

Introductions

I just hope to get a better idea of which areas to focus on, since time in class is so limited.
I would like ideas about what to teach and how to make it stick.
looking for interactive ways to teach science and to help my students with retaining the information.
Looking to improve my science lesson in prep for the TASC
I hope to leave today with a better understanding of the TASC Science blueprint for the new forms.
Hoping to have a deeper understanding of new TASC Science to pass along to teachers.
hoping to find creative ways to help my students understand key science topics
I am always excited to learn new ways to assist our students.
I hope to get a better idea of what science topics I should prioritize in class.
I'm looking for insight into specific subject areas I should be stressing for TASC prep.
My role is to help teachers find resources.
Very curious how other teachers focus the topics, given time constraints.
I thought atoms were the basic unit of life.

Prediction Guide

#5 I think that happens with cancer. I'm not sure it necessarily means growth but I guess cancer is growth.
I think there are two true statements and three false statements.
all true except #5? But not sure! Not confident with science!
i think 1, 2, and 3 are true; 4 and 5 are false.
#2 - I think single cell organisms exist.
1, 3 are true 2, 4 & 5 are false
1.T 2.F 3.T 4.F 5.F ...2 is false
I agree #4 is false b/c there are different types of animal cells (blood, bone, muscle). I would say #5 and #2 are also false.
no expert but I think 1,2 - true and 3,4,5 false
Only 1 and 3 are true; but #5 might be true if repair counts as growth :)
true, false, true, false, true
4 and 5 are false
1. true
I wondered the same about the definition of growth.
agree, I forgot about eggs!
2 is false because it uses the word ALL
I also have some question about what exactly growth means when we are talking about this stuff.
1 true, 2 true, 3 false, 4 false, 5 true

Looking at images

Cell division occurring

one colored the other not

two different types of cells making tissue

cells are clearly visible in the right

Some have a visible nucleus, some do not.

On the right I see some cell division taking place

different colors, different shapes

different shapes. 1 on right looks like a plant cell

The image on the right has more structure. Cell division seems evident

both images have nuclei

nuclei random in first, separate in second

I noticed a cell with a double nucleus.

The cells in the second picture look much more rigid and organized than the cells on the left.

I see mostly square/rectangular shapes around circles on the right

different types of cells

I see circle in both pictures

double nucleus, triple nucleus

are those cell walls in #2?

On the right, some of the large circles have one dark spot and others have two.

I wonder what each represents?

What sorts of organisms are these cells from?

One shows few of what seems to be nuclei, the other shows every cell has nuclei, the boxy cells might be plant cells

looks like the chromosomes are splitting in the cell on the right.

On the left, are those cells inside some stringy things?

why do some have more than one nucleus?

Are we seeing cell walls?

what is taking place in each picture?

Is the second picture a closer view/higher magnification?

Are both from the same tissue?

How does these pictures differ?

Are these cells making different types of tissues?

Box 1 shows muscle cells with nucleus and box 2 shows mitosis with cell division. questions what process is taking place in box 2? Can you identify

Are the dark spots in the color picture circles, or do I see some geometric shapes?

wondering what magnification is each sample?

Is the cell division a stage in mitosis or meiosis?

on left - why are the purple stained structures of different sizes?

What year were the images taken (modern vs obsolete technology)

Are those blood cells?

it's 3-d

biconcave shaped cells

Are the shapes floating?

are these multiple cells or a magnification within one cell?

Different shaped cells

biolys and coconut covered donut holes?

Why are some of the objects smooth and others aren't?

they look like different kinds of cells. maybe blood cells and viruses?

how are all of the pictures connected?

Where does the "glowing"

color come from

Since the bottom right is green, are those plant cells?

Why different sizes in bottom right?

How was this slide stained

why do some have color and others don't

here the nuclei not visible, seems to be a scanning electron micrograph which shows the exterior of cells

Are any of these different images of the same thing (at a different magnification, or time, or stage)?

The 3d picture makes me wonder if that is a much better view of the same red blood cells and viruses in the first 2 pictures.

I notice more "stuff" in plant cells

are images

C and D plant cells?

anaphase in box 2? What type of cells appear in the diagram? Where are these cells located in the body? What is the difference between these 2 c

A new word I

see is "Permanent Vacuole

could the green image be plant life, lower right

Plant cells have additional organelles

looks like

the right one is a plant cell

I see plant cells have the same elements as animals cells, plus some elements that are specific for plant cells?

yeah I thought vacuole was just large in plant and smaller in animal cell

I think picture A might be blood, showing red cells like donuts and bumpy white blood cells? ooh, please tell
viruses or cancer cells
b muscle cells
b muscles
Cells? B - skin cells C = mitosis taking place in plant cell
didn't recognize D; now I see how much of those cells are taken up by vacuoles
Cells create tissue
Maggie, I appreciate your request for me not tell! Sorry I stole the struggle.

Evidence Statements

so the carbon dioxide I breathe out is the waste from each and every one of my cells?
One approach to handle students different levels of background knowledge is to build a simple gallery of basics which students can browse.
then whole class comes
back together to emphasize key idea
Are single celled organisms specialized?
Not usually, but rarely in a colony there can be some labor division
Are single celled organisms only found in water? If so, why?
IS this protein Synthesis?
Easy transfer of all materials, whether in or out
Do students need to know the term zygote?
I like the way Kate used a provocative question - "How do we go from one cell to a baby?"
Many of these words will be a barrier to rapid comprehension: differentiation, zygotes (not clear from if that an organism or a part of a cell?
the regulated process, is that from within the egg, from outside or combination of both?
Will students also need to know the word gametes?
So students may need clarification at every step. That can get tiring, so... fun activities?
maybe putting together a vocabulary and definition sheet would be helpful for students before teaching the life science concepts.
Sometimes I do scavenger hunts for vocab front-loading; teams compete matching definitions to terms
bone and muscle, hormones, antibodies and enzymes are the 4 categories of proteins
Pat has the students draw phases of Mitosis with diagrams
i love that idea maggie!
Are the amino acids found within the cytoplasm?
Every cell has the exact same set of chromosomes. that trace back to that first moment of the fertilized egg.

Amino acids are floating around in some cells but in others they have to be delivered to the synthesis area by the endoplasmic reticulum; charges apply

Differentiation

is a challenging idea - Youtube video?

Differentiation is cells specializing

Is this session being recorded so I can listen to it again and share?

I wonder if differentiation could be communicated through an analogy of a team or village. Different people specialize in different tasks.

Was thinking more of how it happens - via the switching on and off of various parts of the DNA. So every cell has the same blueprint but...

sections get turned on in a fabulous sequence that develop different parts of the "baby" at different stages

do the students need to know which bases bond with each other in the DNA code?

Can you share any mnemonic devices to assist students with recalling the sequence of steps involved in mitosis/meiosis?

Seems that the standard is more interested in the relationship between structure and function than in the specific bases..

Great question, Warren. My understanding is that they don't need to know anything that specific, but let's keep that in mind when we look at the item specifications.

Two of the bases are smaller and two are larger, so only specific pairings will fit into the DNA inter-strand space and allow the helix to form.

I don't think they have to know the names Prophase, Metaphase, Anaphase Telophase (PMAT) , but they may need to know what happens in each.

So A always bonds to T and C to G, greatly reducing errors, and making "auto-correction" so much smoother

Apples in the Tree - Cars in the Garage

cute!!

Regarding recall of mitosis steps: if students move around in the "mitosis dance" as someone "calls" the moves, they will never forget it...

i see students don't need to know the stages of mitosis and meiosis!?

Do we have a breakdown on the approximate proportion of science questions that include a graphic in the question stimulus?

Students need to understand how one cell grows to many cells

Must be careful we do not suggest that mitosis leads to zygote formation or sexual reproduction; I suggest two whole different sequences to be clear

It might not be required, but how to make sense of DNA function without showing bases hooking up? So me, personally....

do we have an idea of the number of questions in each standard versus percentages?

I agree. Students can get very confused about these 2 processes.

What was the website he mentioned? CollectEdNY.org

Hi Jennifer, the number of questions of each type is included on page 4 of the item specifications (51 total items).

Concept maps are a great way for teachers to figure out what they know (and where their knowledge is a little fuzzy) as well as how to connect concepts together.

Taking Ecology as a central focus allows me to connect to seasons (ESS) and weather, and Matter and Energy (PS1-3) and diversity and heredity (LS) 1-4

Feedback

will there be (if yes, how often) webinars for other domains or subdomains within the 5 different areas?

definitely more webinars! Like the chat along with the presentation.

It would be nice for teacher to share their methods

I believe you should do more Webinars!

Yes more webinars. I understand the evidence statements much better. Thank you

more webinars for sure. Thanks so much.

The breakdown of the science blueprint and evidence statements was very helpful. Thanks much!

Yes, was useful. But want to meet other teachers not only at conferences. Will be calling people to exchange class visits... :)

love the evidence statements and the framing questions

very valuable information. all presenters showed their expertise and passion for what they do. Great!

Yes, more webinars please. The resources you suggest will be very valuable as I plan for instruction. Thank you all.

Did everyone see the activities for vocabulary on the draft document for teaching ideas? There were a lot of good ideas that came out in the chat. I hope you will add your ideas and experiences!

Very useful! Evidence statements and Beyond Scope lists are crucial.