

Mini Case A: A Unit to Teach Cell Division

Email 1

Cell division unit?

MrBrown@schooldistrict12.net

Sent: Sunday, February 07, 2016 7:06 PM

To: MrsDow@schooldistrict12.net

Hi Caroline,

Can you share info on the unit you used last year to teach cell division? I remember you telling me that your students really got into it.

Thanks!
Bill

Email 2

RE: Cell division unit?

MrsDow@schooldistrict12.net

Sent: Monday, February 08, 2016 7:43 AM

To: MrBrown@schooldistrict12.net

Bill,

I used the Project NEURON unit "What can I learn from worms?" Students observed planarian regeneration throughout the unit as a context to learn about cell division. Here is a summary of the unit from their web site:

This unit is grounded in a cost-effective and student-driven investigation that teachers love! Intrigued by the fascinating behavior of regeneration, students examine the process of cellular division and visualize the process of planarian flatworm regeneration with fluorescent images from the University of Illinois. While students collect and analyze their own experimental data, students use computer models to simulate how DNA and protein affect behavior and explore applications of what they've learned to disease and stem cell research.

You can get all the lesson plans, student sheets, etc. on their web site at <http://neuron.illinois.edu/>.

C

Email 3

RE: Cell division unit?

MrBrown@schooldistrict12.net

Sent: Monday, February 08, 2016 12:26 PM

To: MrsDow@schooldistrict12.net

Caroline,

I pulled up the web site and saw that the unit has these 7 lessons:

1. What is regeneration?
2. How do planarians react to their environment?
3. How do planarians regenerate?
4. What happens in the worms' cells during regeneration?
5. How can we see the worms' cells during regeneration?
6. How do DNA and protein determine behavior?
7. What does planarian regeneration tell us about human regeneration?

Did you do all of the lessons when you used the unit? It seems like it would take a while to do everything.

Bill

Email 4

RE: Cell division unit?

MrsDow@schooldistrict12.net

Sent: Monday, February 08, 2016 3:47 PM

To: MrBrown@schooldistrict12.net

I did all of the lessons, but I modified a few of the activities to better fit our schedule. It did take 3 weeks, but I think it was worth the time. Everything was put together into a coherent storyline based on the phenomenon of observing the planarians regenerate. Students found that really interesting, and they also cared because the unit helped them make connections to human health. The kids made models of cell division, and at the end they developed an explanation using their models so it helped me do some NGSS stuff.

C