Supplemental Materials
for
Making Connections: Service-Learning in Introductory Cell and Molecular Biology

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Welcome to

[Course Name]

Faculty Member

[Name]

Service-Learning Teaching Assistant

[Name]
Presentation Objectives

• Discuss the *who, what, where, when, why & how* of Service-Learning (S-L)

• Introduce you to our community partners

• Review your next steps, including
  - submitting partner preferences
  - fulfilling partner requirements
  - participate in partner orientation
  - begin serving before or no later than October 6th
What is Service-Learning?

- A form of **experiential learning** and an **academic** way to be civically engaged

- A **teaching & learning tool** used to enhance & integrate classroom & community goals

- A **partnership** between a faculty-led academic course and one or more community-based organization(s)

- A **mutually beneficial** experience for you and community-based organizations
How does Service-Learning work?

You will...

• use this experience as another learning resource
• serve in ways related to our course learning objectives
• serve between 2 - 5 hours/week on- or off-site
• serve throughout the duration of the semester
• collaborate to meet needs of the community partners
• integrate classroom and service
Student Benefits

- Review and consolidate your biology knowledge
- Apply what you learn in the real world
- Develop professional skills
- Network and build your resume
- Explore career choices
- Learn about the community surrounding campus
- Make a difference in the world
Community Benefits

- Role models for local youth
- Your enthusiasm for biology (and science in general)
- Your expertise
- Your creative products
  - e.g., hands-on biology activities
Our Community Partners

[List Partner Organizations Here]
[For each partner describe:]  

Who they are: (i.e., organization mission)

What you will do: [examples below]

- facilitate age appropriate workshops for youth to help them learn about cell and molecular biology
- Prepare lessons, experiments and activities
Reflection & Evaluation  

making connections  

Refer back to the course syllabus.

✓ Class discussions  
✓ Weekly blogging  
✓ Additional assignments  
✓ An evaluation of your S-L experience  
✓ Community partner evaluation of you
Role of your S-LTA

- **Introduce** you to Service-Learning
- **Coordinate** service roles & orientation
- **Support connections** between service & learning
- **Maintain and assess** community partnerships
- **Provide feedback** to the faculty member
- **Assist in facilitating** reflection & assessment
Your Next Steps

• **Review** community partner options for the course

• **Fill out** the Community Partner Selection form

• Once you are assigned a community partner and role:
  
  **Fulfill** requirements of community partner
  
  *e.g. CORI/SORI, volunteer application, etc.*

• **Participate** in the community partner Orientation

• **Begin service** by [date] and continue through the last week of classes
Questions?

[Insert contact information and office hours for instructor and TA]

Appendix 1: Service-learning introductory workshop for students.
Service-Learning Partnerships for [Course Name and Number; Faculty and TA Names]

Community Partner Information:
Name:
Address:
Website:
Primary Contact:
Phone Number:
Email:
Student Contact, if different:
Phone Number:
Email:

Mission & Brief Overview of Organization:

Service Opportunities:
(Includes program description and project objectives)

Duties and Responsibilities:

Logistics:
Number of students:
Service start date:
Days & Times of service:
Volunteer application:
Orientation/Training:
CORI/SORI:
Required or suggested skills:

Appendix 2: Template for Community Partnership Form – partner organizations provide information requested and before indicating partner preference, students receive a packet with a partnership description for each organization and role.
Community Partner Selection Form
Due Date: [____]

[Course Name & Number]
[Instructor & TA names]

Name: ________________________________
Email: ________________________________ Phone: ________________
Major/Minor: ___________________________ Year of Graduation: _________

1. Indicate your 1st, 2nd, and 3rd choices from the list of service opportunities listed below based on your interests as well as the days/times you are available to serve.*

[Organizations and roles are listed here along with options to select service days/times, when available.]

*Please note: The professor and/or S-LTA will do their best to match you with your preferences, but based on scheduling, community needs, and the number of students in the course, it is not guaranteed.

2. Do you have any previous volunteer or service-learning experience? If yes, doing what?

3. Do you have any special skills or interests? (computer skills, languages, music, art, etc.)

4. How would you like to benefit from this experience? What are your goals and expectations?

5. Which, if any, other S-L courses are you enrolled in this semester:  ____None
   _______________________________ S-L Course

(continued on next page)
6. Clearly indicate the times you are *NOT* able to serve on-site or meet with your group members: *(Please be sure that these times do not conflict with your placement preferences.)*

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Appendix 3: Template for Student Preference Form.
This past week was very successful in terms of introducing basic cellular structure to the kids; we were able to establish the difference between an animal cell and a plant cell, as well as introducing the major organelles of the organisms. Additionally, we were able to identify some of the basic functions of these organelles, since any explanation of structure must relate to function.

In preparation for next week's function lesson, I was considering incorporating what we learned about bioremediation in class. As part of our explanation of how cells process raw materials for food we could describe how the process of cell metabolism is harnessed to cleanup harmful chemical spills. We could emphasize that while people are harmed by some chemicals, certain types of microorganisms feed off the same chemicals - this would help educate the kids that not all microorganisms are harmful.

Comment 1

I think that basic cellular structure is truly integral to biology, and I think that if the kids have a good foundation in understanding how a basic cell works, they will surely be able to understand the more complex aspects in the future. When working on writing the curriculum this week for my group, I was also thinking of the bioremediation presentation. However, since we would never actually be able to perform a real bioremediation experiment, we came up with a different experiment that also has to do with "good" bacteria. In fact, the main purpose of this particular experiment is to instill the idea that not all bacteria are bad. Our experiment has to do with soil bacteria decomposing organic matter and releasing nutrients to help plants grow (which is a "good" function of bacteria, just like bioremediation). If you are interested in using this experiment for your kids, just let me know and I will email the details of the experiment to you.

Comment 2

This is an awesome idea! I personally love the topic about bioremediation and I think it's a great way to show the younger students that bacteria can be very useful in the environment and even inside of our bodies. But I think we should first introduce the concept of a bacterium and the differences between bacteria and plant/animal cells that we have already talked about. I also think it would be a great idea if we talked about nitrogen fixing bacteria in soil since we just went over plants with the kids. This can be a great introduction to bacteria and we can further develop it to later bring up the topic of bioremediation. I can't wait to go back next week!

Appendix 4: Example of weekly blog and associated comments. Comment 1 is from a student working with a different community partner, while comment 2 is from a student in the same group as the student who wrote the original comment.
The kids weren't the only ones that learned, I also learned a great deal myself. The kids would ask questions about the concepts that I have never even considered. In this way, I learned that there are always new questions to be asked in the field of biology. I also gained a better understanding of the biology concepts because in order to teach them, you really need to understand them. I didn't just learn about biology though, I learned skills that can help me in the future. In the beginning of S-L, we had a detailed outline of what we were going to do with the kids. The detailed plans didn't always work. I learned to always have a backup plan and expect the unexpected. I learned how to work with different people and work in different situations. I think that the service-learning experience will definitely help me in the future. It was great to see the kids skills grow but also my own.

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The last couple months have been truly great. The chance to design a curriculum is something that not many people get, especially as just a college freshman. This experience has inspired me to become more interested in the education side of science. I have always been interested in doing volunteer work to promote scientific literacy, but I have never actually participated in anything of the sort. I now know that in addition to a career in research, I want to be involved in educating students as well as the general public about biology. I now volunteer for the Northeastern chapter of Science Club for Girls, which I would have not known about if it were not for my S-L assignment to SCFG. I am so happy and thankful that I was introduced to this organization.

I was especially happy that the topic we were assigned was microbiology. Several aspects of our Inquiries class were focused around microbiology; for example, bioremediation and quorum sensing were two topics that we discussed in class that we also wrote about in the curriculum. Writing the curriculum really helped me learn the topics because in order to simplify it to a level in which elementary school children can understand it, I had to solidify my own understanding of it in the first place. This will be very beneficial to me because next semester, I am going to be working in a faculty lab which will require a great deal of knowledge about microbiology. I will be studying the bacteria that live in the human oral microbiome. We learned about the human gut microbiome in class and found that it greatly affects the processes of our body. The same is true of the oral microbiome, and I will surely learn more about this as I begin my research.

This week, I wrote the Session 8 curriculum, in which the girls will present their final projects. Each group will be performing a skit about a microbe of their choice. I hope that the girls who use this curriculum will enjoy learning about microbes as much as I did.

Appendix 5: Examples of summary blogs.