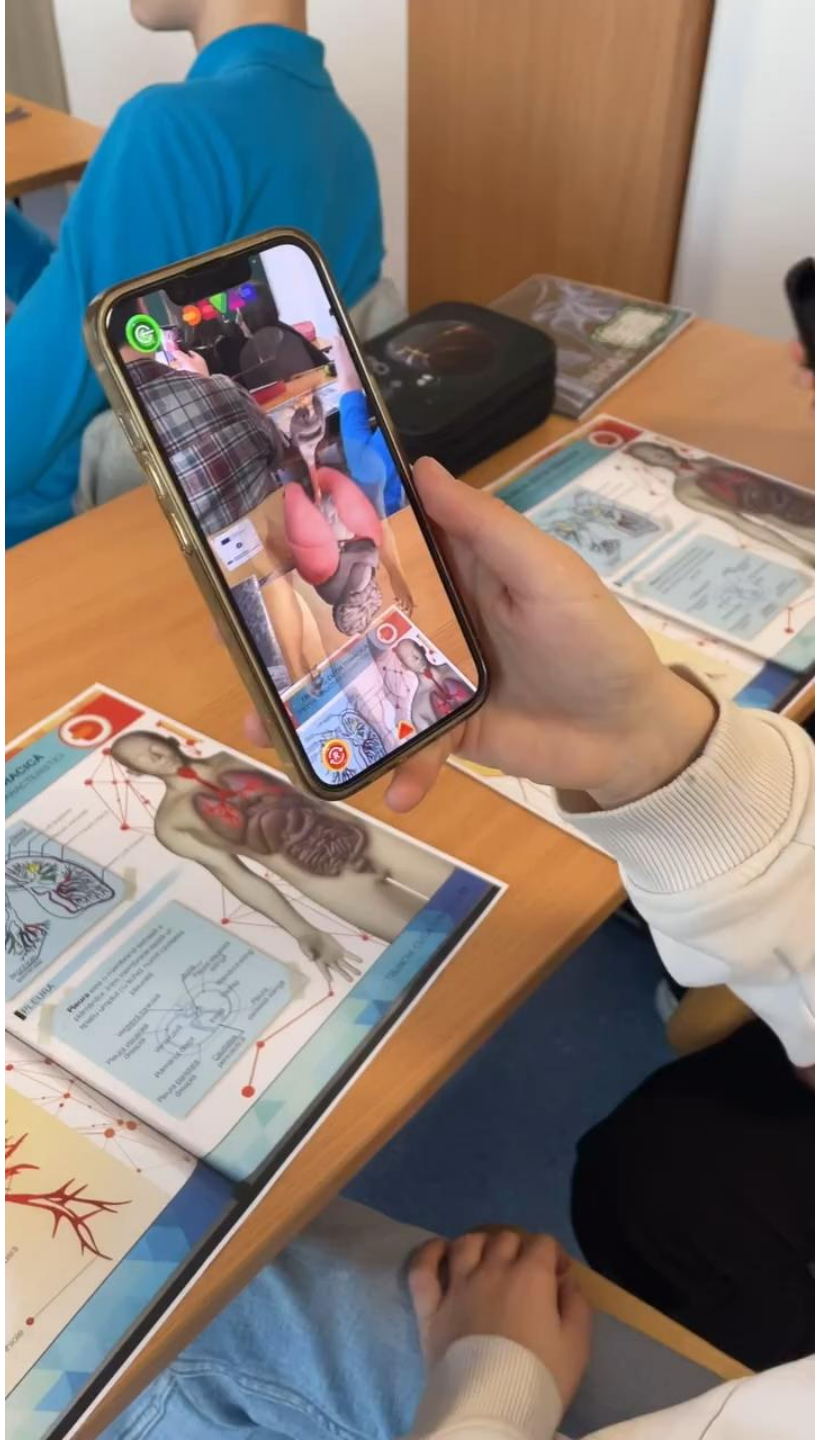

Learn anatomy
Virtual anatomy
Augmented reality (Requires ARCore)
Augmented reality (Image Tracking)
Anatomy AR

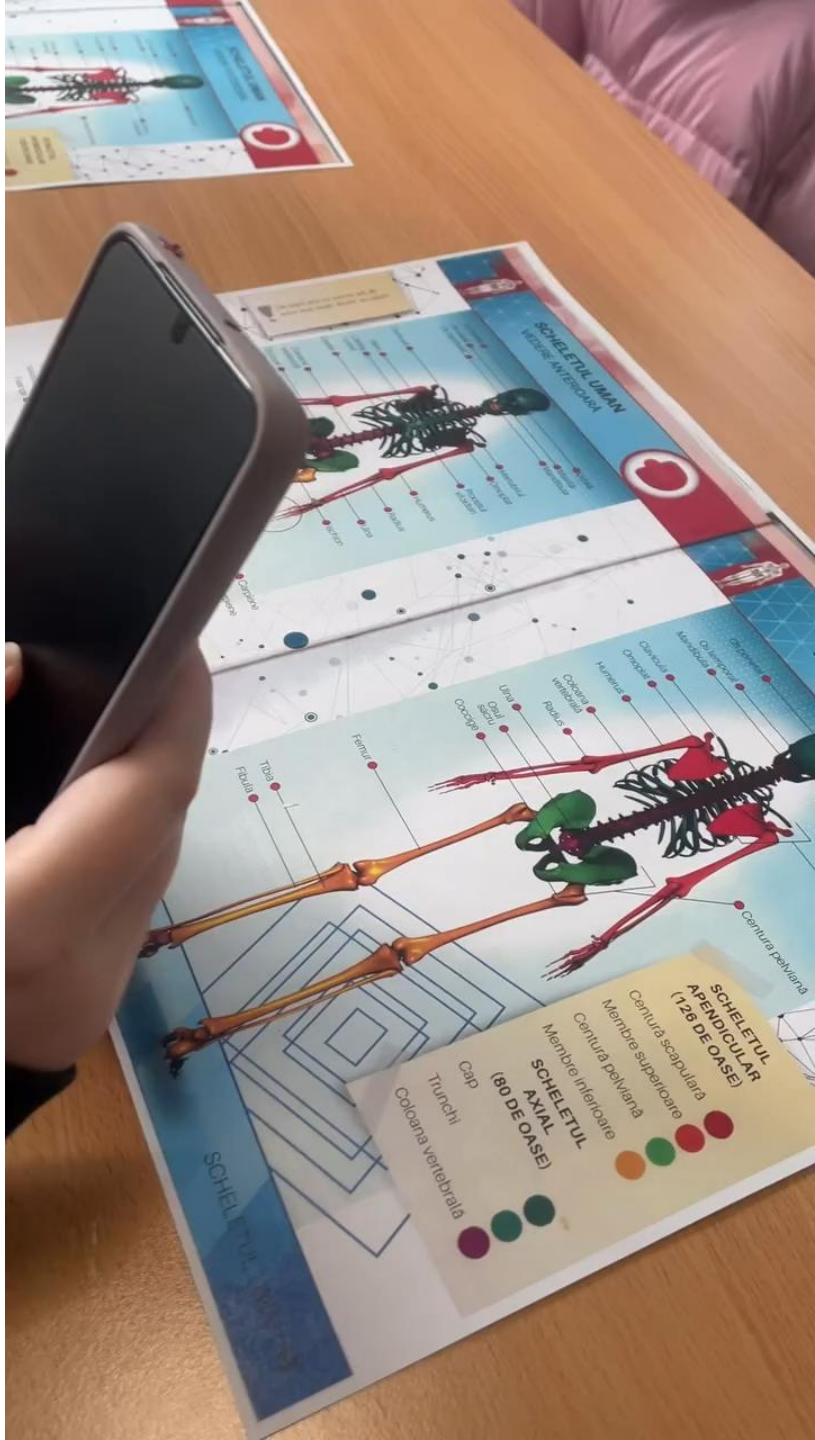


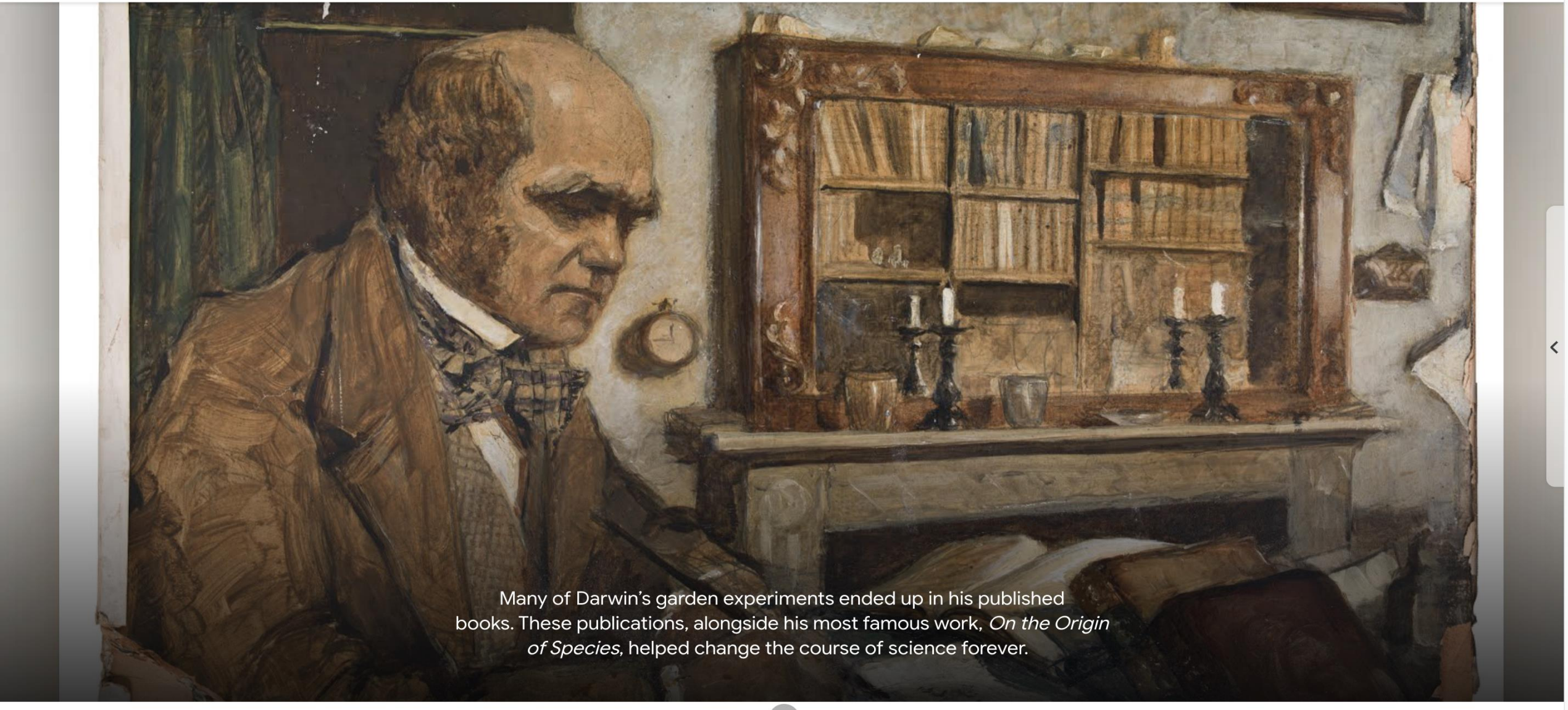

ENCICLOPEDIE CU REALITATE AUGMENTATĂ
ANATOMIE
ORGANELE UMANE
TRUNCHI. CUTIA TORACICĂ
VEDERE ANTERIOARĂ
APARATUL CA
SISTEMUL A
ENCICLOPEDIE CU REALIT
ANATO
CORPUL UMA
TRUNCHI. CUTIA TO
ANIMA. STRUCTURA ȘI CA
REALITATE AUGMENTATĂ
APLICAȚIE GRATUITĂ

DEVAR


3D CURE WORLD READSET
Change Mode
Scan a surface




SCHELETUL UMAN
VEDERE ANTERIOARĂ
SCHELETUL APENDICULAR (126 DE OASE)
Centură scapulară
Membre superioare
Centură pelviană
Membre inferioare
SCHELETUL AXIAL (80 DE OASE)
Cap
Trunchi
Coloana vertebrală
Centura pelviană



Many of Darwin's garden experiments ended up in his published books. These publications, alongside his most famous work, *On the Origin of Species*, helped change the course of science forever.

Traiectorii de învățare
Traiectorii private
Calendar inteligent
Editor traiectorii personale
Rapoarte elevi
Monitorizare elevi
Comunități virtuale
Teste
Formulare
Cunoștințe

Traiectorii de învățare

Caută după descrierea traiectoriei sau a fluxului | Etichete | Toate limbile

- OPTROBO.22.C6C7.V1.1 1. FLUXURI ROBOTICA ȘI VIAȚA (opțional) R
- INFOTIC.17.5.V1 2. FLUXURI INFORMATICĂ ȘI TIC CLASA A V-A IA
- INFOTIC.17.6.V1 3. FLUXURI INFORMATICĂ ȘI TIC CLASA A VI-A IA
- INFOTIC.17.7.V1 4. FLUXURI INFORMATICĂ ȘI TIC CLASA A VII-A IA
- INFOTIC.17.8.V1 5. FLUXURI INFORMATICĂ ȘI TIC CLASA A VIII-A IA
- FDEMO FLUXURI DEMONSTRATIVE
- L.GEO FLUXURI DEMONSTRATIVE GEOGRAFIE CLASA A V-A
- INEXTLAB INFORMAȚII PLATFORMA NEXTLAB
- TESTEAF TESTE ALFABETIZARE FUNCȚIONALĂ

În secțiunea curentă sunt afișate traiectoriile de învățare disponibile și fluxurile conținute
Pentru accesul la mai multe opțiuni pe fluxuri, click dreapta pe acestea

TIPURI DE CROMOZOMI

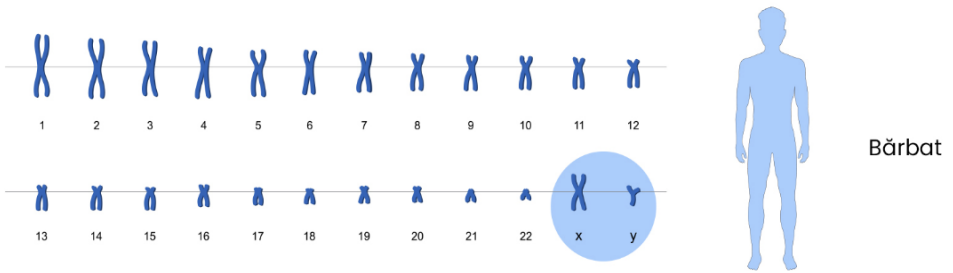
Derulați următoarele slide-uri pentru a afla mai multe informații despre cromozomi.

5/6

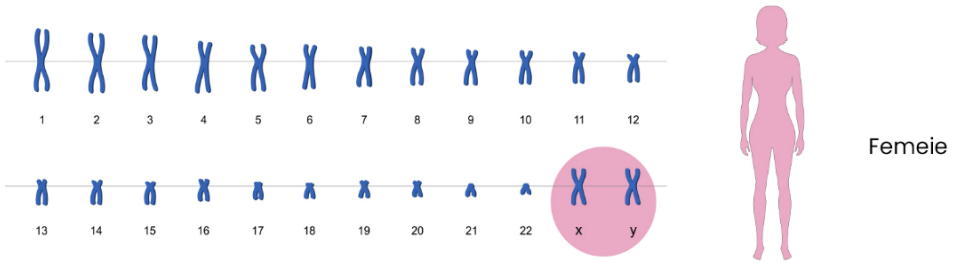
Autozomi și heterozomi

Cei 46 de cromozomi se găsesc în perechi (câte unul provenit de la mamă și unul provenit de la tată), adică 23 de perechi. Dintre aceștia, **44 de cromozomi se numesc autozomali**, determinând toate însușirile corpului, cu excepția sexului. Ei sunt identici la ambele sexe.

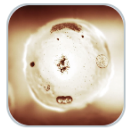
2 cromozomi sunt numiți heterozomali (de sex). Ei pot fi identici (**XX – la femeie**) sau diferiți (**XY - la bărbat**).

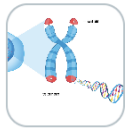
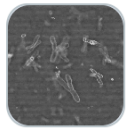
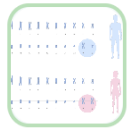
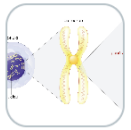


Bărbat



Femeie



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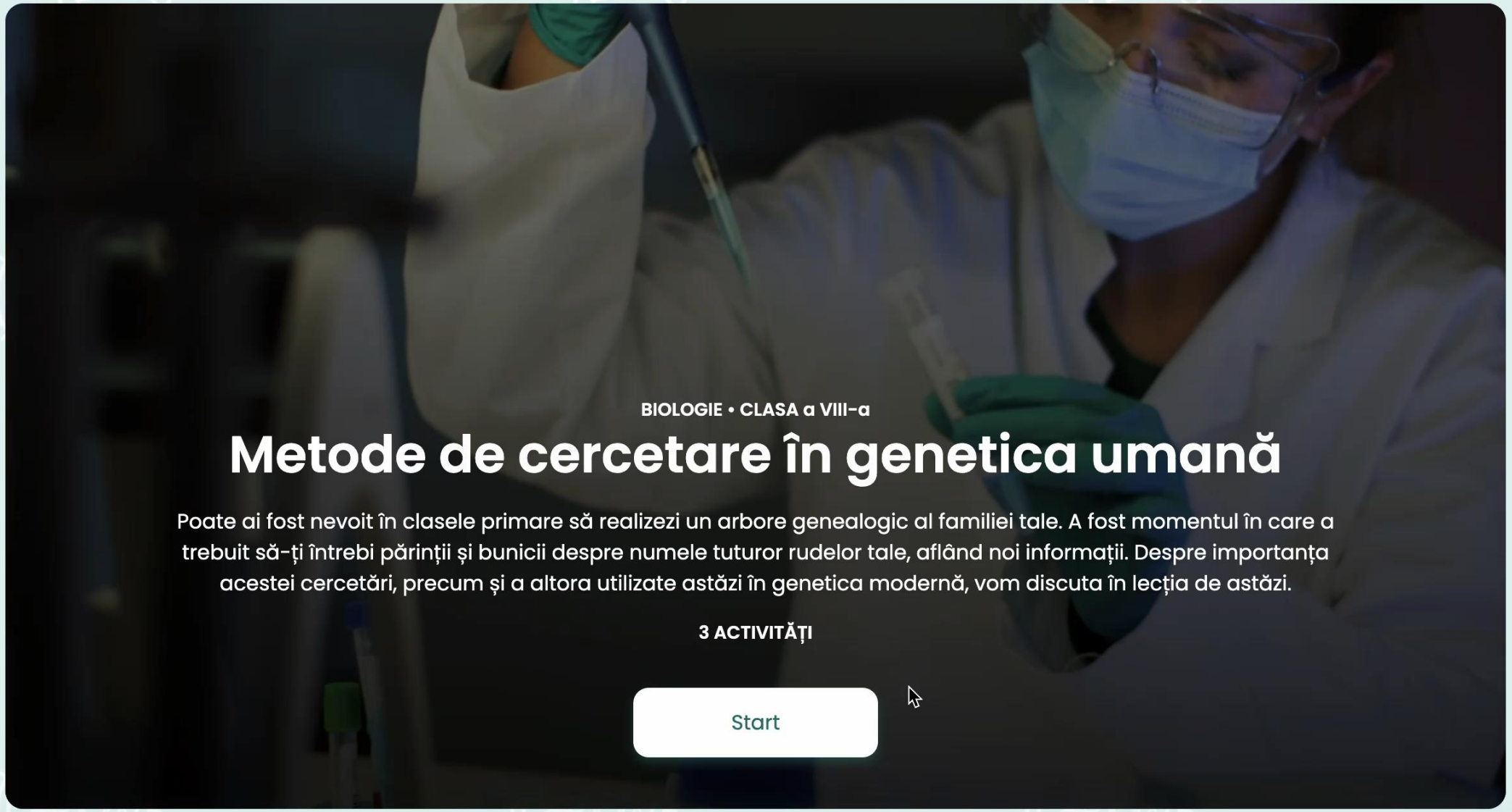


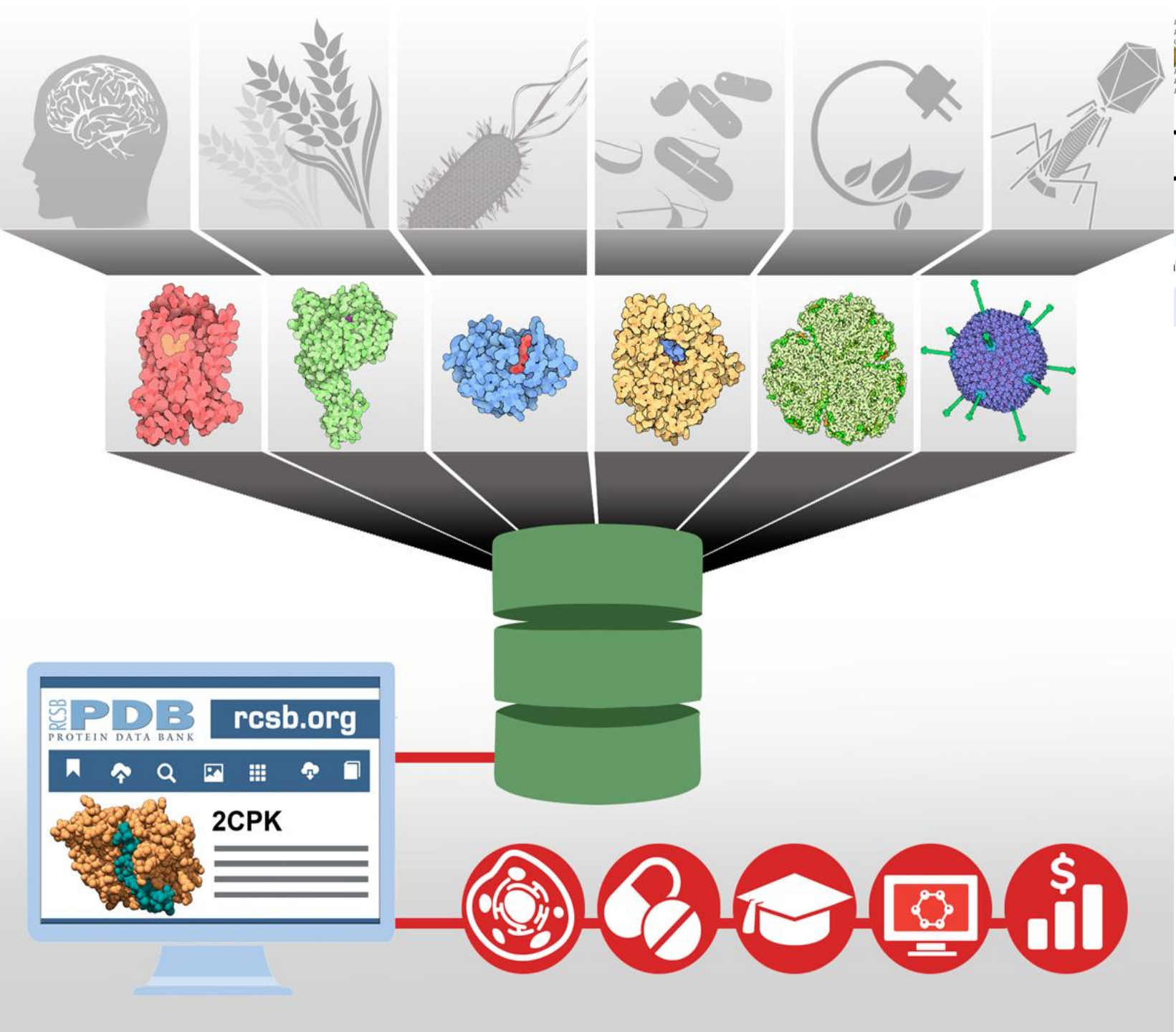
BIOLOGIE • CLASA a VIII-a

Metode de cercetare în genetica umană

Poate ai fost nevoit în clasele primare să realizezi un arbore genealogic al familiei tale. A fost momentul în care a trebuit să-ți întrebi părinții și bunicii despre numele tuturor rudelor tale, aflând noi informații. Despre importanța acestei cercetări, precum și a altora utilizate astăzi în genetica modernă, vom discuta în lecția de astăzi.

3 ACTIVITĂȚI

Start



FlyBase

swissprot

MEGA Molecular Evolutionary Genetics Analysis

DDBJ
DNA Data Bank of Japan

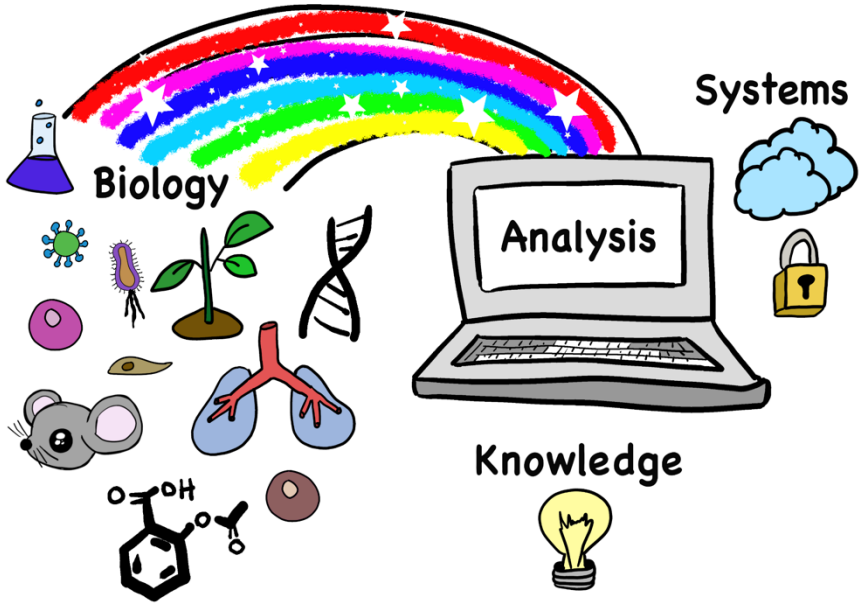
RCSB PDB
PROTEIN DATA BANK

BLAST
l Alignment Search Tool

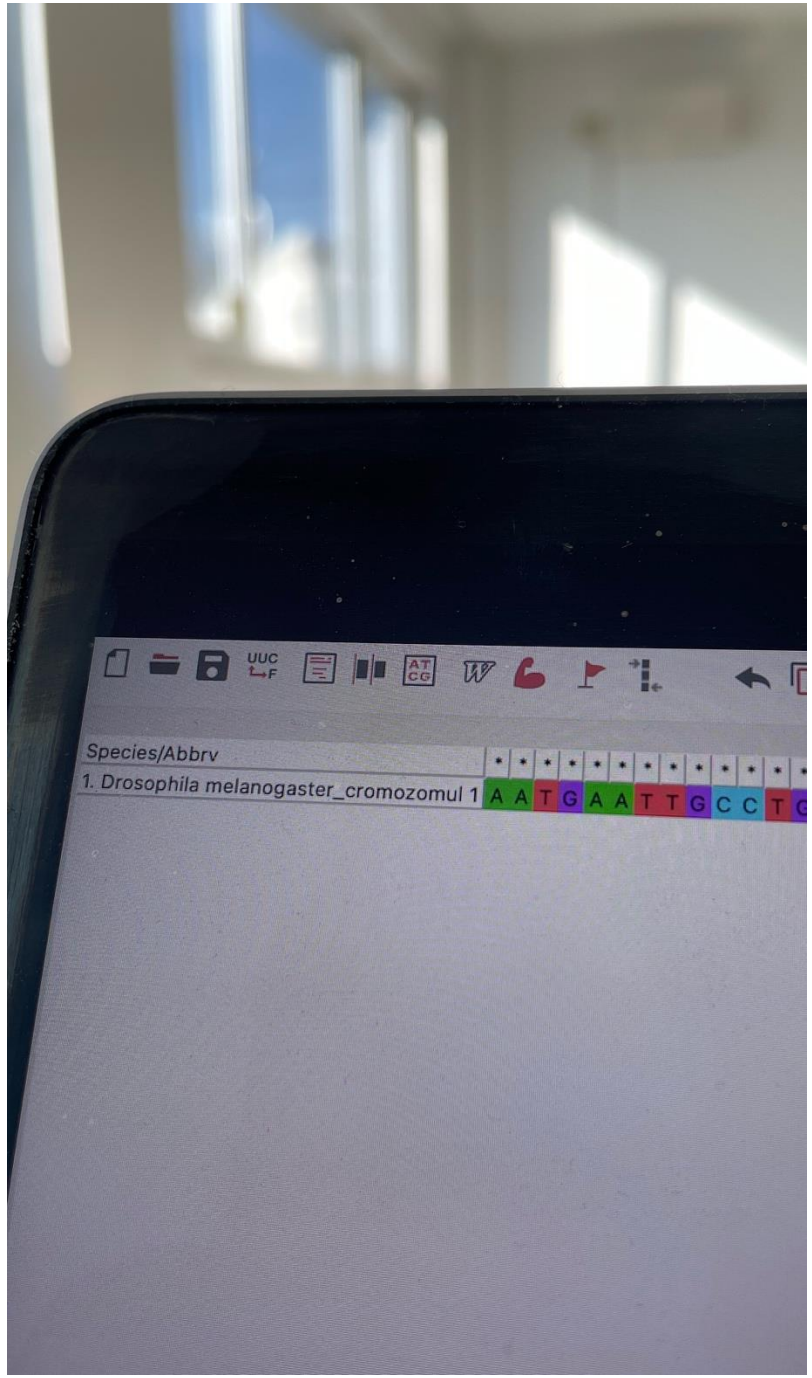
NCBI

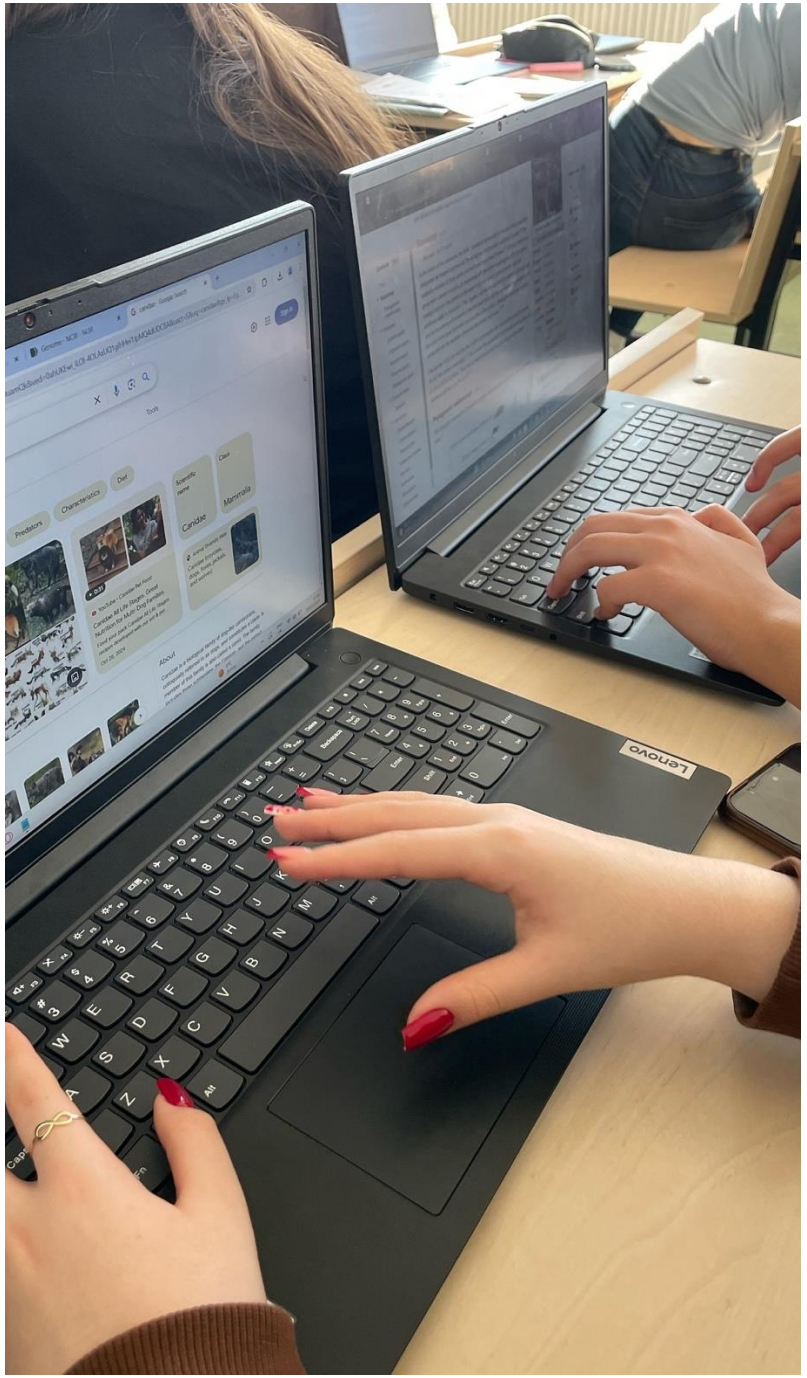
W2 CLUSTAL

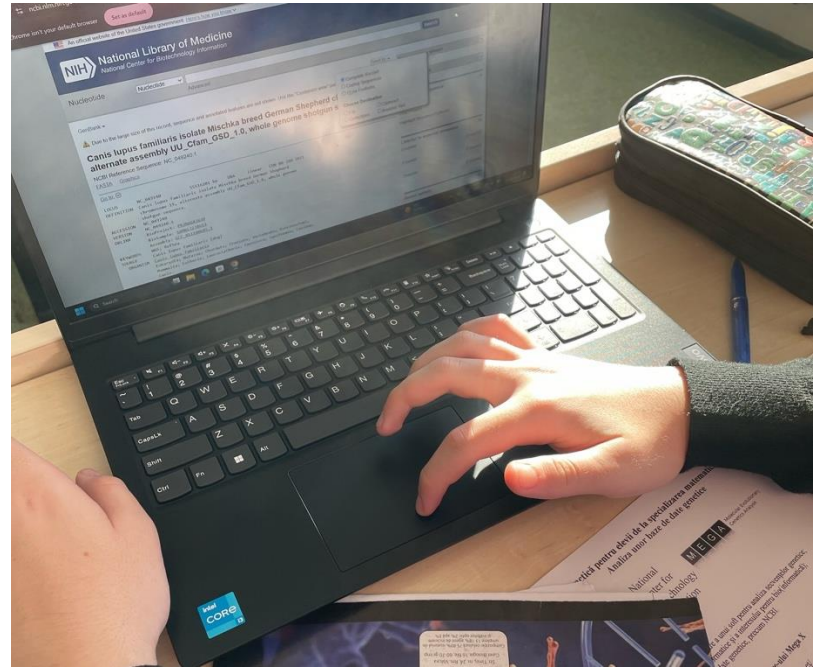
BIOINFORMATICĂ

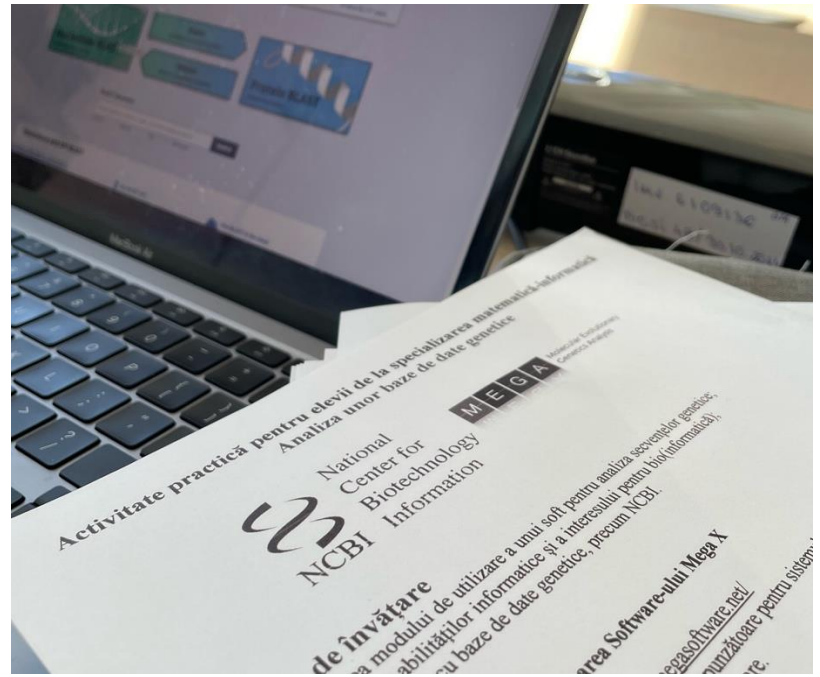



NCBI
The National Center for Biotechnology Information


Species/Abbrv
1. Drosophila melanogaster_cromozomul 1
A A T G A A T T G C C T G


Lenovo


National Library of Medicine
National Center for Biotechnology Information
Canis lupus familiaris isolate Mischka breed German Shepherd
alternate assembly UU_Cfam_GSD_1.0, whole genome shotgun
MEGA


Activitate practică pentru elevii de la specializarea matematică-informatică
Analiza unor baze de date genetice
National Center for Biotechnology Information
NCBI
MEGA
de învățare
Software-ului Mega X

Magic Tools
Raina (Chatbot)
Output History
Launch to Students
MagicSchool Labs
Love
Training
Share the Magic
Student AI Literacy
Upgrade
Plus

Favorites

Change Order

Your favorite tools appear here!
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Generate a list of vocabulary words based on a subject, topic, or text th...

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Generate a list of suggestions for behavior intervention based on the...

Choice Board (UDL)
Create a choice board for a student assignment based on the principle...

Decodable Texts
Generate a decodable text based on the Science of Reading to support...

Song Generator
Write a custom song about any topic to the tune of the song of your...

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All Tools

Sort by: Most Popular

All | New | Custom Tools | Planning | Content | Questions | Intellectual Prep | Student Support | Communication | Community Tools | Admin

Create a Custom Tool

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Generate and edit images with AI

Presentation Generator HOT
Generate exportable slides based on