

Welcome!

AP Biology 2020-2021

Ms. Lin

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or

Schoology

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EVERYTHING
will always be
posted here!



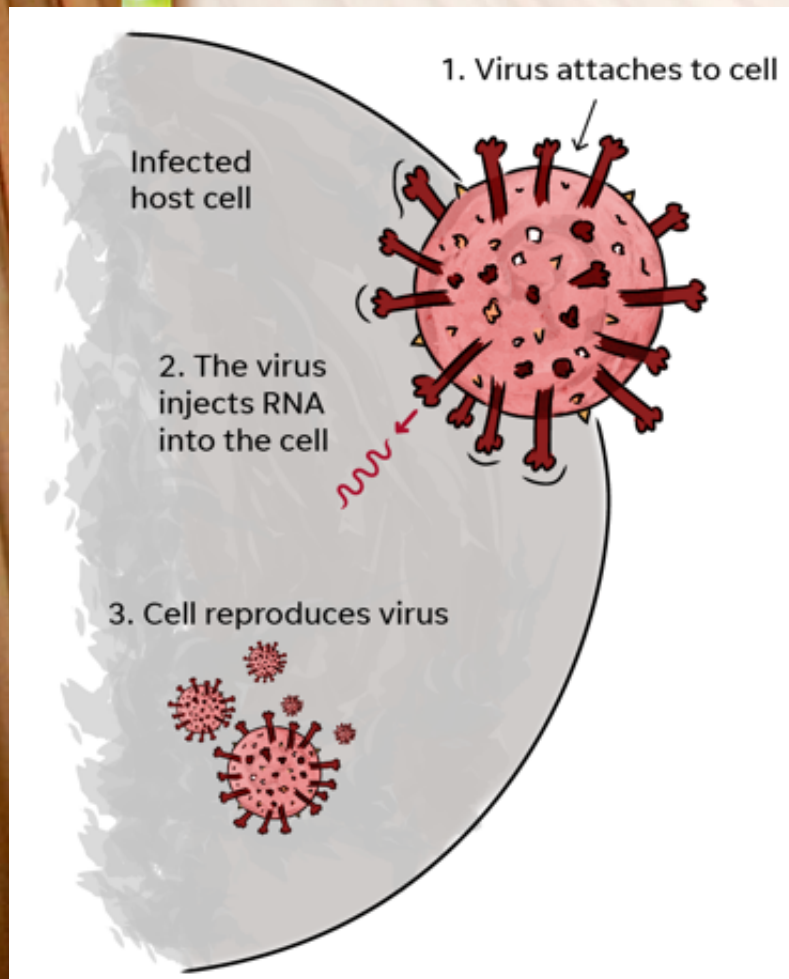
AP Biology is 9th grade Biology
on steroids.

9th grade Biology gives you a
good overview about biology,
but in AP Biology,
you get to learn more detail
about the HOW and WHY.



Coronavirus infects cells and causes symptoms such as coughing, shortness of breath, fever, etc.

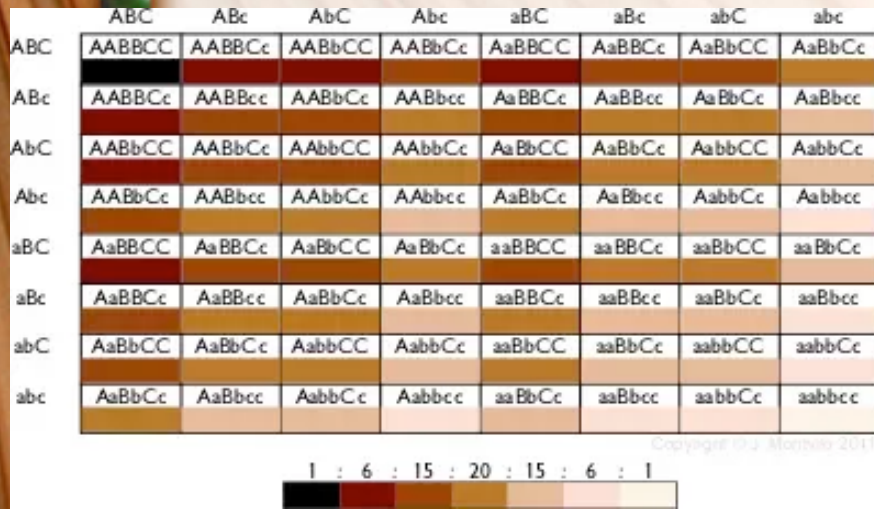
HOW does COVID-19 do this? What exactly is the virus doing to human cells that lead to these symptoms? How are scientists using what we know to develop a vaccine?



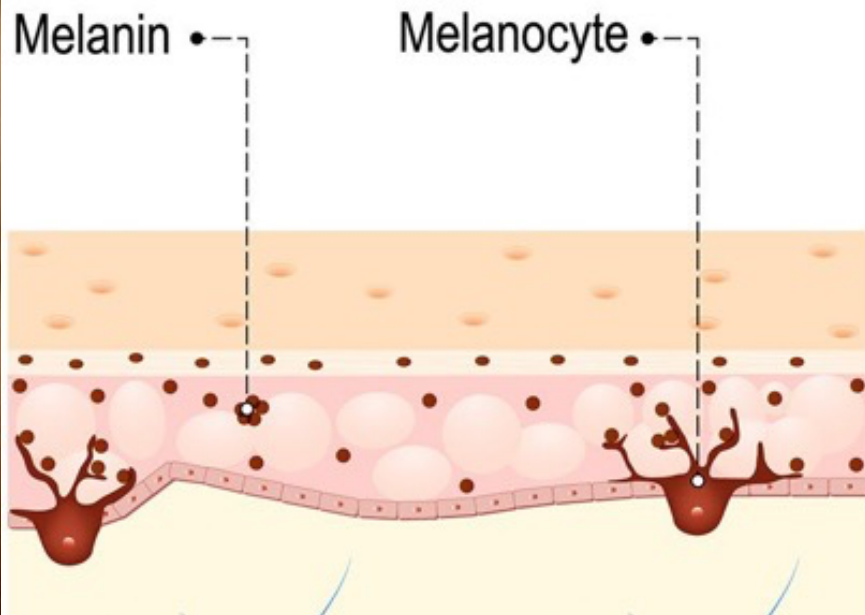


Our traits (such as eye color, skin color, blood type, genetic conditions, etc.) are coded in our DNA.

(DNA → RNA → PROTEIN)



How do genetics influence skin tone?
 How do skin cells produce melanin?
 How is skin color evidence of natural selection?

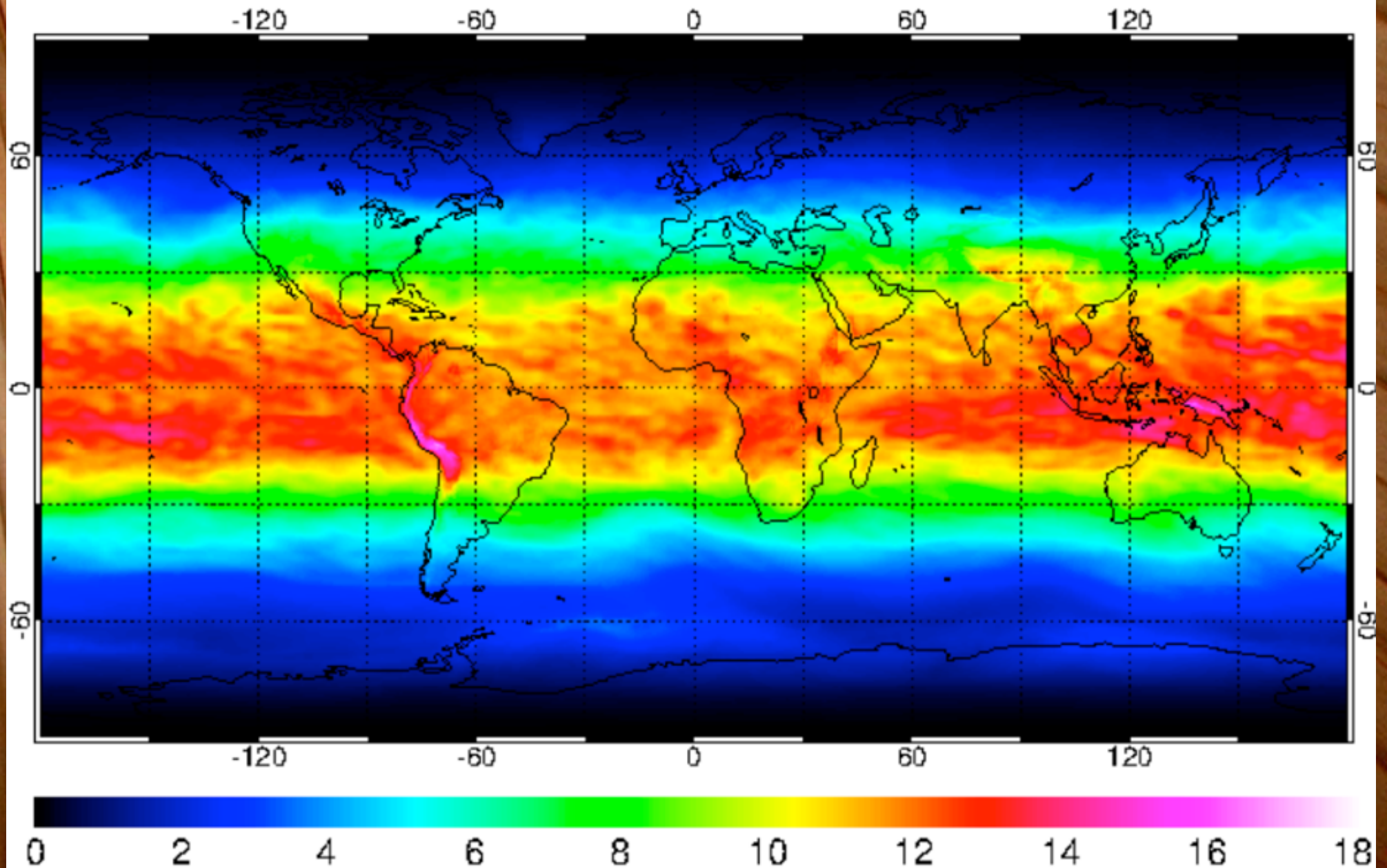


Erythemal UV index

KNMI/ESA

Clear-sky

24 September 2015



Lots of data analysis and graphs: Being a SMART MEDIA/SCIENCE CONSUMER

Spike in reported measles cases

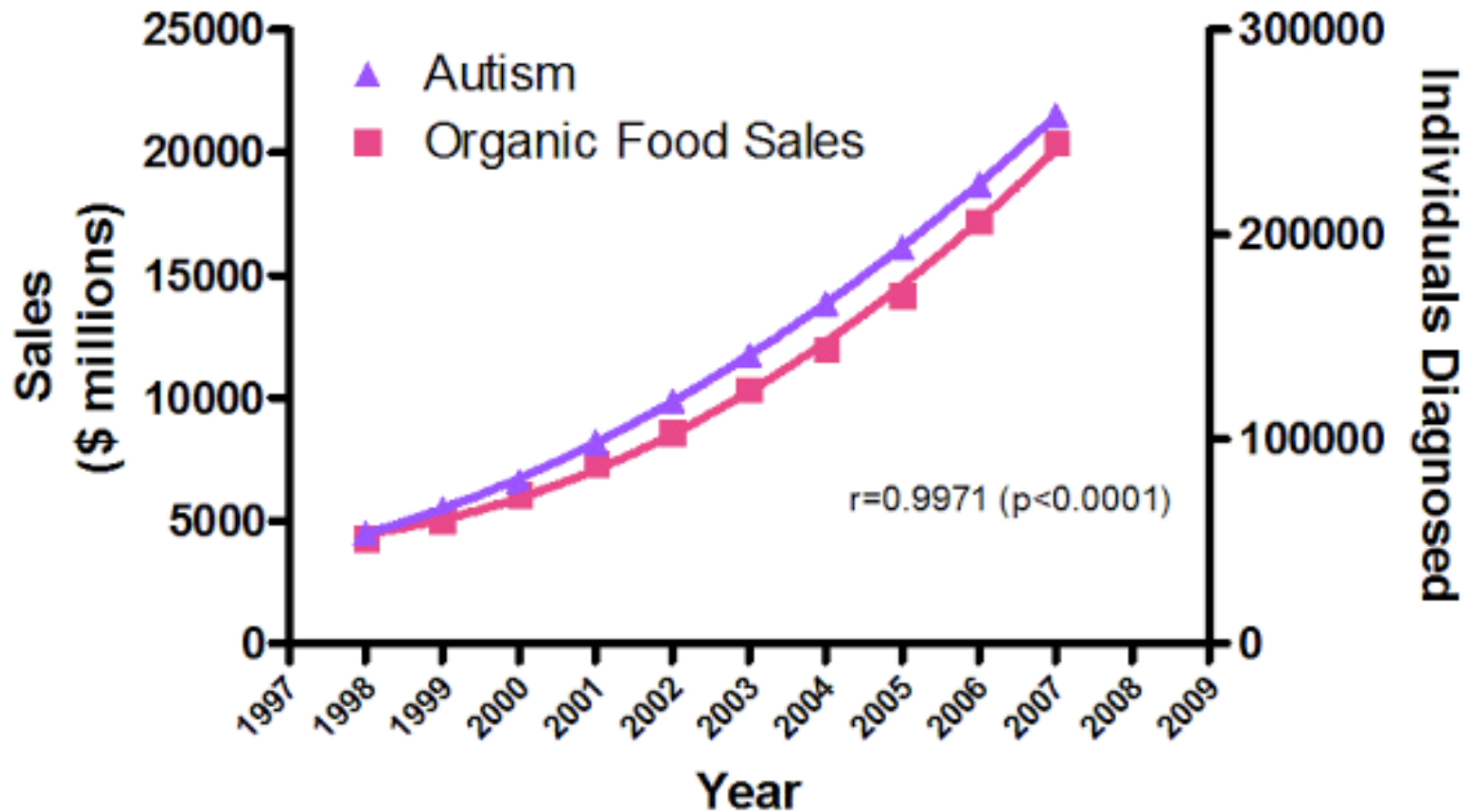
Reported cases: 2010 - Dec. 5, 2019



SOURCE Centers for Disease Control and Prevention
Janet Loehrke/USA TODAY

Lots of data analysis and graphs: Being a SMART MEDIA/SCIENCE CONSUMER

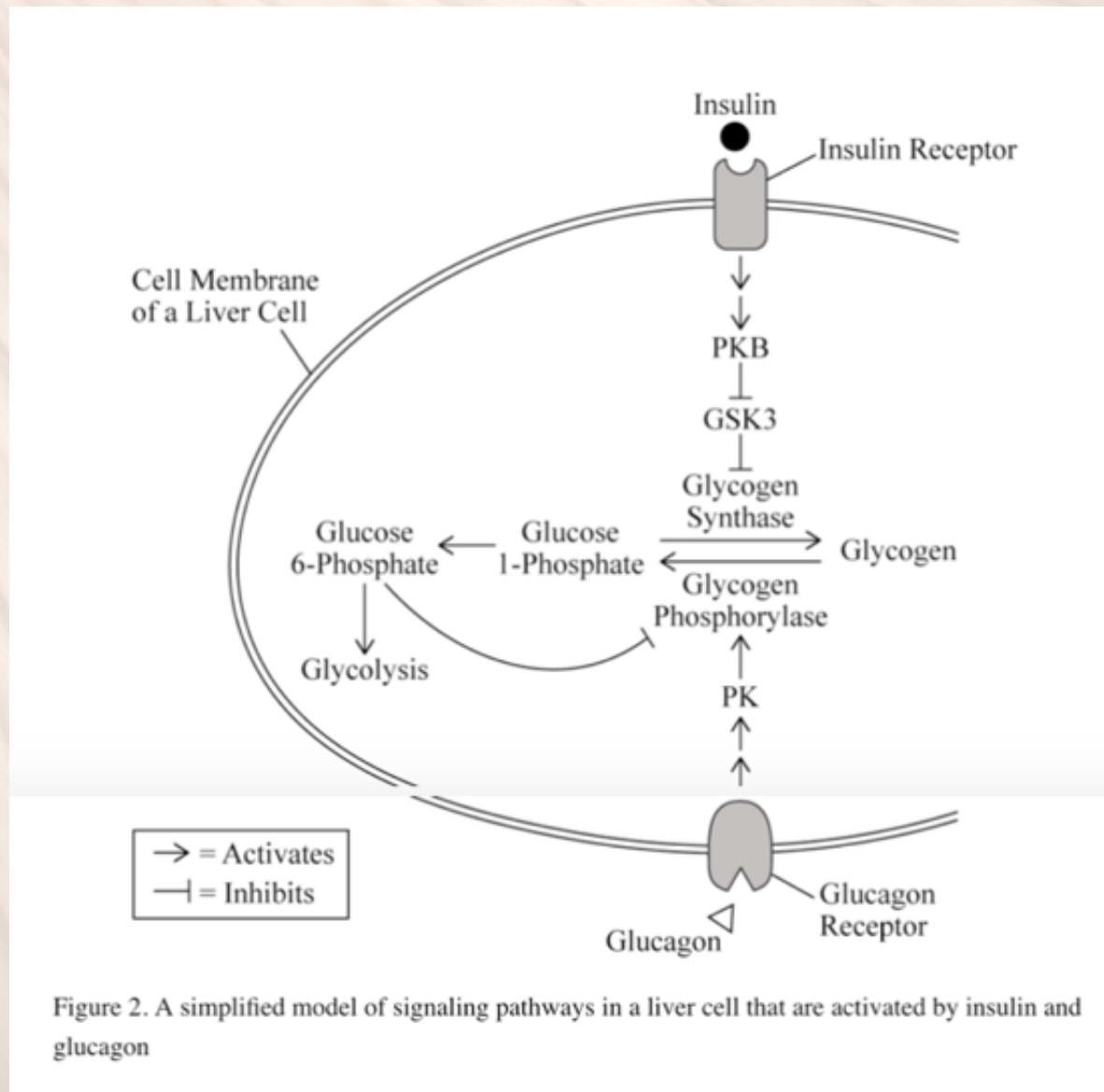
The real cause of increasing autism prevalence?



Sources: Organic Trade Association, 2011 Organic Industry Survey; U.S. Department of Education, Office of Special Education Programs, Data Analysis System (DANS), OMB# 1820-0043; *Children with Disabilities Receiving Special Education Under Part B of the Individuals with Disabilities Education Act

FAKE NEWS

By the end of the year, you'll be able to look at a diagram like this and figure out what's going on.



Or this...

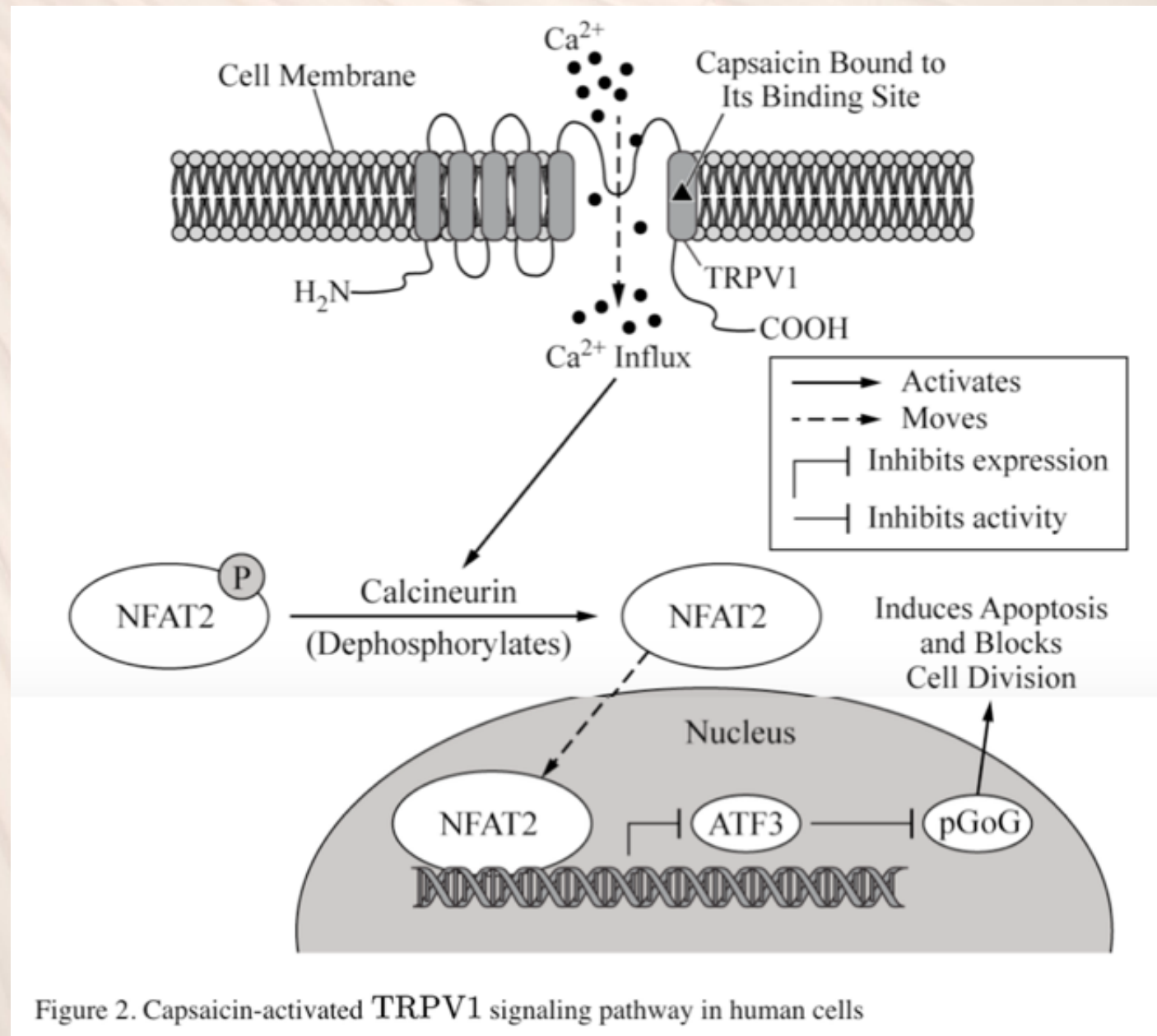


Figure 2. Capsaicin-activated TRPV1 signaling pathway in human cells

And be able to understand this...

Friedreich's ataxia is an inherited disorder. Friedreich's ataxia is caused by an insertion mutation in a noncoding portion of the *FXN* gene where a GAA triplet is repeated hundreds of times. The *FXN* gene encodes the protein frataxin. A pedigree of a family with members affected by this disorder is shown in Figure 1.

A researcher collected DNA from several members of the family and used PCR to amplify the *FXN* genes from each individual's DNA. The researcher then used DNA gel electrophoresis to separate the DNA. The results are shown in Figure 2.

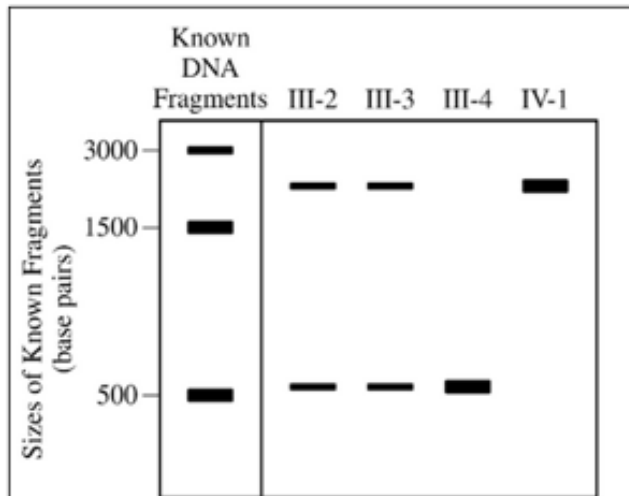


Figure 2. *FXN* gene fragment sizes for several family members. A sample of DNA with fragments of known lengths was used for comparison.

The researcher also used a computer to model the structure of the mutant *FXN* allele. The model suggests that the repeated GAA triplets in the mutant *FXN* gene may lead to the formation of an unusual triple-stranded configuration of DNA (Figure 3).

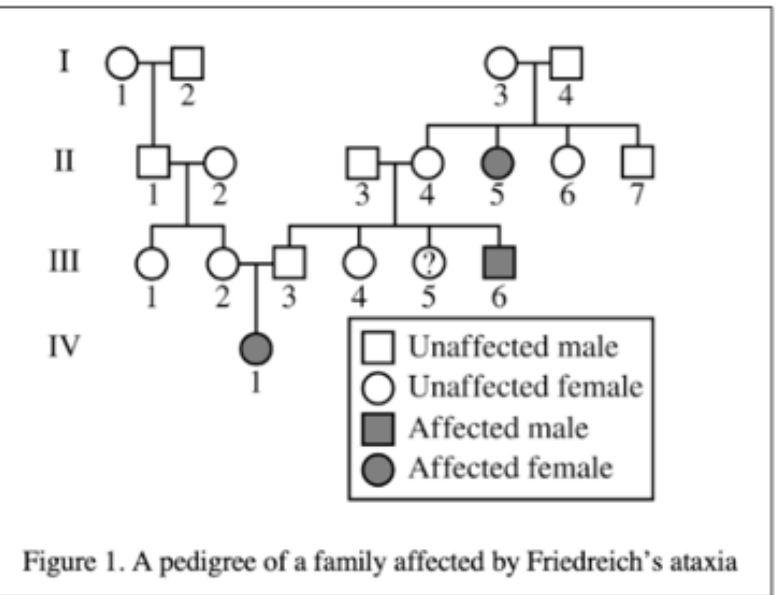


Figure 1. A pedigree of a family affected by Friedreich's ataxia

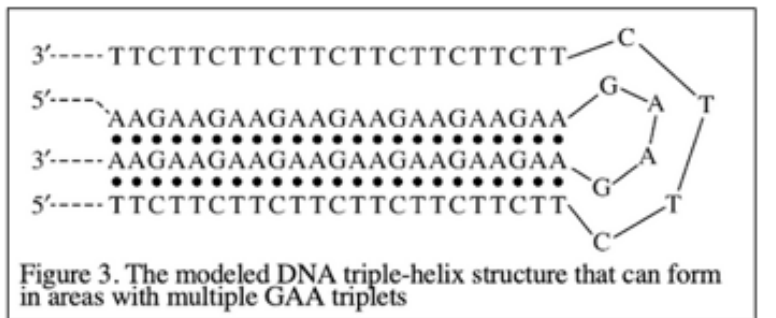
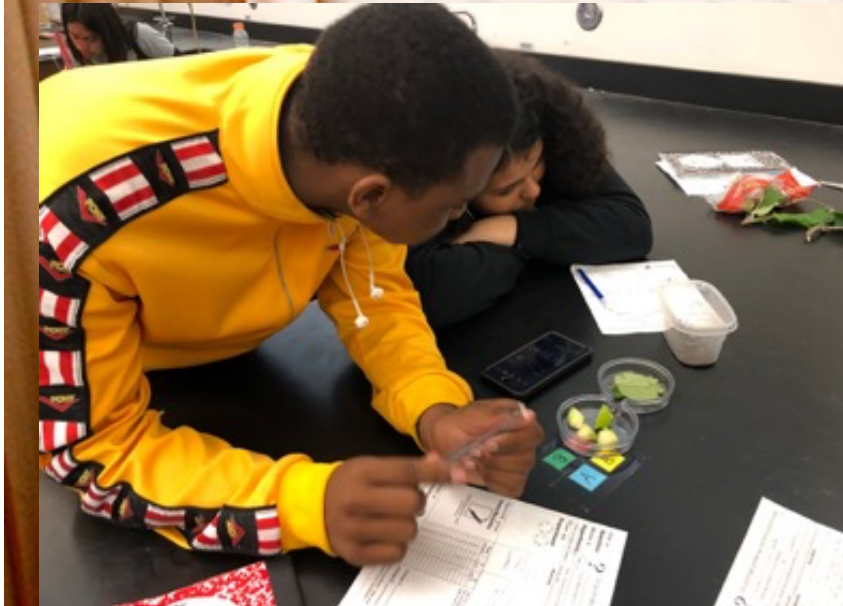
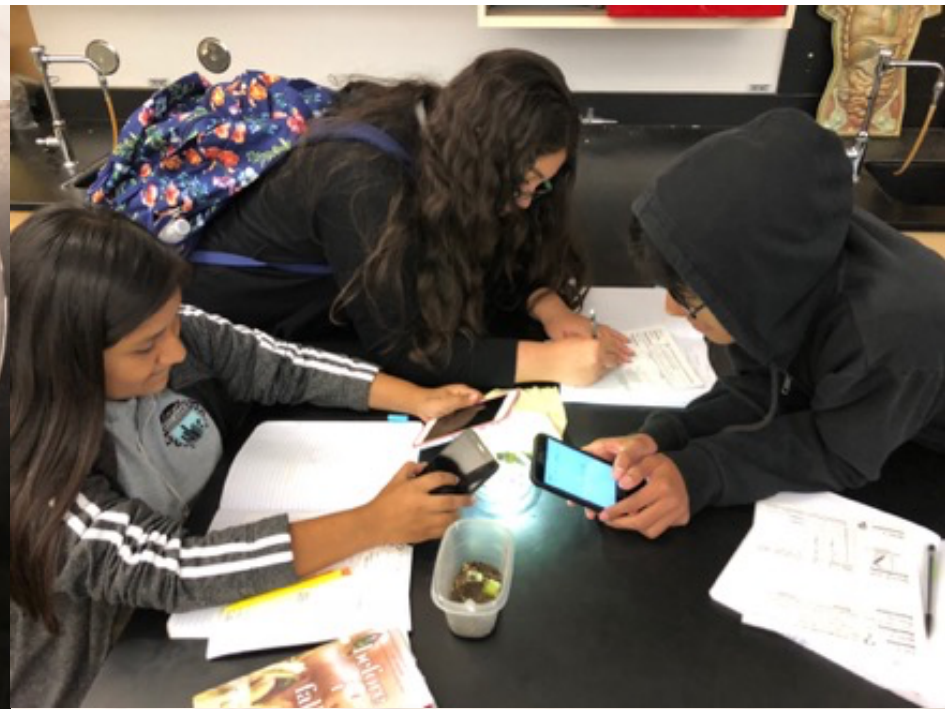
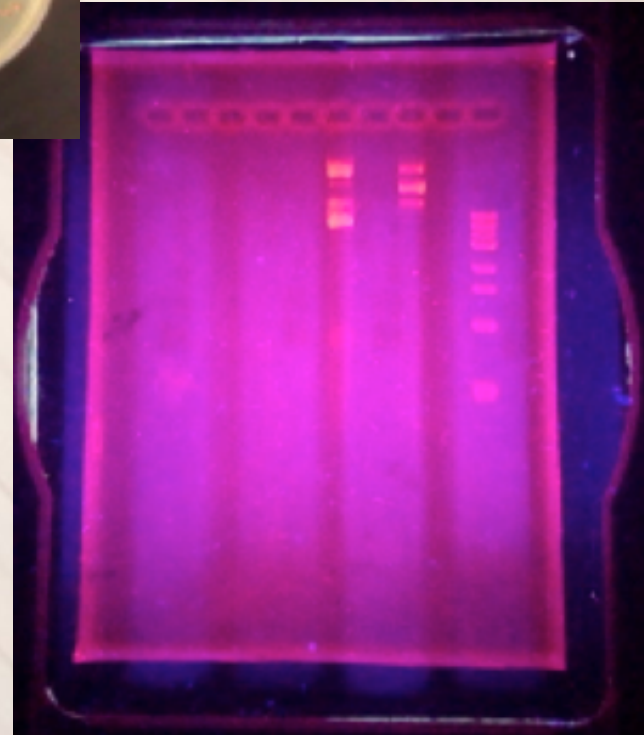
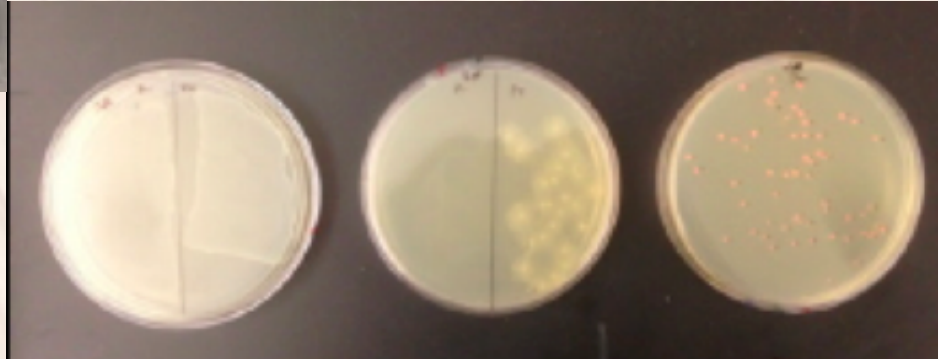
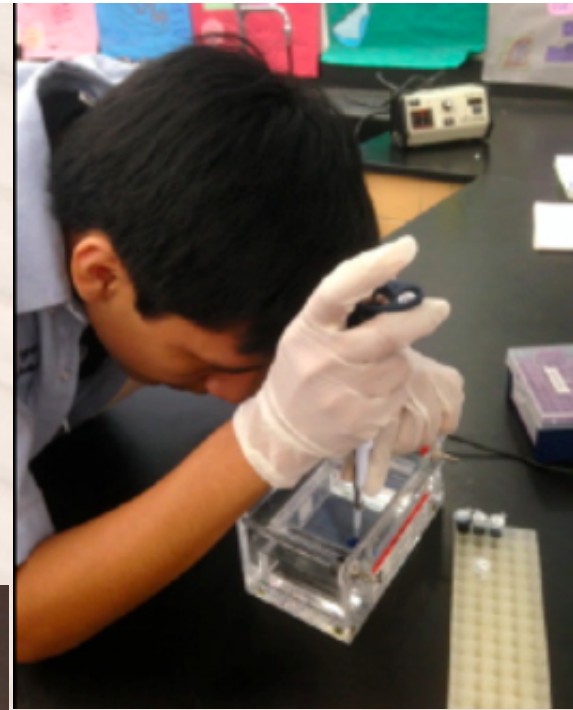
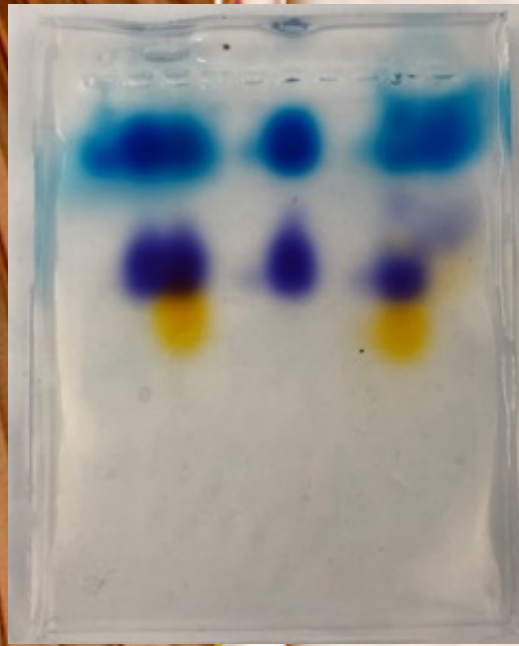


Figure 3. The modeled DNA triple-helix structure that can form in areas with multiple GAA triplets





A typical night of homework...

- Textbook reading (ranging from 4 - 12 pages)
- Reading guide (questions that go along with the textbook reading) OR taking your own notes
- Watching a Bozeman video + worksheet
- May also include: worksheets, lab prep or analysis, finishing classroom activities, reading and annotating PowerPoints or articles.
- Labs & projects - at least one per unit

Summer Assignment

Summer Assignment

Part 1: E-mail

To: victoria.lin@lausd.net

From: the e-mail address you will be using this coming year

Subject: AP Biology 2020-2021

In the body of the message, please include:

1. Name
2. Grade next school year
3. Previous science classes taken and how you did in those classes (Course, teacher, grades earned for BOTH semesters, additional comments)
4. How have you been while we've had our school closure? How were your work-habits during this time? What was challenging about distance learning?
5. Why do you want to take AP Biology?
6. What are you doing this summer? (Internships, summer school, working, traveling, etc.)
7. Something interesting that you think I should know as your teacher. (Hobbies, awards, talents, challenges, major concerns, special needs, etc.)
8. Which topic/lesson/lab from Biology class did you enjoy the most and why?
9. Ask me a question about the course, science, or anything appropriate.

Summer Assignment

Part 2: College Board Account

AP Students

Home Coronavirus Updates Getting Started ▾ Courses & Exams Taking Exams ▾ Scores ▾ Credit & Placement ▾



Get Ahead with AP

Taking an AP course this year? Sign in for all your AP resources using your College Board username and password.



Sign in to your account to get started

Username

Password

Remember Me

Submit

Forgot [Username](#) or [Password](#)?

Don't have an account?

Create Account

Summer Assignment

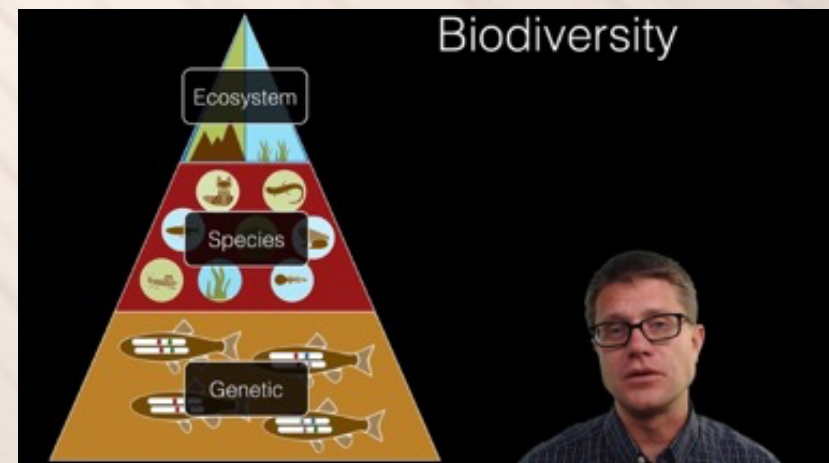
Part 3: Overview of AP Bio/ Review of 9th Grade Bio

- **Read Chapter 1** (Textbook PDF is posted under Resources)
 - Complete Study Guide OR
 - **Take notes on your own** (if you take your own notes, you should refer to the Study Guide to make sure you include the most important concepts)
 - Example notes 1
 - Example notes 2
 - Example notes 3
- Study **Biology Review** handout

Summer Assignment

Part 4: Overview Ecology Unit

- Watch Bozeman videos and complete worksheets/take notes.
 - 020 – Biotic and Abiotic Factors
 - 047 – Ecosystems
 - 046 – Communities
 - 050 – Populations
 - 051 – Ecosystem Changes
 - 022 – Homeostatic Disruptions
 - 055 – Biodiversity



Summer Assignment



Part 5: STEM Movie (Optional)

- Watch any STEM related movie and write a 1 page reflection



How to submit assignments:

- Submit assignments through Schoology (once the courses update for fall)
 - If work is handwritten, you can take pictures and then upload.

PREFERRED

- Other ways to submit work: share with victoria.lin@lausd.net or e-mail directly.

(might get lost in my inbox)



QUESTIONS

