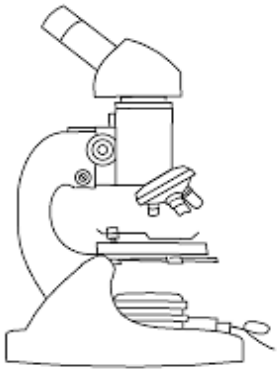
Name_____ Period: ____ Cycle 3 January 18 – March 11

Integrated Science – 7th
SYSTEMS (Weeks 1 & 2)

A cell is regarded as the true biological atom.
— *George Henry Lewes*



Overview

Living things are made of smaller structures whose functions enable the organisms to survive. The basic unit of structure in all living things is the cell. Cells combine to form tissues that combine to form organs. While all cells have common structures, there are differences between plant and animal cells. Cell details are usually visible only through a microscope.

Essential Question 1: ***What does it mean to be alive?***
Essential Question 2: ***Is a multicellular organism itself alive or is it alive because it is made of individual living things?***
Essential Question 3: ***How are a cell's structures connected to its function and processes?***

_____ _____ **Advanced Student Work** (Bonus 10 pts) (***Due March 3***): Research a living organism by doing an in-depth study or analysis of its four needs to stay alive. Complete this by writing a report that covers all of the unique needs of the organism. See the eschooltoday website here for the criteria: http://goo.gl/dsRs8E

WEEK 1: Due January 22

_____ _____1. Read the overview with the class and mark it up.

_____ _____2. Make vocabulary cards or fill out Marzano vocabulary sheets for the following words: **autotroph, heterotroph, permeable, membrane, photosynthesis, respiration, fermentation, osmosis, diffusion, homeostasis, organ, organelle, organism, unicellular, multicellular, cell wall, and cell**.

_____ _____ 3. Participate in and take notes on the lesson: the characteristics of living things.

_____ _____ 4. Participate in and take notes on the lesson: Parts and Usage of A Microscope

_____ _____5. In a group of 2 or 3 of your colleagues, read handouts, *Anatomy of a Microscope* and *How to Use the Microscope*, and view the following video on making wet mount slides: http://www.youtube.com/watch?v=HCQNyjl-iFQ or a better one https://www.youtube.com/watch?v=ZjQVQ8gT0A8
You may also refer to: https://www.wisc-online.com/learn/natural-science/life-science/bio905/how-to-use-a-microscope for an overview of parts and a self-directed quiz.

_____ _____6. Complete the Parts of a Microscope Graphic Organizer (5 pts)

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WEEK 2: Due January 29

_____ _____8. In your group of 2 or 3 of your colleagues, complete the Lab: Letter 'e' Lab.

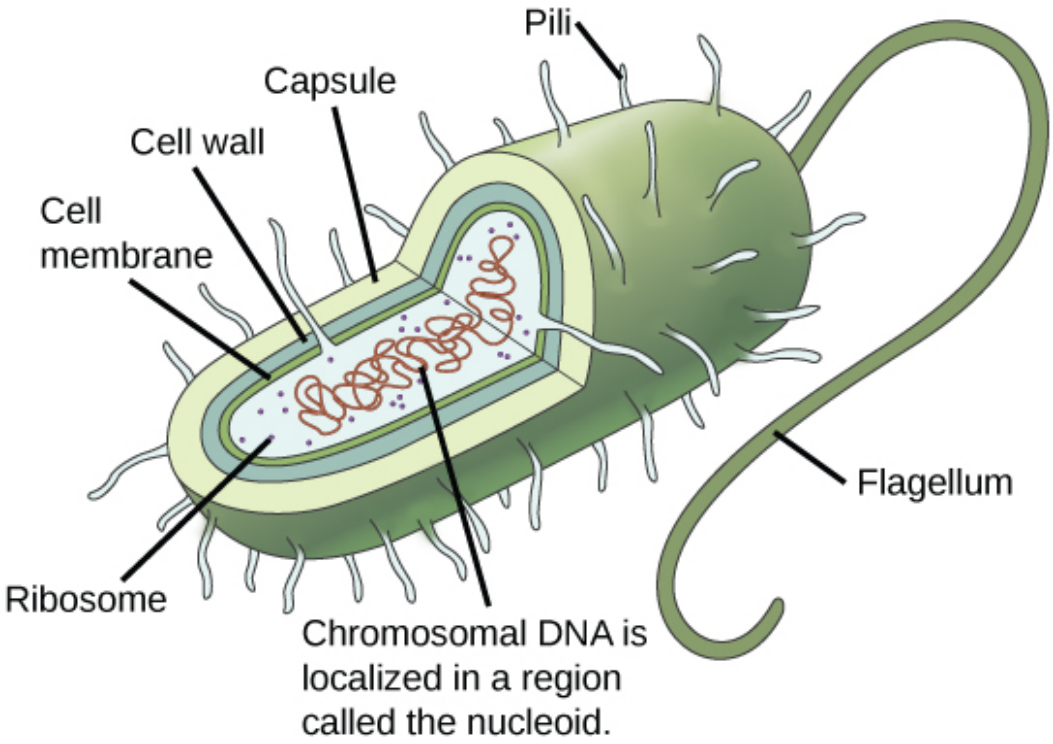
_____ _____9. Read and take notes on pp. 50-57 of the Prentice Hall Life Science textbook.

_____ _____10. Answer all parts of the four Assessment questions on page 57 of the Prentice Hall Life Science textbook.

_____ _____11. Participate in and take notes on the lesson: Prokaryotes vs. Eukaryotes.

_____ _____12. ADVANCED WORK: Microscope Lab: Prokaryote or Eukaryote

_____ _____13. Using the figure of the prokaryotic cell shown below, create a Venn Diagram listing the similarities and differences between a prokaryotic cell and a eukaryotic cell (plant or animal). (10 pts)



** For assignment 13 use your textbook (pp. 47-48, 64-65) or these websites to complete the diagram: http://www.cellsalive.com/cells/cell_model.htm OR http://learn.genetics.utah.edu/content/cells/insideacell/

Name_____ Period: ____ Cycle 3 January 18 – March 11

Integrated Science – 7th
SYSTEMS (Weeks 3 & 4)

Essential Question 1: ***What does it mean to be alive?***
Essential Question 2: ***Is a multicellular organism itself alive or is it alive because it is made of individual living things?***
Essential Question 3: ***How are a cell's structures connected to its function and processes?***

_____ _____ **Advanced Student Work** (Bonus 10 pts) (***Due March 3***): Research a living organism by doing an in-depth study or analysis of its four needs to stay alive. Complete this by writing a report that covers all of the unique needs of the organism. See the eschooltoday website here for the criteria: http://goo.gl/dsRs8E

WEEK 3: Due February 5

** For assignment 14 and 15 use your textbook (pp. 47-48, 64-65) or these websites to complete the G.O.:
http://www.cellsalive.com/cells/cell_model.htm OR
http://learn.genetics.utah.edu/content/cells/insideacell/

_____ _____14. Complete the Graphic Organizer: Plant Cell Anatomy.

_____ _____15. Complete the Graphic Organizer: Animal Cell Anatomy.

_____ _____16. Using the information from the above worksheets on plant and animal cells, create a Venn Diagram listing the similarities and differences between plant and animal cell structures (10 pts).

_____ _____17. Read and take notes on pp. 60-67 of the Prentice Hall Life Science textbook. Go to the following website and compare the sizes of cells:

_____ _____ 18. Answer all parts of the four Assessment questions on page 67 of the Prentice Hall Life Science textbook.

_____ _____ 19. Begin preparation for the Performance: Cells: The True Story! (receive your role and begin researching your function)

_____ _____20. Make the appropriate nametag for your role in the performance.

WEEK 4: Due February 11

_____ _____ 21. Go to the following website and compare the sizes of cells:
http://learn.genetics.utah.edu/content/cells/scale/
Don't forget to notice the metric scale (centimeter, micrometer, Angstrom, etc…!)

Name_____ Period: ____ Cycle 3 January 18 – March 11

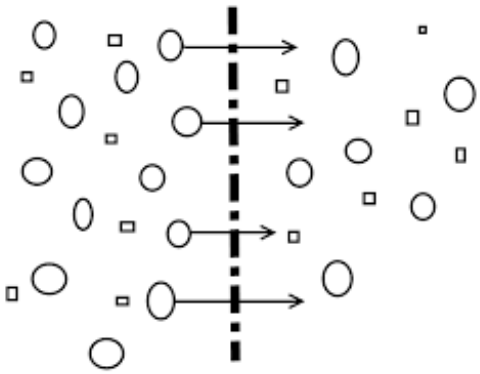
_____ _____22. Continue preparation for your role in the performance: research and report.

_____ _____23. Continue preparation for your role in the performance: rehearse in groups.

Name_____ Period: ____ Cycle 3 January 18 – March 11

Integrated Science – 7th
SYSTEMS (Weeks 5, 6, & 7)

Essential Question 1: ***What does it mean to be alive?***
Essential Question 2: ***Is a multicellular organism itself alive or is it alive because it is made of individual living things?***
Essential Question 3: ***How are a cell's structures connected to its function and processes?***



_____ _____ **Advanced Student Work** (Bonus 10 pts) (***Due March 3***): Research a living organism by doing an in-depth study or analysis of its four needs to stay alive. Complete this by writing a report that covers all of the unique needs of the organism. See the eschooltoday website here for the criteria: http://goo.gl/dsRs8E

WEEK 5: Due February 19

_____ _____24. Performances: Cells: The True Story! (please hand in your research notes!)

_____ _____25. Complete the Concept Map and 10 questions on p. 69 of the Prentice Hall Life Science textbook.

_____ _____26. Walk through, observe, and ask questions of the presenters at the MMA Science Fair.

WEEK 6: Due February 26

_____ _____27. Participate in and take notes on the lesson: Osmosis and Diffusion.

_____ _____28. Read and take notes on pp. 80-85 of the Prentice Hall Life Science textbook.

_____ _____29. Complete the Assessment questions 1-5 on pg 85 of the Prentice Hall Life Science textbook. (10 pts).

_____ _____30. Complete the practice worksheet: Diffusion Worksheet

_____ _____31. Complete the activity: Egg Osmosis Lab

_____ _____32. ADVANCED WORK (Optional): Fluffy Raisins Lab

WEEK 7: Due March 4

_____ _____33. Study for your cycle Theme Test.

_____ _____34. Take the cycle 3 Theme Test.

_____ _____35. Hand in all cycle work, including Advanced Work Project. **No more work accepted**!