SEP Summer Session Agenda 2018 – DRAFT

MONDAY, JULY 9
Teaching Lab, B1-076

8:30  Welcome back!
     •  Security badge
     •  Journal writing
     •  Welcome remarks from Inspirus
     •  Review schedule, expectations, requirements, project
     •  Address questions/comments from Opening Day

9:00  Welcome remarks from FHCRC

9:15  Icebreaker

9:45  Lab Safety Presentation – Caren

10:00 DNA Extraction Overview, Strategy, Flowchart
     Modeling the 'bag within a bag'

10:45 Break

11:00 DNA Extraction

12:00 Lunch

12:45 DNA Extraction Analysis and Reflection

1:00  Paired Group Discussion/Whole Group Debrief
     DNA Lab 2 flow charts checked during discussion

1:30  DNA Lab 2 Overview
     Difference between DNA Lab 1 vs. 2
     Prediction – pieces resulting from cutting lambda with 2 restriction enzymes
     Set up digest
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tr>
<td>2:15</td>
<td>Break</td>
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<tr>
<td>2:30</td>
<td>DNA Lab 2&lt;br&gt;Solutions Part 1 – Diluting TAE and Sybr&lt;br&gt;Prepare gels, set up markers</td>
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<td>3:30</td>
<td>Stop digest&lt;br&gt;Closure</td>
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<td>4:00</td>
<td>Adjourn</td>
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TUESDAY, JULY 10
Teaching Lab, B1-076

8:30  Announcements

8:45  DNA Models [on tables]

9:15  DNA Lab 2
   • Load and run gels
   • Visualize results

10:00 Break

10:15 Size determination methods – breakout [estimation and semi-log]

10:45 Practices: Argumentation
   CER: Clarification of terms: Claims, Justification [Evidence and Reasoning]

11:00 Journal Time
   • Analysis and Reflection

11:30 Transformation
   • Introduction and Flow Chart
   • Diluting Amp and X-Gal

12:00 Lunch

12:45 Tour

2:00  Break

2:15 Transformation

3:30  Plan your own experiment overview

3:45  Journal Time
   • Analysis
   • Reflection

4:00  Adjourn
WEDNESDAY, JULY 11
Teaching Lab, B1-076

8:30  Announcements

9:00  Transformation Results and Efficiency
      Journal Time
      • Analysis
      • Reflection

9:15  Teaching the Transformation Lab

9:30  Role of Argumentation, Norms
      Generating questions for sense-making

10:00 Break

10:30 Science Seminar [modeling student discourse of analysis]

11:00 Plan your own experiment
      • Work in groups of 2-4
      • Check plan with Lead Teachers and SEP staff before going to lunch

12:00 Lunch

12:45 Do Your Own Experiment

3:15  Do Your Own Experiment Reports – Part 1
      • Present your question, plan, prediction, results [if available]
      • 4 min/group, 1 question
      • Practice questions for sense-making

3:45  Journal Time
      • Analysis
      • Reflection

4:00  Adjourn
THURSDAY, JULY 12
Teaching Lab, B1-076

8:30  Announcements

9:00  Do Your Own Experiment Reports – Part 2

10:00  Isolate DNA for PTC-PCR

10:30  Break

10:45  Set up PCR

12:00  Lunch

12:45  Initial Model
   PTC PCR Background
   PCR Background

2:00  Test PCR Product
   Set up Digest
   Serial Dilutions?

3:45  Journal Time
   • Analysis
   • Reflection

4:00  Adjourn – Reading: Stupidity in Science
FRIDAY, JULY 13
Teaching Lab, B1-076

8:30  Announcements

9:00  Run Digested PCR Product
      Analyze Results

10:00 Results Discussion
      Return to Model
      Review of procedures and how scientists might use them

      Journal Time
      • Analysis
      • Reflection

11:00 Scientific Speaker?

12:00 Lunch

1:00  Discussion: Teaching about Cancer

2:00  Stupidity in Science Seminar
      Cultures of Science and Education

2:45  Lab Video and Discussion

3:00  Break

3:15  Lab Logistics
      Project Introduction

4:00  Adjourn
MONDAY, JULY 16- FRIDAY, JULY 20
(5 weekdays)

With Mentors in Research Labs

JOURNALING

1. Continue to use your journal for CPR².
   • Use the questions on the CPR² half sheet for guidance.

2. Add observations and thoughts about Argumentation/Sense-Making Talk to your Reflections
   • Use the questions on the Argumentation/Sense-Making Talk Prompt sheet for guidance.
   • Be sure to identify an Argumentation Example to share with your colleagues.

It may be okay to record portions of lab discussions if everyone agrees and you do not use any names.

VISITS from SEP Staff and Lead Teachers

• Lead teachers/SEP staff will be dropping by during the five days to see how things are going and borrow your journal briefly.

• Caren will be scheduling time to take photographs with you and your mentor in the lab.
MONDAY, JULY 23
Teaching Lab, B1-076

8:30  Announcements

9:00  Small Group Discussion: Scientific practice of argumentation in research settings

- Debrief research lab experience
- Scientific Practice of Argumentation/Sense-making in Research Labs
  [Share your example]
- What did you learn from your observations? What are your 1-2 takeaways about practices in scientific research settings?
- What are the implications of what you experienced for your teaching?

10:15  Large Group Discussion

10:45  Break

11:00  Project Overview and Planning

11:45  Group Photo [Caren and everyone]

12:00  Lunch

1:00   Modeling – Water

2:00   Modeling – Insulin

3:00   Project Idea Time

- Sign up for your Tuesday meetings
- SEP Staff meeting for LT and Staff

4:00   Adjourn
TUESDAY, JULY 24
Teaching Lab, B1-076

8:30   Announcements
       Argumentation/Sense-making in your Project

8:45   Pencil Transferase
       BRCA 1 BioTEST resources
       **Modeling: Toobers / Project Violet**

10:00  Project Proposal Review meetings
       (discuss your project with one Lead Teacher and one SEP staff member)
       Work on projects

4:00   Adjourn

WEDNESDAY, JULY 25
Teaching Lab, B1-076

8:30   Announcements

8:45   **ELISA**

10:15  Break

10:30  Work Time

12:00  Lunch

12:45  Nextstrain

1:45   Work Time

4:00   Adjourn
THURSDAY, JULY 26
Teaching Lab, B1-076

8:30  Announcements

8:45  Work Time

12:00  Lunch

12:45  Work Time

4:00  Adjourn
  • All projects must be ready by Friday Morning!
  • If you turn in your Project Abstract by 9 AM 7/27 we will have it copied for you.

FRIDAY, JULY 27 – SEP OPEN HOUSE
Teaching Lab, B1-076

8:30  Prepare for Open House/Poster Session
  • Turn in projects, distribute abstracts, and set up posters
  • Final survey

9:30  Community Gathering in Pelton Auditorium
  • Murdock Partners in Science presentation
    o Kimberly Newman, Implementation Coach

11:00 -1:00  Open House/Poster Session
  • Invite your mentor, principal, and colleagues to join us for the Poster Session

1:30  Program Wrap-Up
  • Turn in lab journals [these will be mailed back to you]
  • Turn in security badges
  • Surplus