NSTA WEB SEMINARS

LIVE INTERACTIVE LEARNING @ YOUR DESKTOP

NSDL/NSTA Web Seminar:

It's Alive: Using Online Life Science Resources in the Middle School Classroom

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Tuesday, April 1, 2008

6:30 p.m. to 8:00 p.m. Eastern time

Agenda:

1. Introductions
2. Tech-help info
3. Web Seminar tools
4. Presentation
5. Evaluation
6. Chat with the presenters

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Supporting the NSDL Presenting Team is…

Jeff Layman

Tech Support

NSTA

jlayman@nsta.org

703-312-9384

For additional Tech-help call:

Elluminate Support,

1-866-388-8674 (Option 2)

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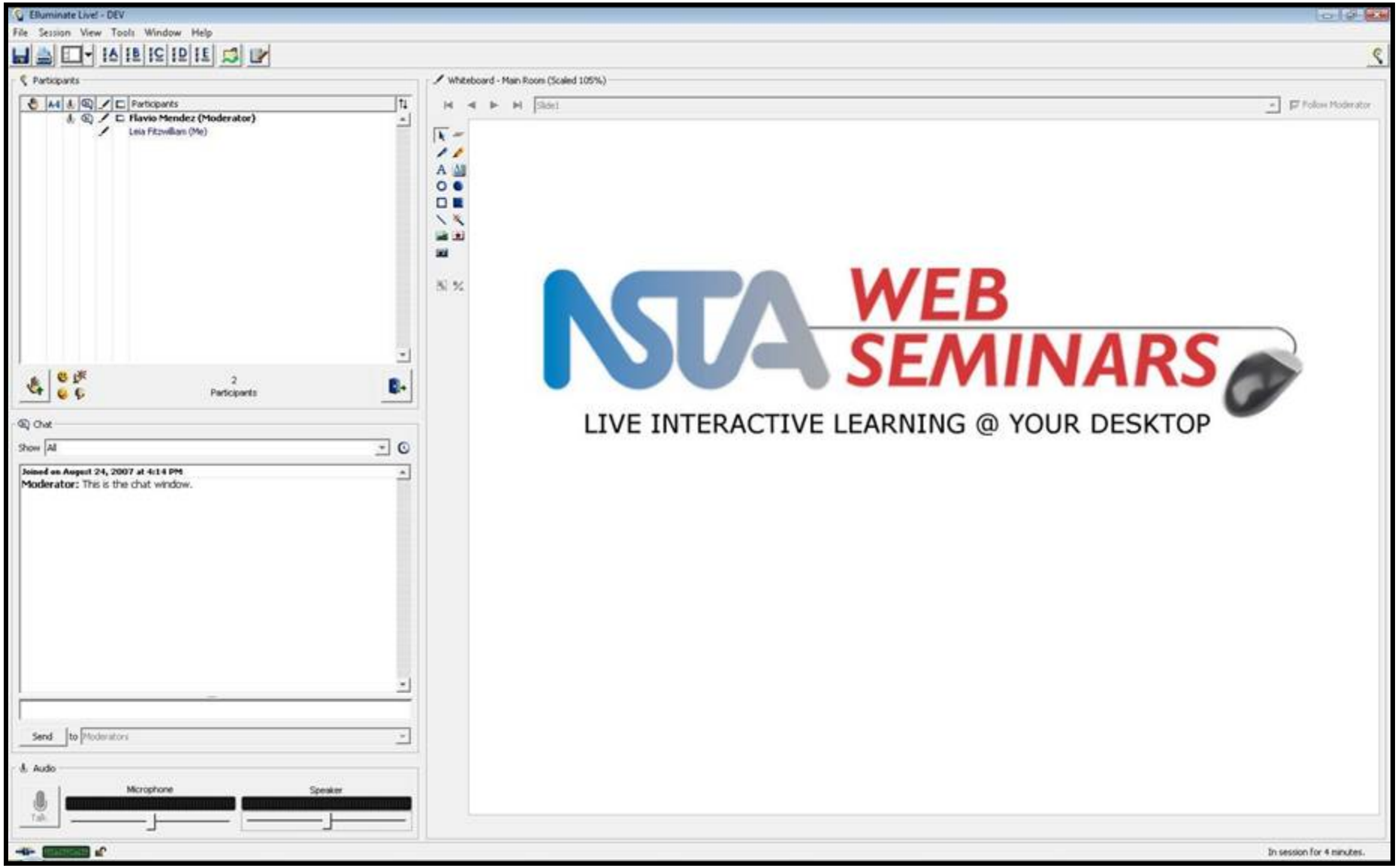
Screenshot


Elluminate Live! - DEV
File Session View Tools Window Help
Participants
Participants
Flavio Mendez (Moderator)
Leia Fitzwilliam (Me)
2
Participants
Chat
Show All
Joined on August 24, 2007 at 4:14 PM
Moderator: This is the chat window.
Send to Moderators
Audio
Microphone
Speaker
Talk
Whiteboard - Main Room (Scaled 105%)
Slide1
Follow Moderator
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LIVE INTERACTIVE LEARNING @ YOUR DESKTOP
In session for 4 minutes.

We would like to know more about you…

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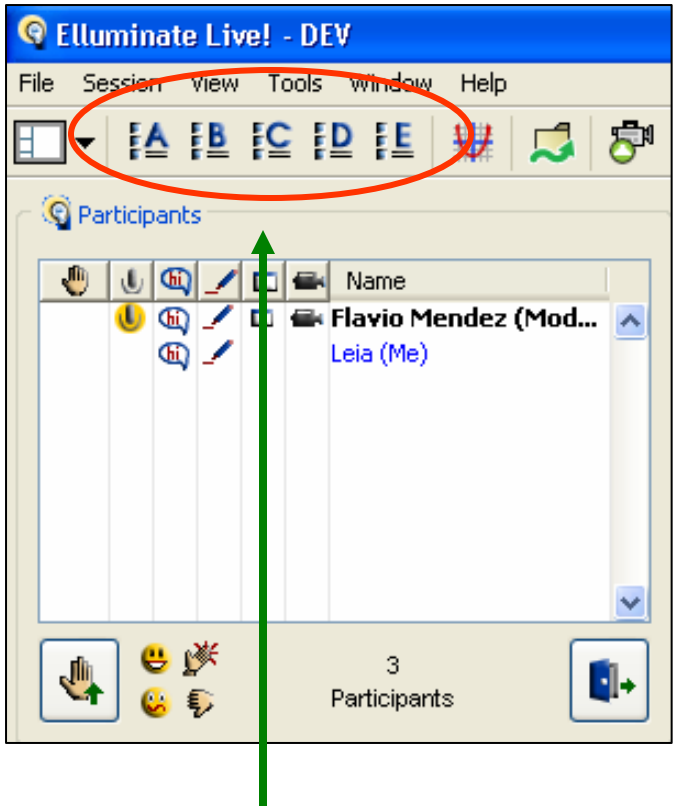
How many NSTA web seminars have you attended?



Use the letters A-E located at the top left of your actual screen to answer the poll

A. 1-3

B. 4-5

C. More than 5

D. More than 10

E. This is my first web seminar

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Where are you now?

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What grade level do you teach?

A. Elementary School, K-5.

B. Middle School, 6-8.

C. High School, 9-12.

D. I teach undergrad and/or grad students.

E. I am an Informal Educator.

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NSDL/NSTA Web Seminar:

It's Alive: Using Online Life Science Resources in the Middle School Classroom

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Tuesday, April 1, 2008

Welcome!

Chad Dorsey & Joyce Tugel

Science Specialists

Maine Mathematics and Science Alliance

PRISMS Project:

Phenomena and Representations for the Instruction of Science in Middle Schools

Maine MATHEMATICS and SCIENCE Alliance

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How often do you use digital resources with students?

A. At least once a week

B. A few times a month

C. Once a month

D. A few times a year

An entire new world of exciting online resources is open to teachers today

Teachers must seek out these resources and then determine which will be useful

Resources that are available or attractive may not support learning effectively


Using the right resources in appropriate ways can bring students to great places

Use the PRISMS collection and analyses to plot a route to effective student learning

PRISMS reviews relate resources to learning goals and are part of the NSDL

Addressing an Intended Learning Goal

(Content Alignment)

Conveying a Learning Goal

The PRISMS Collection

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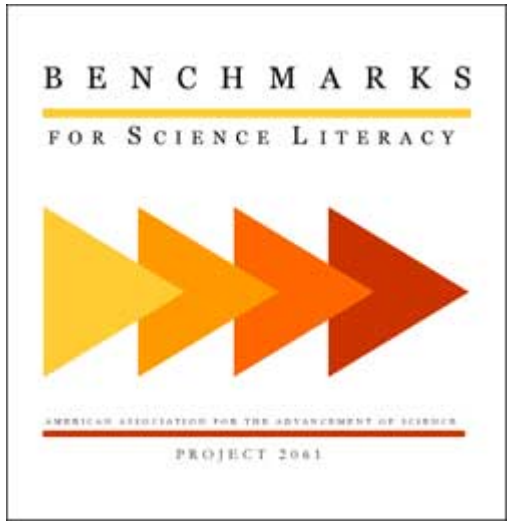
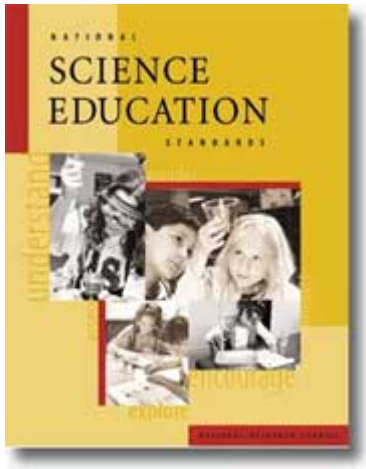
Content Alignment

A resource should address the intended content in order to be useful





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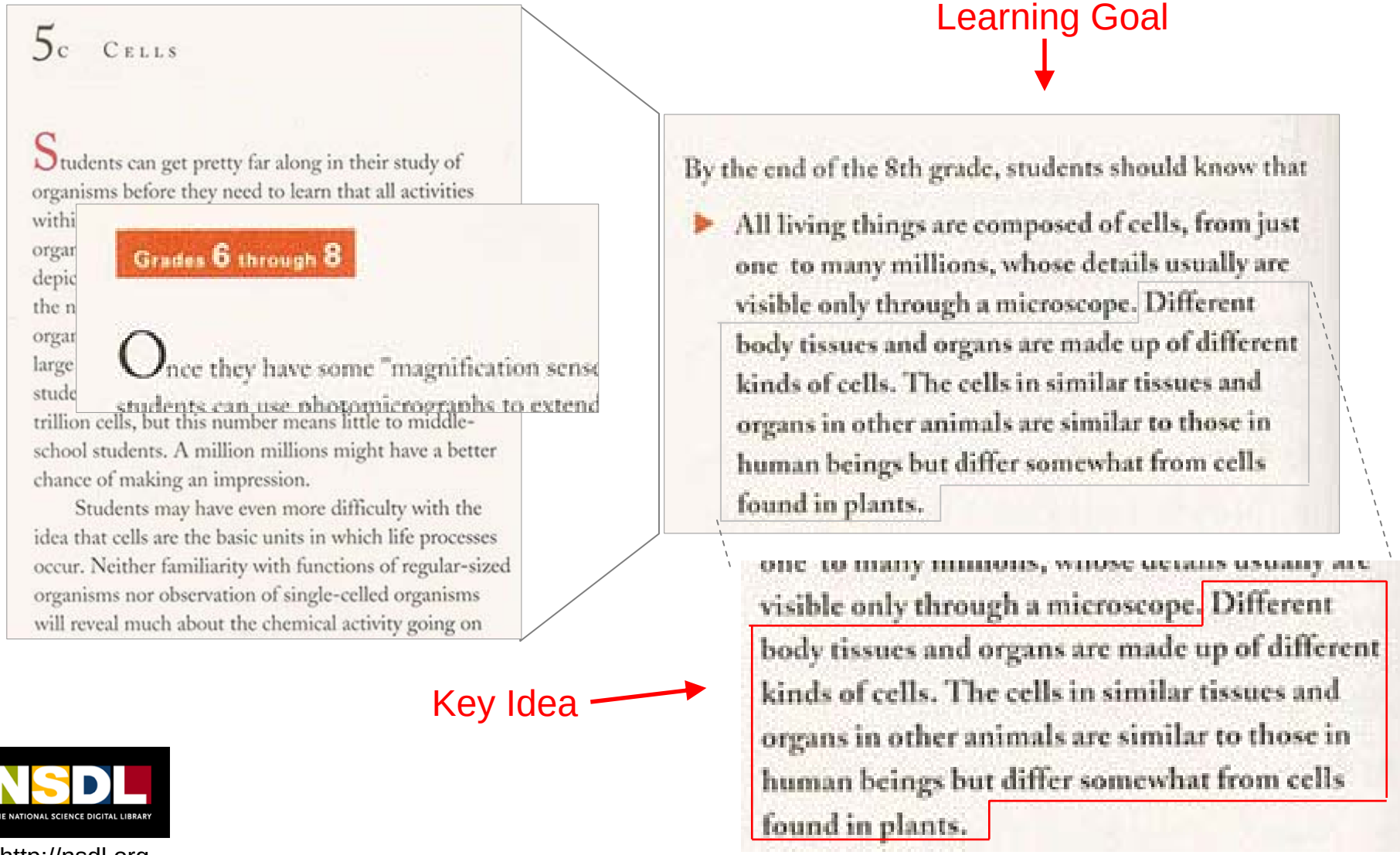
Learning goals may be broken into smaller ideas, which are clarified further



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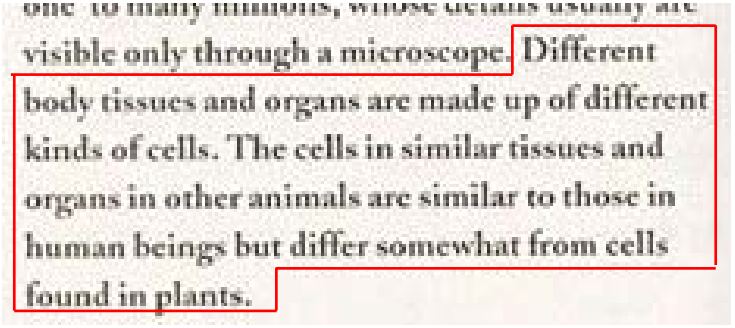
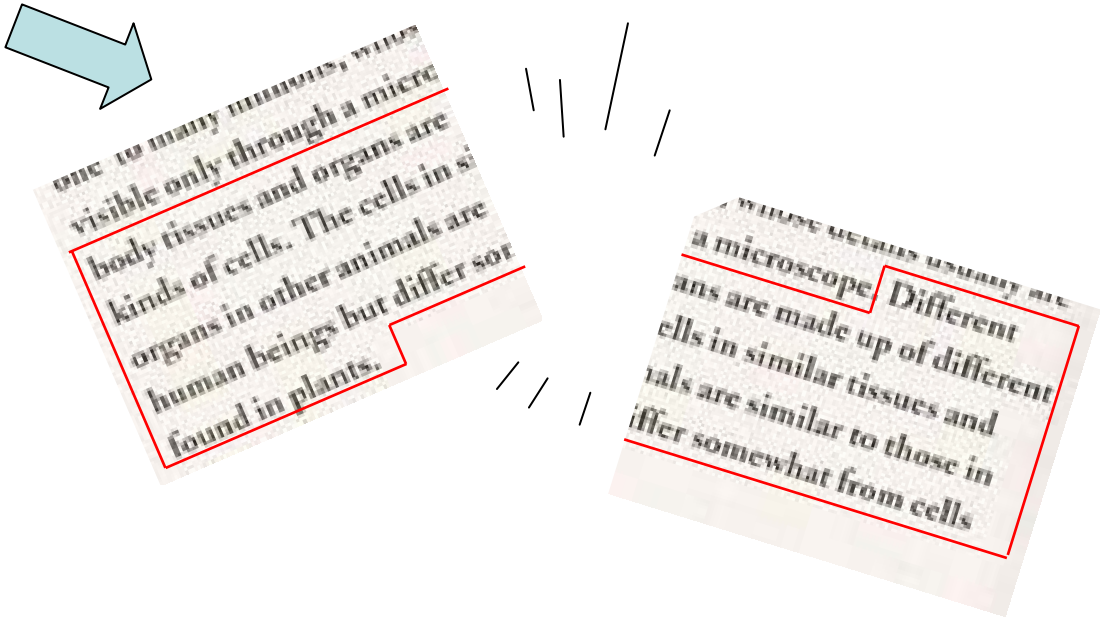
Resources may address an entire key idea or only part of one


visible only through a microscope. Different body tissues and organs are made up of different kinds of cells. The cells in similar tissues and organs in other animals are similar to those in human beings but differ somewhat from cells found in plants.



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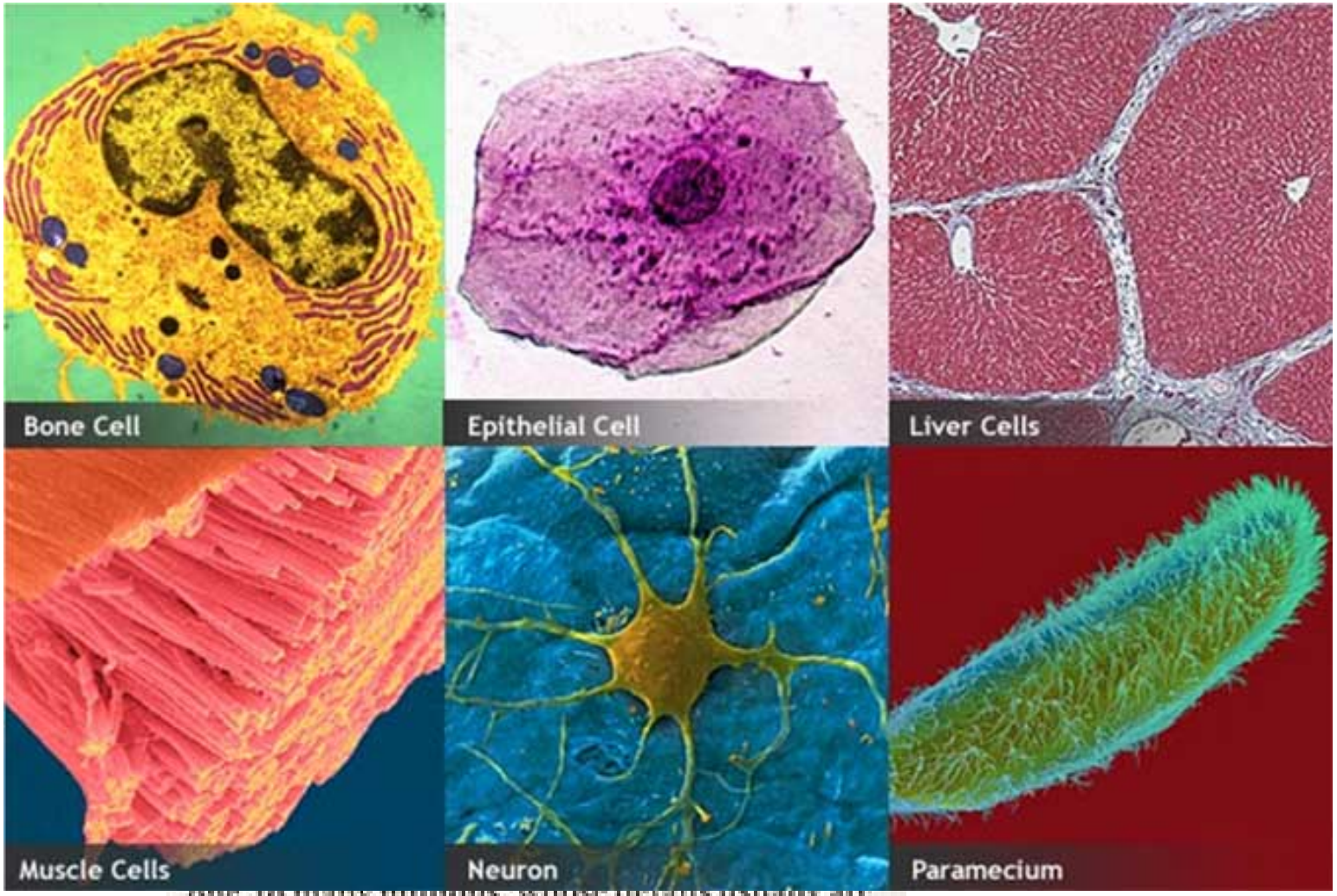
A Practice Example



visible only through a microscope. Different body tissues and organs are made up of different kinds of cells. The cells in similar tissues and organs in other animals are similar to those in human beings but differ somewhat from cells found in plants.

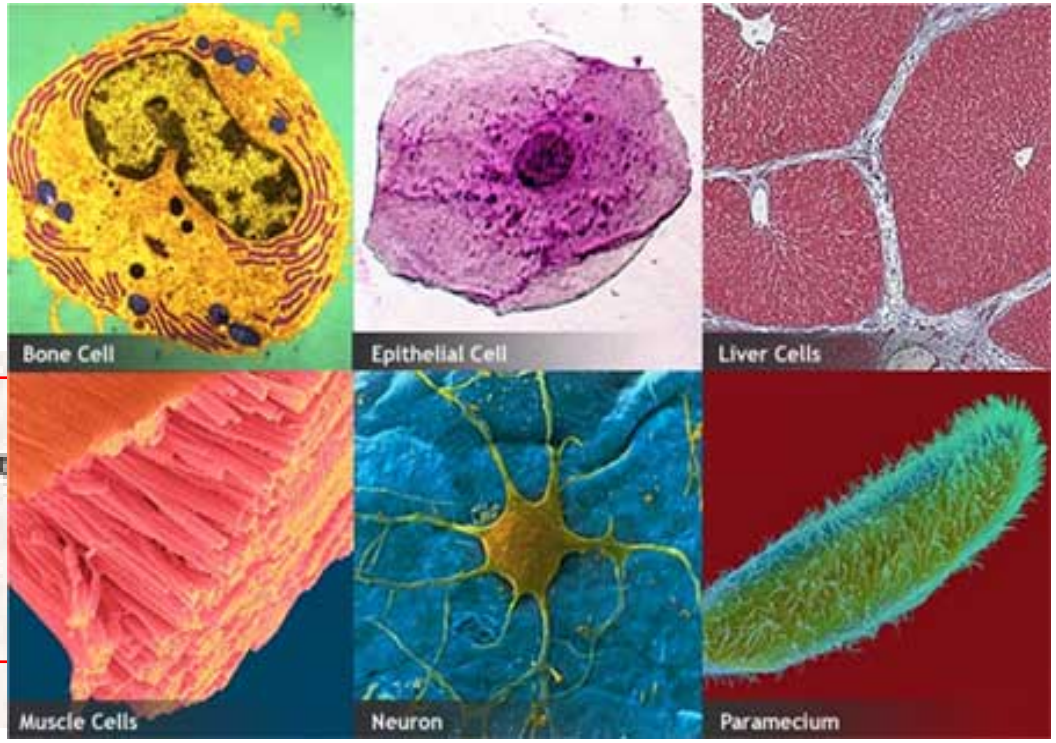
Key Idea:

http://www.teachersdomain.org/resources/tdc02/sci/life/cell/cellgallery/assets/tdc02_img_cellgallery/tdc02_img_cellgallery_jpg.html

A Practice Example

Key Idea:

one to many minutes, whose details usually are visible only through a microscope. Different body tissues and organs are made up of different kinds of cells. The cells in similar tissues and organs in other animals are similar to those in human beings but differ somewhat from cells found in plants.



Is this example aligned to the key idea?

Yes	No

Does it address the entire idea or just a part of it?

Entire Idea	Just a Part

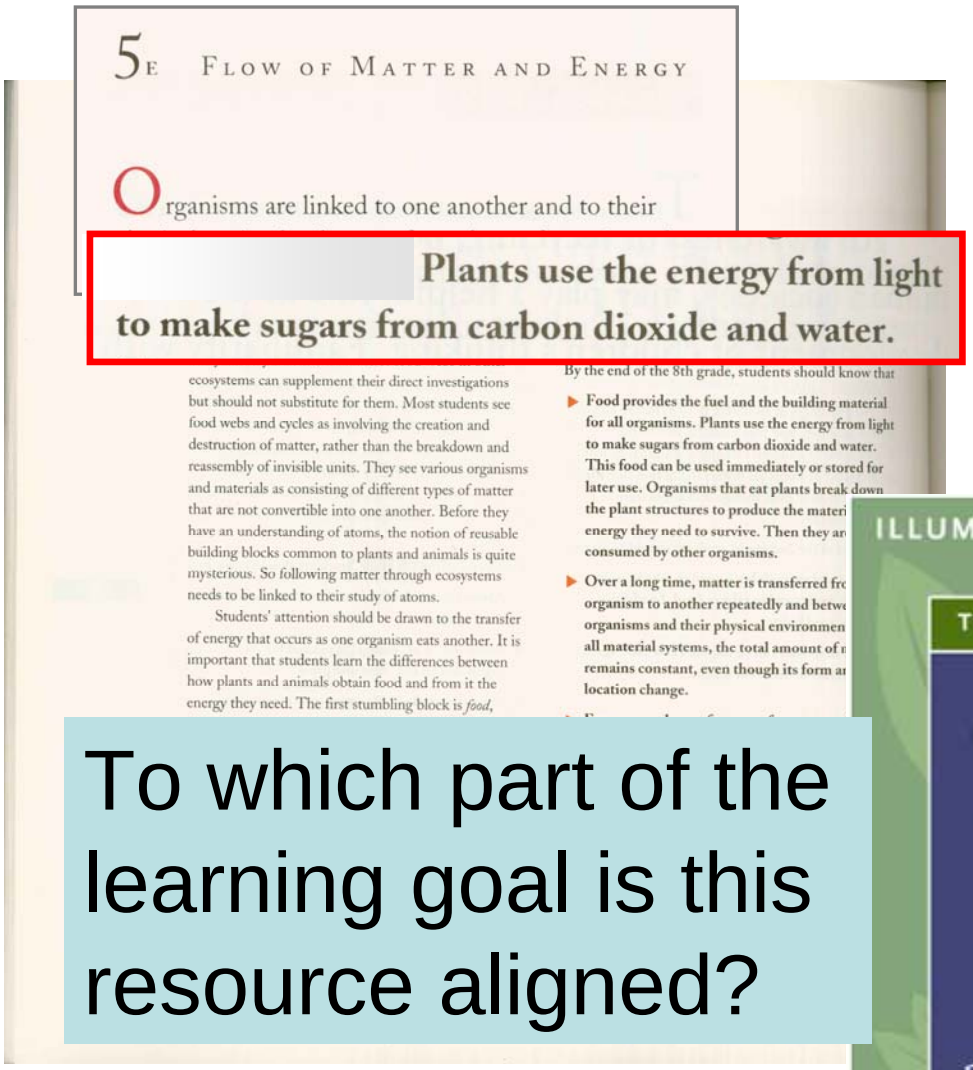
http://www.teachersdomain.org/resources/tdc02/sci/life/cell/cellgallery/assets/tdc02_img_cellgallery/tdc02_img_cellgallery_jpg.html

Which Part?

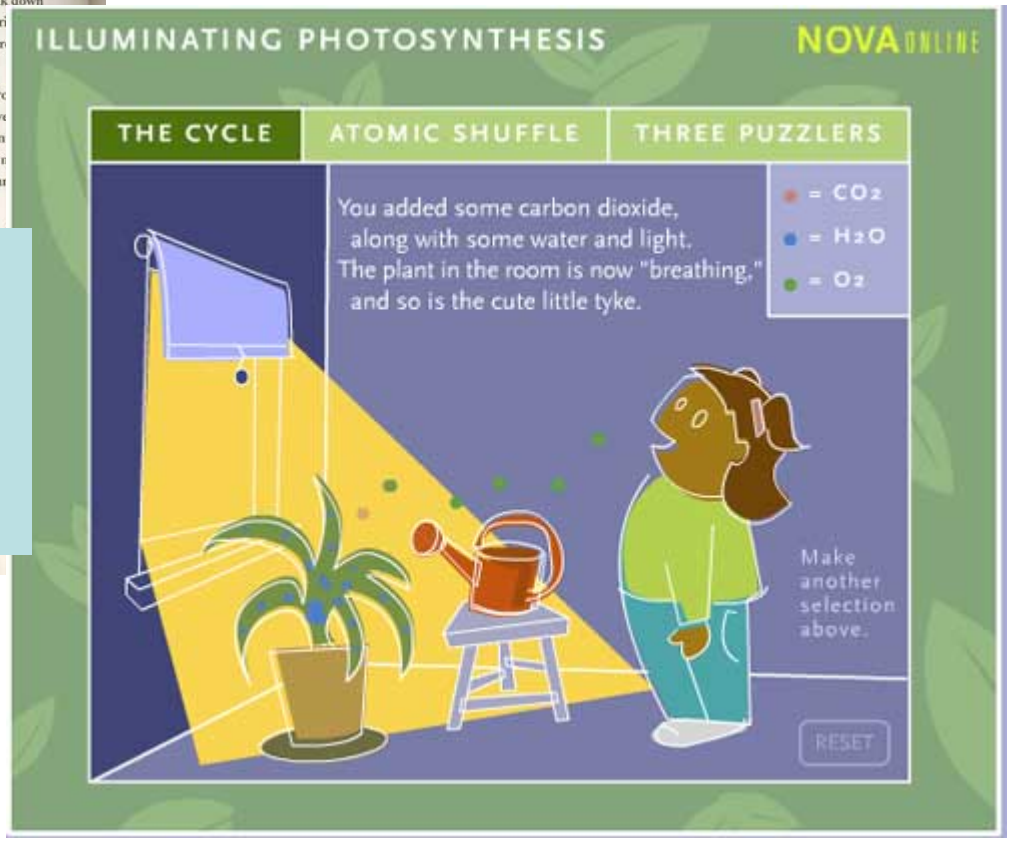
visible only through a microscope. Different body tissues and organs are made up of different kinds of cells. The cells in similar tissues and organs in other animals are similar to those in human beings but differ somewhat from cells found in plants.

Which Part?

visible only through a microscope. Different body tissues and organs are made up of different kinds of cells. The cells in similar tissues and organs in other animals are similar to those in human beings but differ somewhat from cells found in plants.



To which part of the learning goal is this resource aligned?



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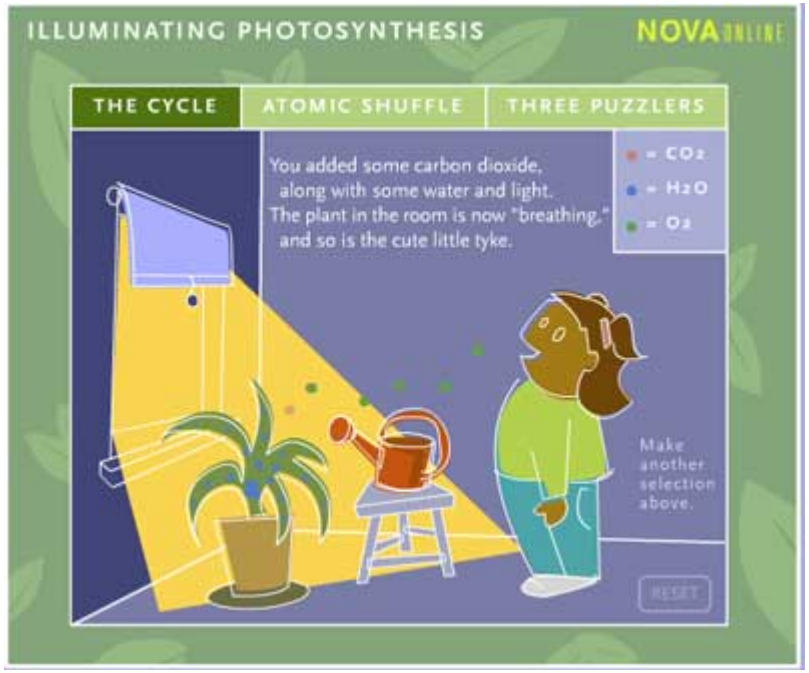
Plants use the energy from light to make sugars from carbon dioxide and water.



To which part of the learning goal is this resource aligned?

Write your answers on the chat

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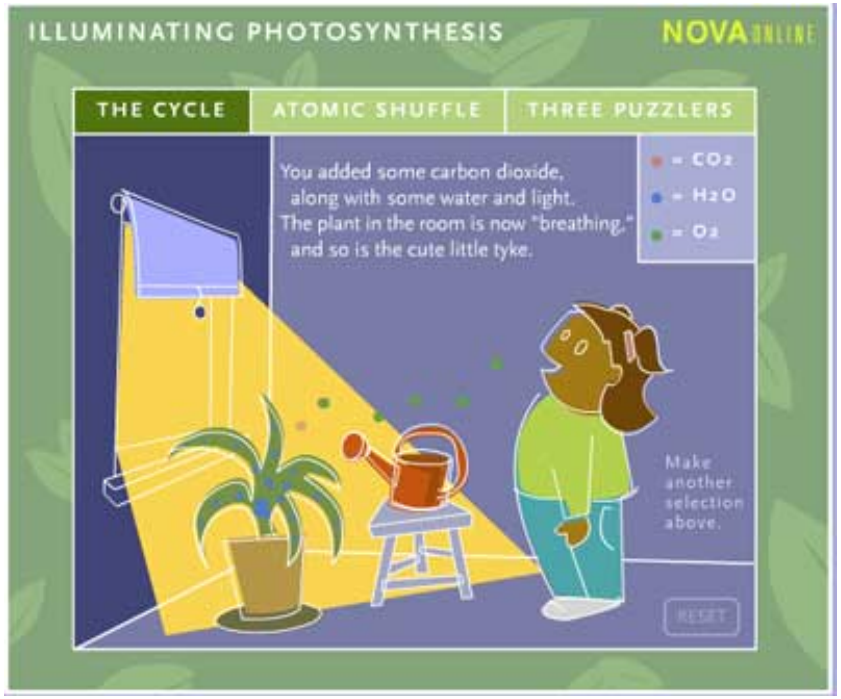
Alignment can be a tricky business…

Plants use the energy from light to make sugars from carbon dioxide and water.



???

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Resources may include detail that raises their sophistication above grade level

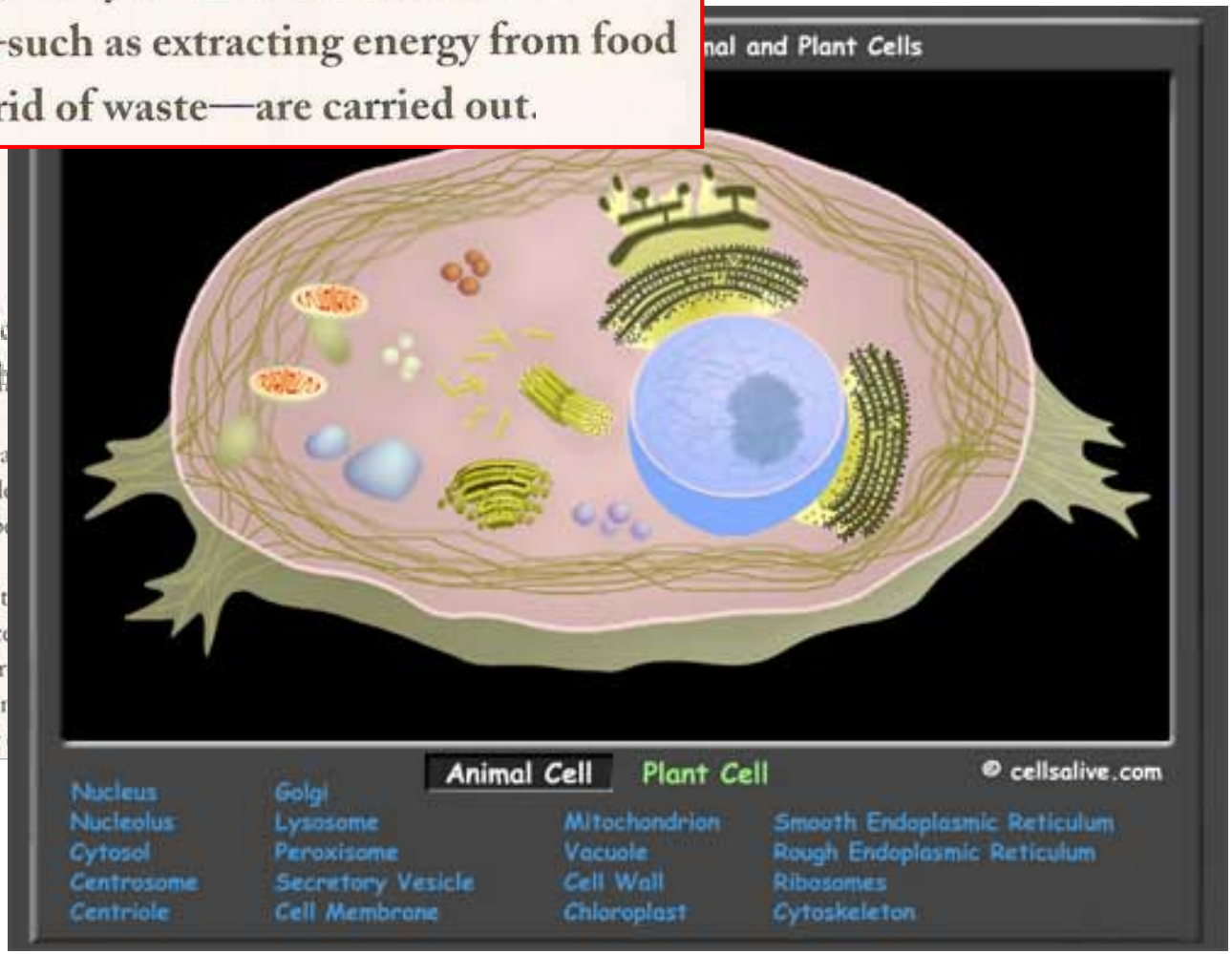
▶ Within cells, many of the basic functions of organisms—such as extracting energy from food and getting rid of waste—are carried out.

5C CELLS

Grades 6 through 8

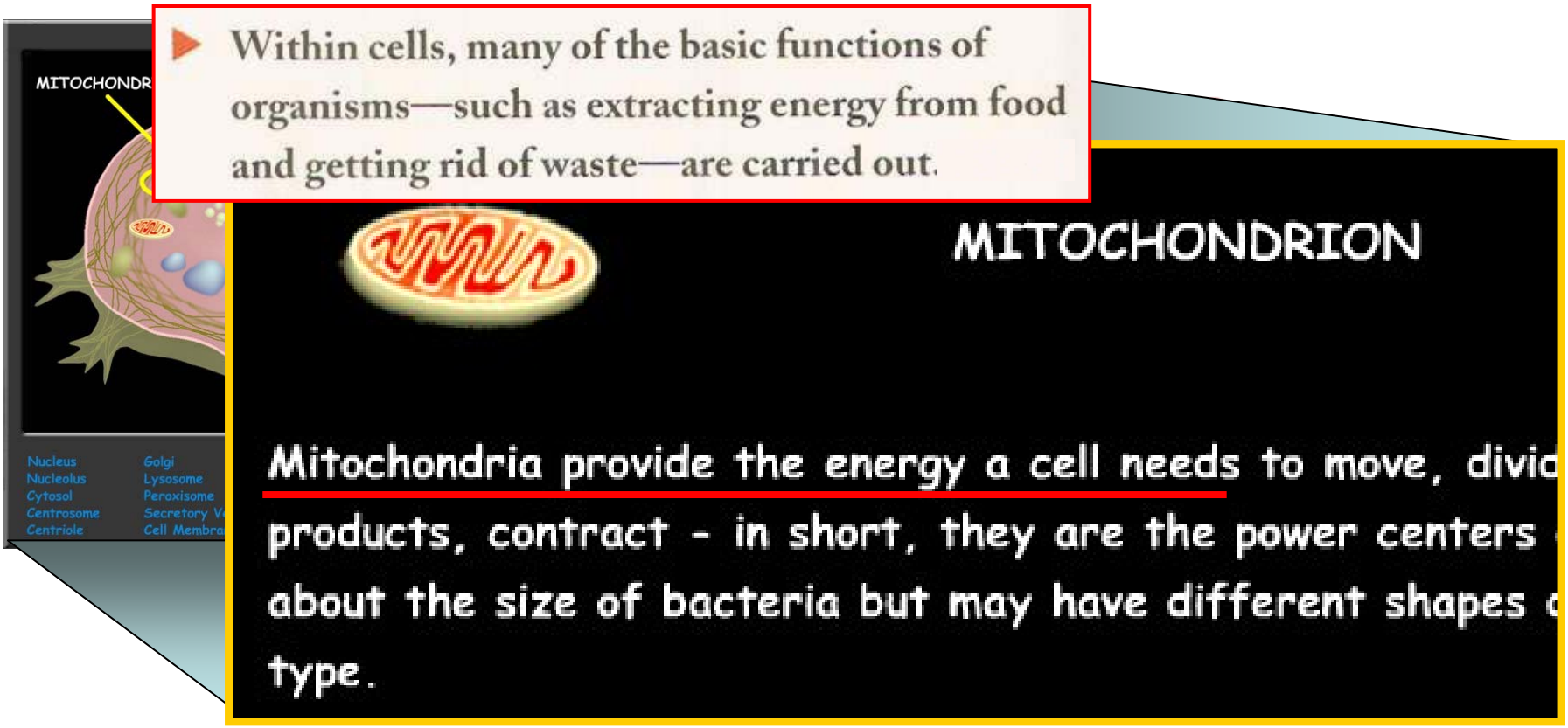
Once they have some "magnific
students can use photomicrograph
large number of cells is also a problem for young students. Large organisms are composed of about a trillion cells, but this number means little to middl school students. A million millions might have a b chance of making an impression.

Students may have even more difficulty with t idea that cells are the basic units in which life proc occur. Neither familiarity with functions of regular organisms nor observation of single-celled organis will reveal much about the chemical activity going



http://www.cellsalive.com/cells/cell_model.htm

Resources may include detail that raises their sophistication above grade level



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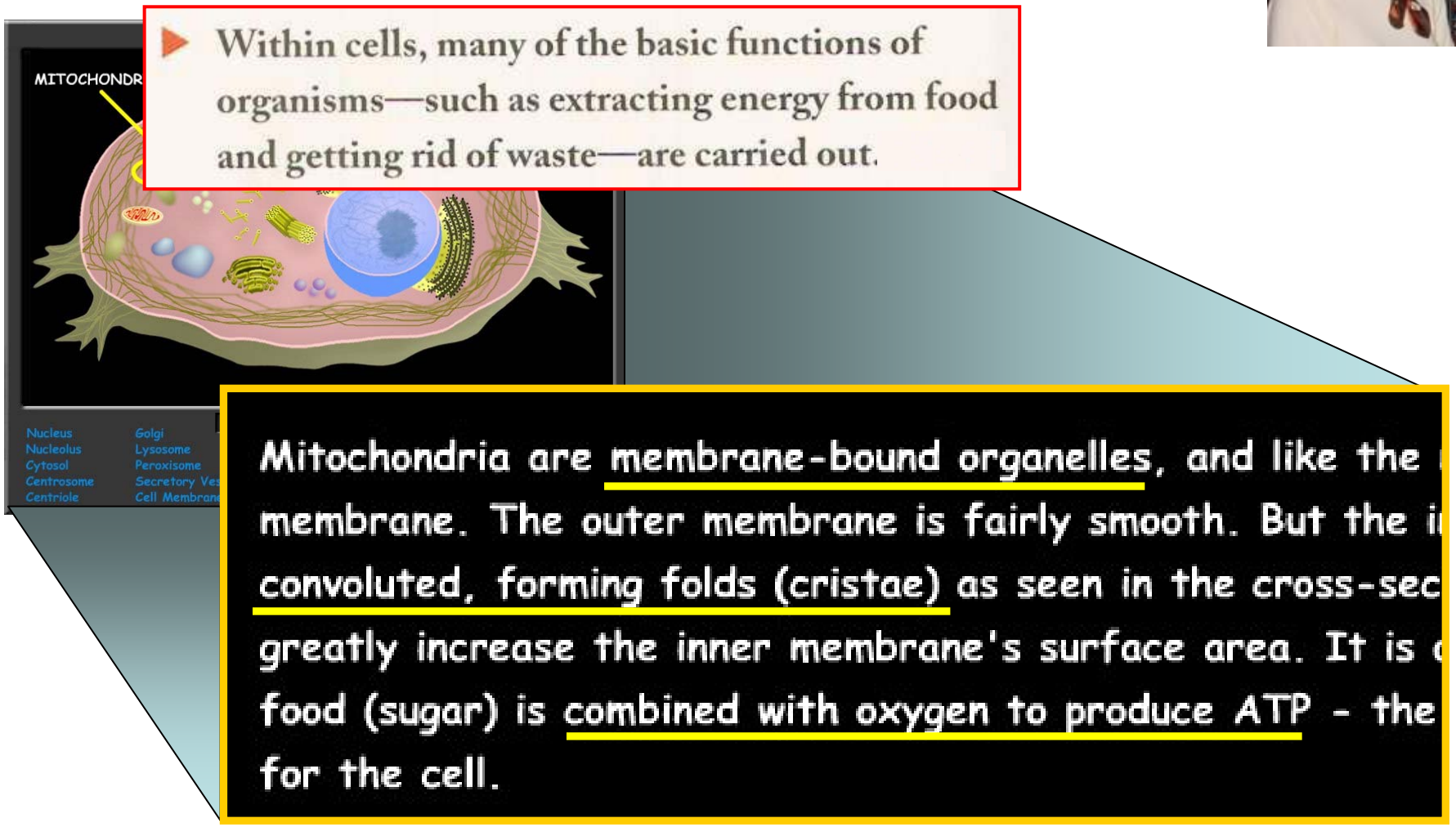

http://www.cellsalive.com/cells/cell_model.htm

Let’s pause for questions from the audience….

Instructional Quality

Resources should convey the targeted learning goal to students effectively

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Source: Flickr– *Dano*

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Resources should have an accurate and clear connection to the learning goal

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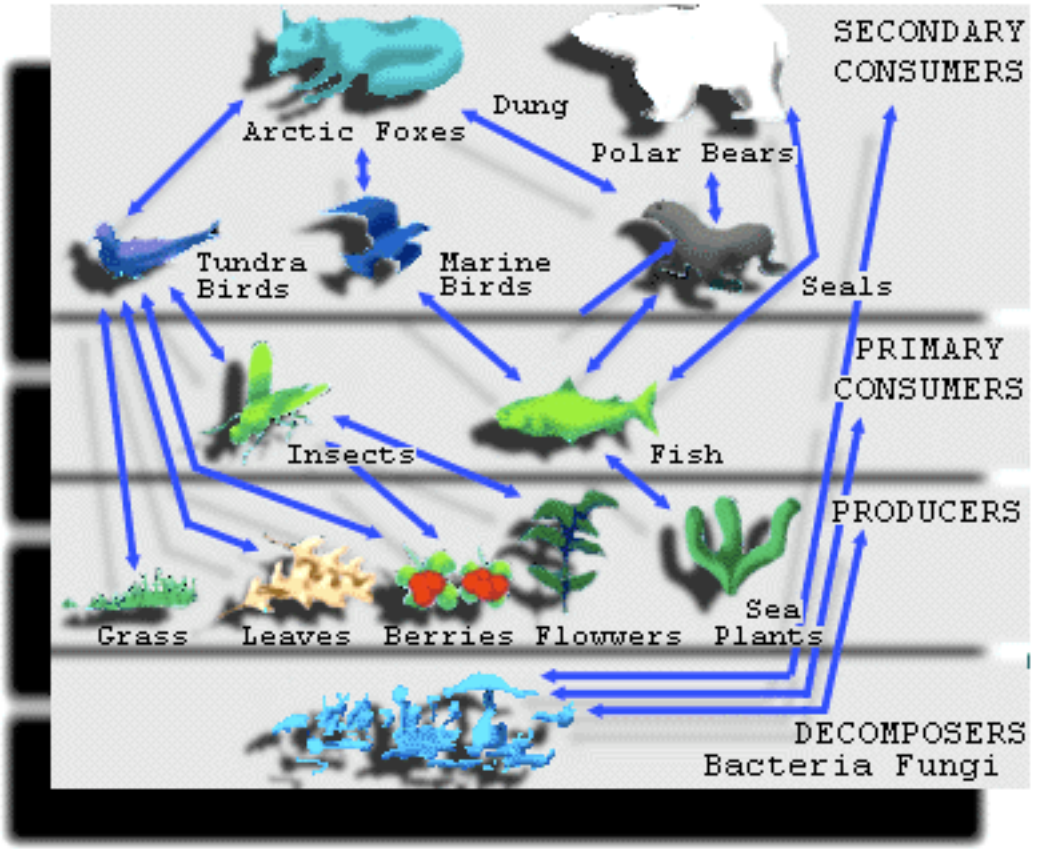
Representations should represent the learning goal accurately

All organisms, both land-based and aquatic, are interconnected by their need for food. This network of interconnections is referred to as a food web. The entire earth can be considered a single global food web, and food webs can also be described for a particular environment.



How does this do?

http://www.globalchange.umich.edu/globalchange1/current/lectures/kling/energyflow/energyflow.html

Resources should make the learning goal comprehensible to students

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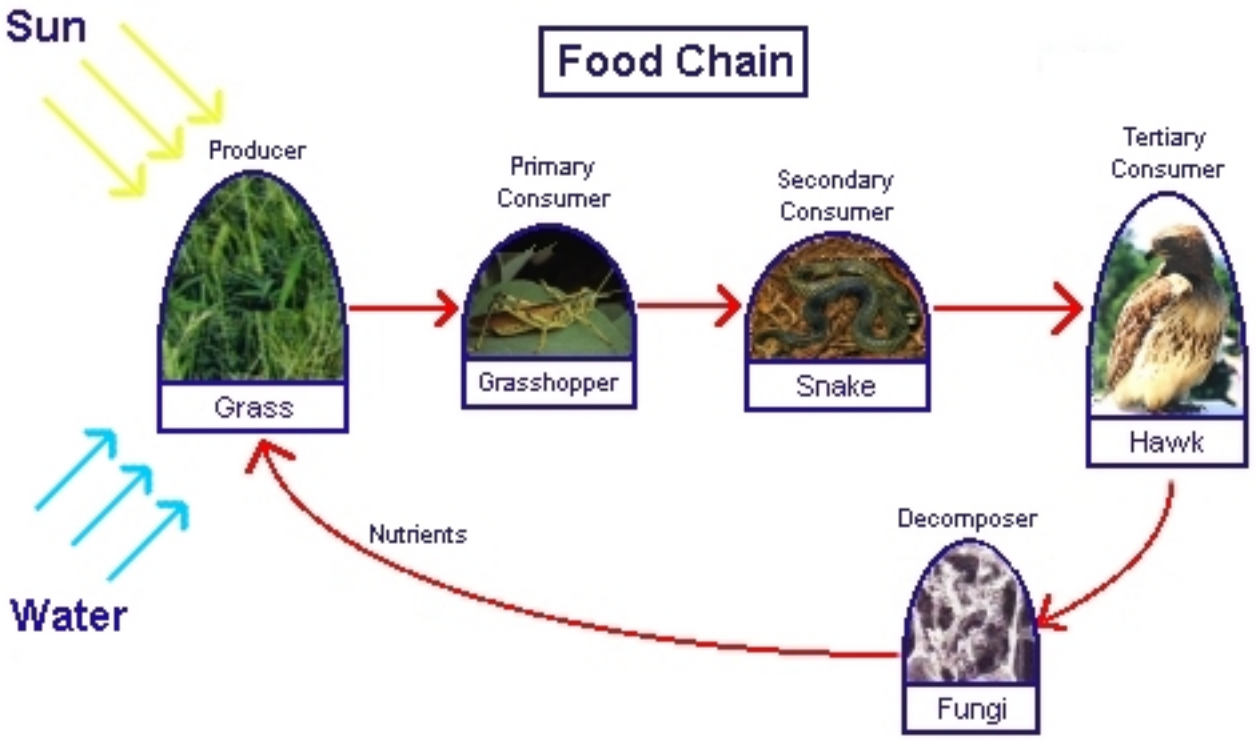
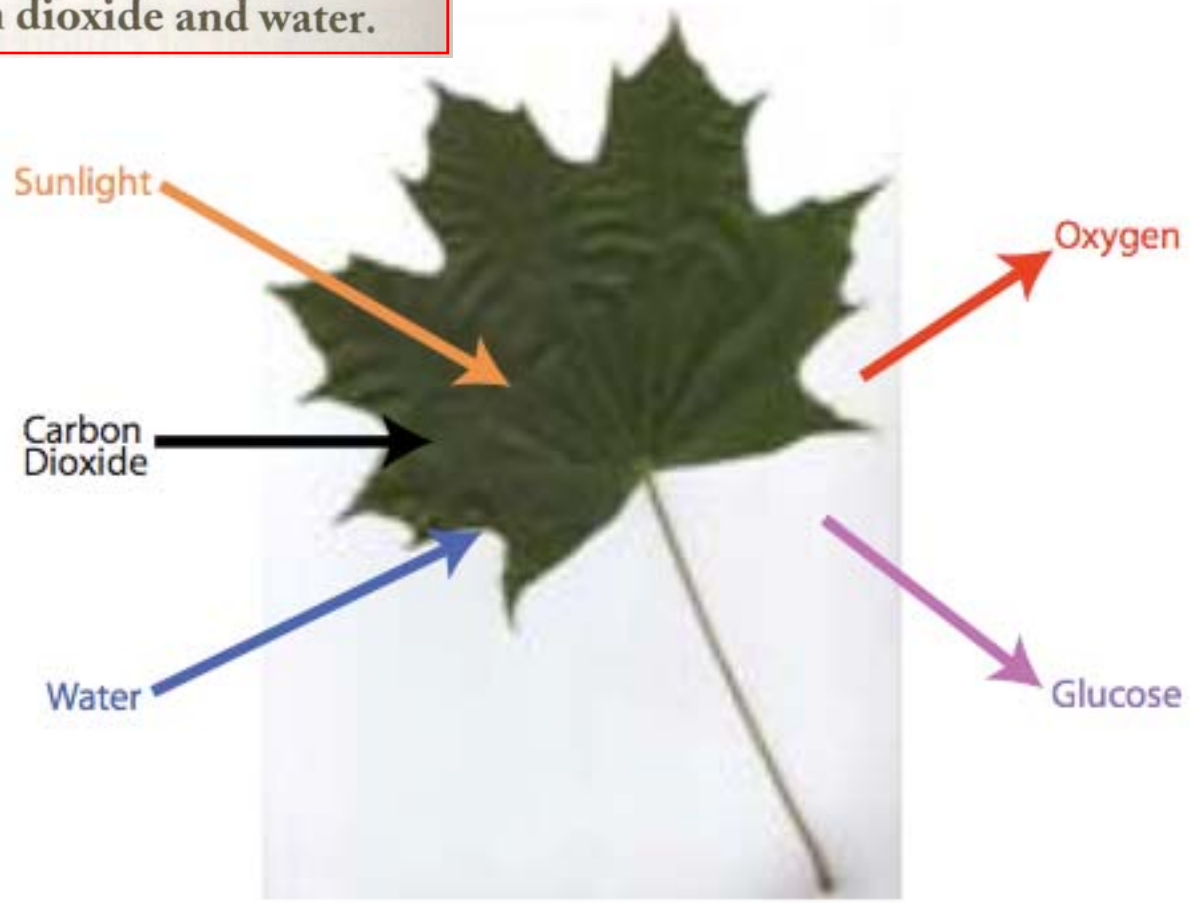
Resources should avoid reinforcing incorrect commonly held student ideas



Reasoning skills and additional ideas required should be reasonable

Plants use the energy from light to make sugars from carbon dioxide and water.



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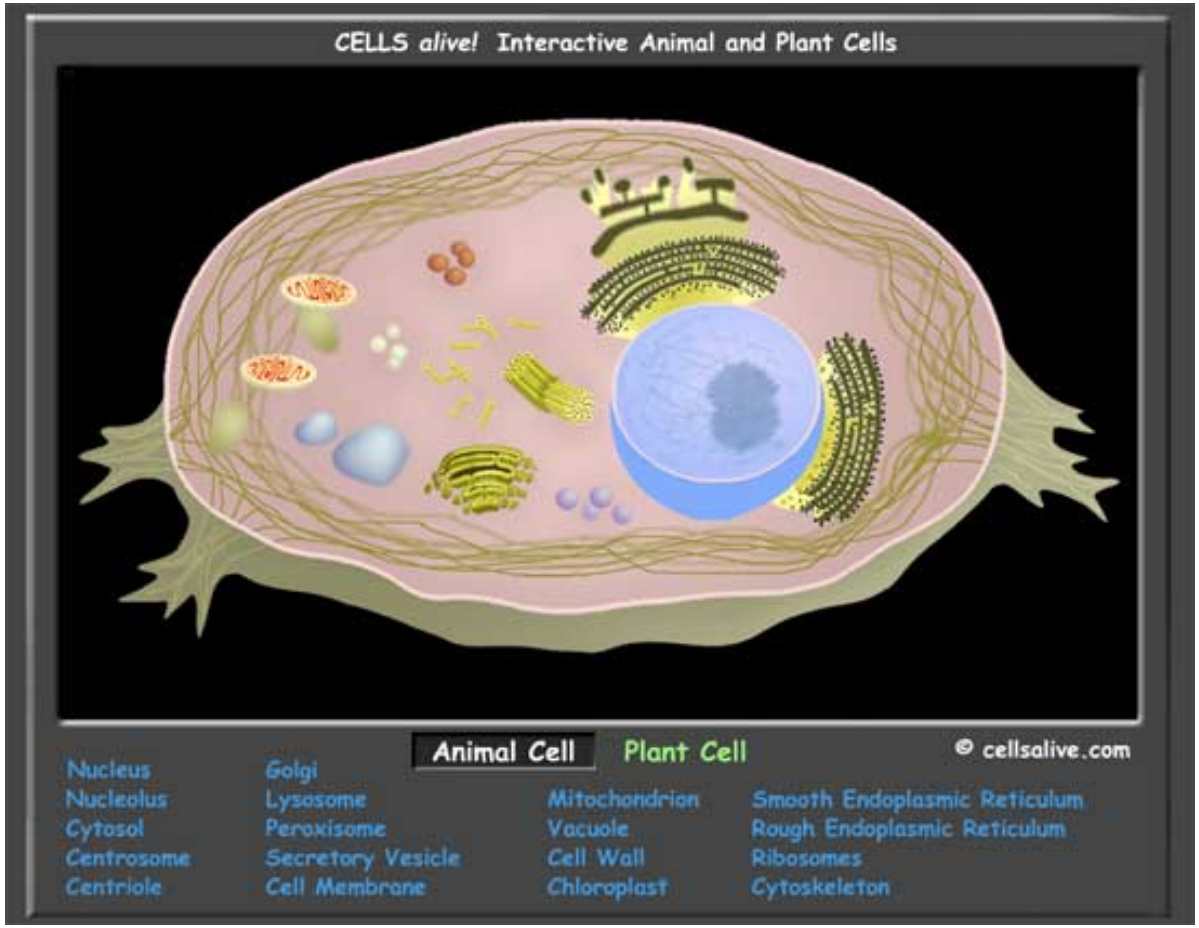
Resources should be clear about their simplifications or assumptions



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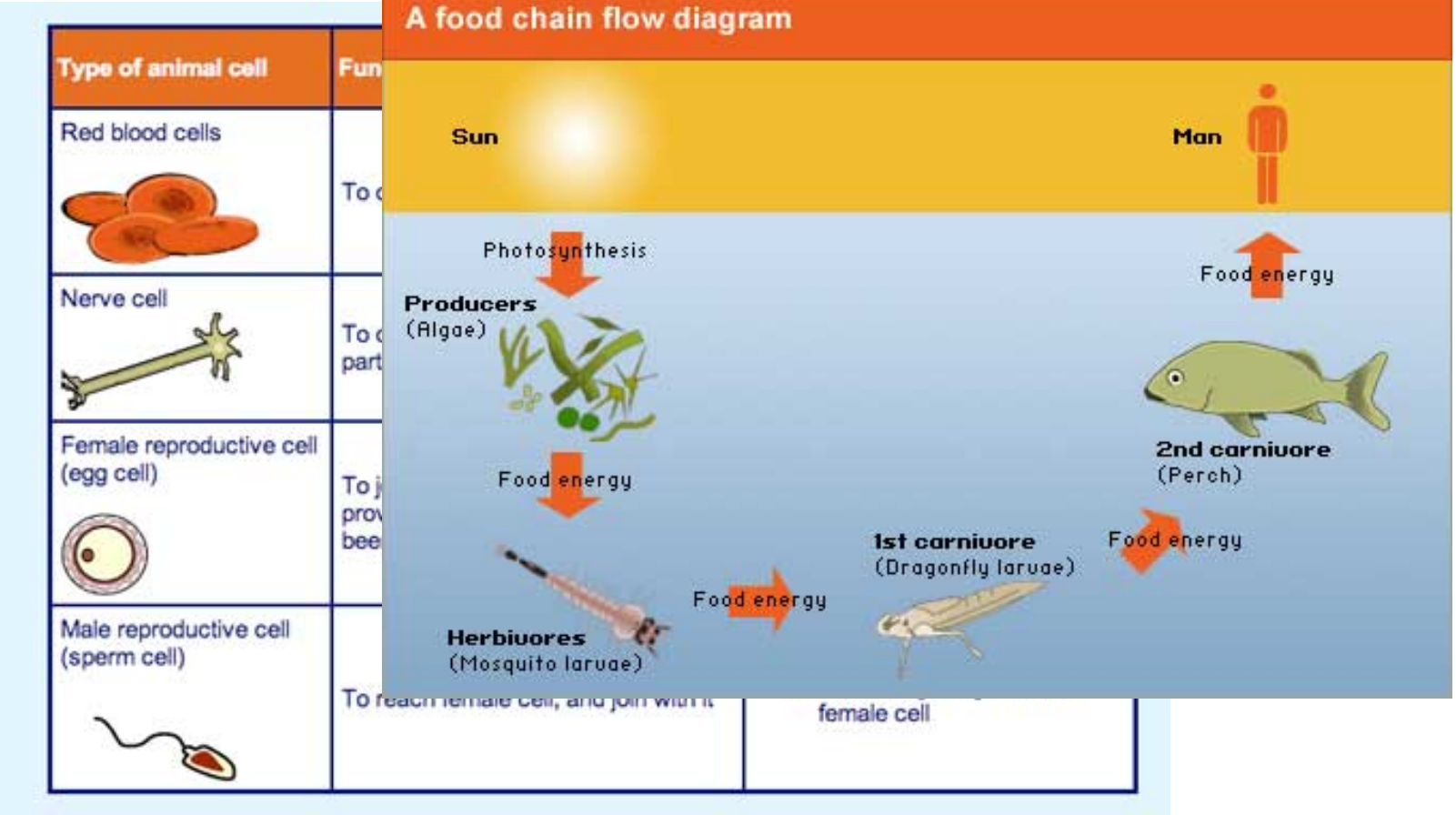

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Let’s pause for questions from the audience….

Modifying a resource or adding instructional support can sometimes improve its alignment and usefulness

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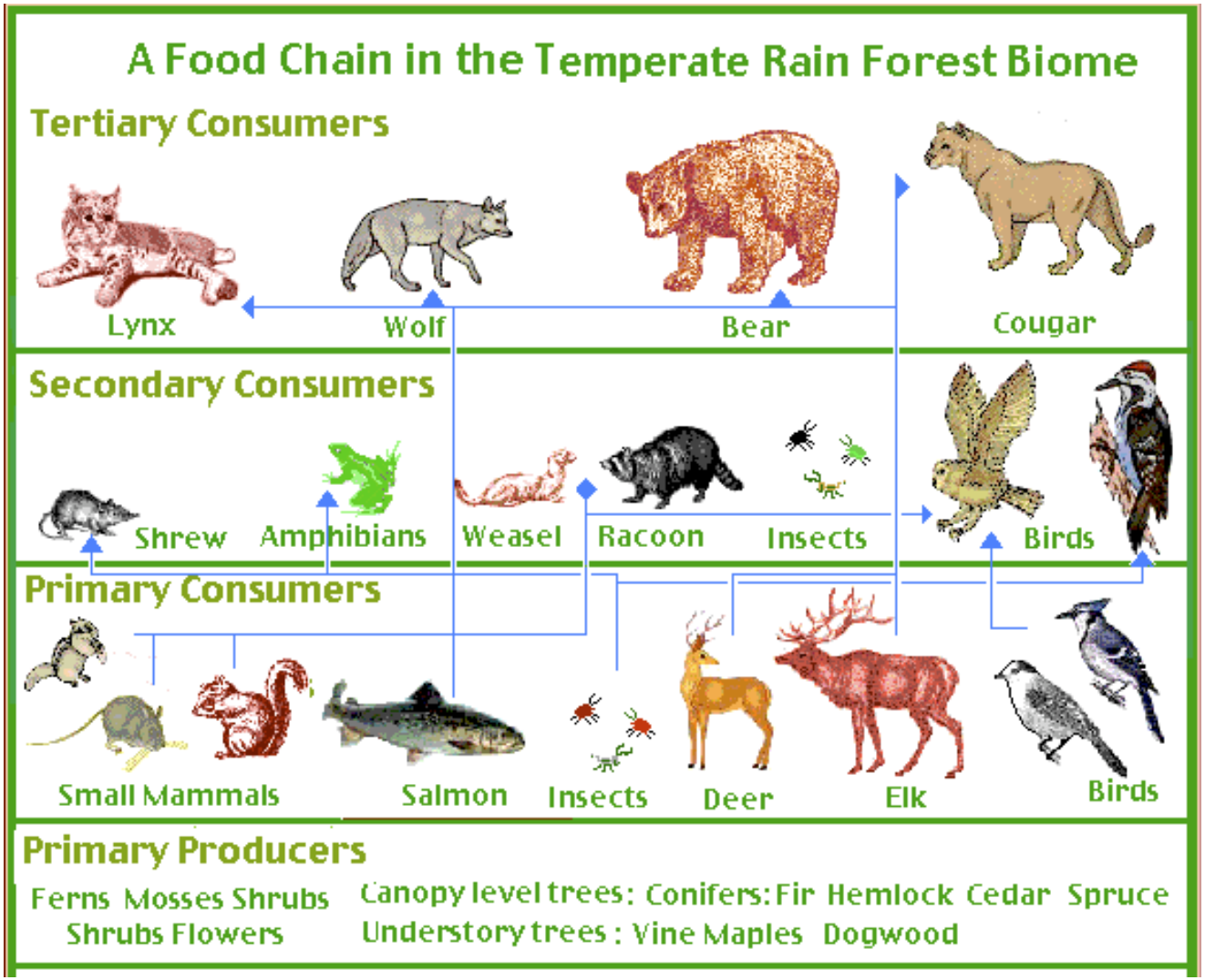
Removing or de-emphasizing vocabulary can improve content alignment

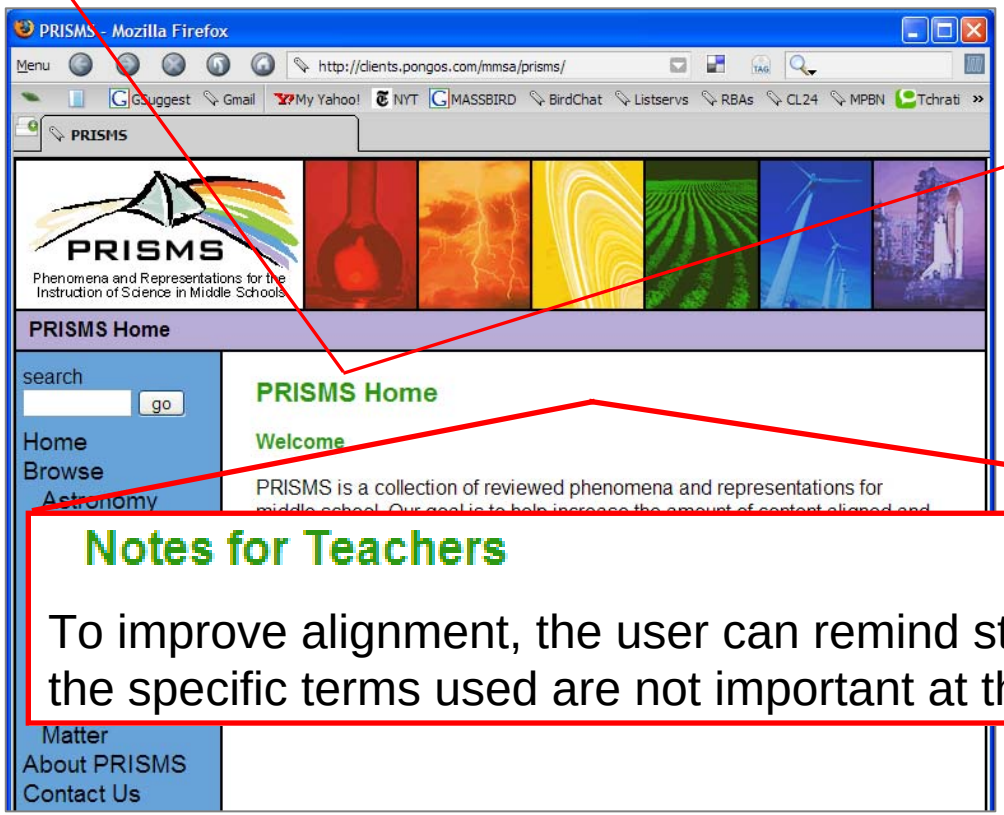


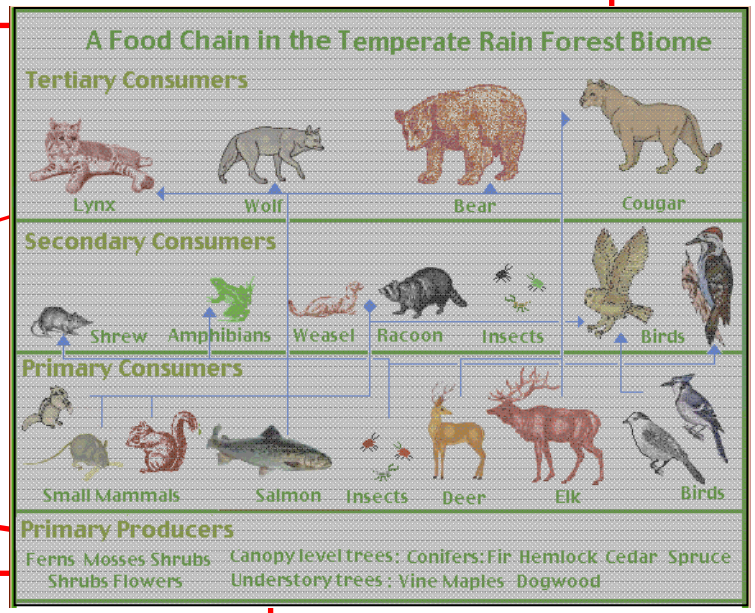
http://curriculum.calstatela.edu/courses/builders/lessons/less/biomes/rainforest/temp_rain/tempweb.html

Removing or de-emphasizing vocabulary can improve content alignment

Sophistication

The resource reflects a higher level of sophistication than the learning goal does.

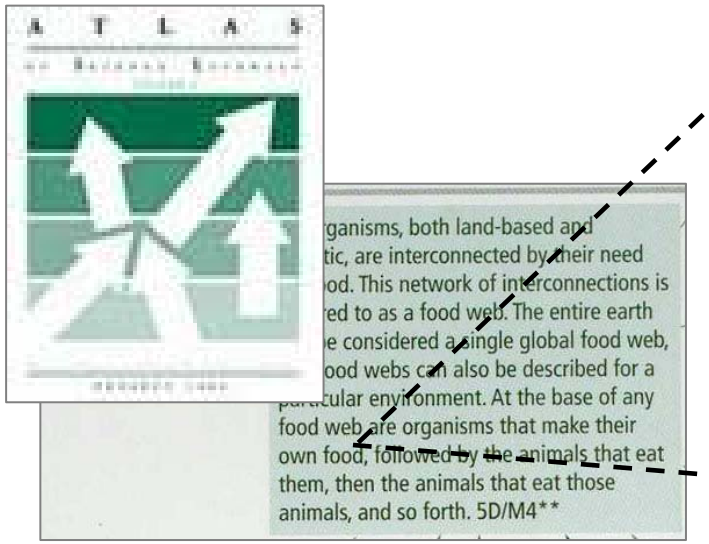




Notes for Teachers

To improve alignment, the user can remind students that the specific terms used are not important at this point.

Adding instructional supports or classroom experiences may make resources more useful



All organisms, both land-based and aquatic, are interconnected by their need for food. This network of interconnections is referred to as a food web. The entire earth can be considered a single global food web, and food webs can also be described for a particular environment.

Imagine you were using this resource to help students reach this learning goal.

What could you do as a teacher to improve the content alignment of this resource when presenting it to students?

Write your answers on the chat

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http://www.divediscover.whoi.edu/arctic-ecosystem/ecosystem.html

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The PRISMS collection assembles resource reviews as part of the NSDL

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Phenomena and Representations for the Instruction of Science in Middle Schools

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Can we find online resources that promote learning effectively?

Resources that are available or attractive may not support learning effectively


Bring students to a great place with the
PRISMS protocols and library and NSDL

PRISMS: Phenomena and Representations for the Teaching of Science in Middle School

prisms.mmsa.org

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Maine MATHEMATICS and SCIENCE Alliance

www.mmsa.org

This material is supported with funding from the National Science Foundation. Opinions, findings, conclusions or recommendations expressed do not necessarily reflect the views of the National Science Foundation.

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- Download our Seminar Resource List
- Utilize our blog featuring our presenters for the Seminar Series sharing their insights on careers in science and science education:

  http://expertvoices.nsdl.org/2007fall-nsta-sems/

http://www.elluminate.com

http://learningcenter.nsta.org

National Science Teachers Association

Gerry Wheeler, Executive Director

Frank Owens, Associate Executive Director
Conferences and Programs

Al Byers, Assistant Executive Director e-Learning

NSTA Web Seminars

Flavio Mendez, Director

Jeff Layman, Technical Coordinator

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- **NASA JPL: Using Earth to Explore Mars**
  April 3, 2008

- **FDA: Teach Science Concepts and Inquiry with Food**
  April 9, 2008

http://learningcenter.nsta.org

Web Seminar Evaluation:

Click on the URL located on the Chat Window