## CTY Course Syllabus - Zoology

### Day 1: Monday

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities / Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>Introductions, Goals &amp; Expectations, Course Objectives/Syllabus, Class Procedures, Pre-Assessment What is a living organism? What is an animal?</td>
</tr>
<tr>
<td>9:00-12:00</td>
<td>Lecture. Activity: What is living?</td>
</tr>
<tr>
<td>Afternoon</td>
<td>Science Safety Meeting Microscope: Animal vs. Plant cells</td>
</tr>
<tr>
<td>1:00 – 3:00</td>
<td>Microscope review: looking at algae and Daphnia under microscopes</td>
</tr>
<tr>
<td>Evening</td>
<td>Review adaptations</td>
</tr>
<tr>
<td>Study Hall</td>
<td>Review Questions Beak of the Finch (BOTF) reading</td>
</tr>
<tr>
<td>7:00 - 9:00</td>
<td></td>
</tr>
</tbody>
</table>

### Day 2: Tuesday

<table>
<thead>
<tr>
<th>Time</th>
<th>Topics: Animal Classification/ Invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>How are animals classified? Cladogram and Taxonomy</td>
</tr>
<tr>
<td>9:00-12:00</td>
<td>Lecture Creating Cladogram and Taxonomic Key</td>
</tr>
<tr>
<td>Afternoon</td>
<td>Phylum: Porifera and Cnidaria</td>
</tr>
<tr>
<td>1:00 – 3:00</td>
<td>Dissection of Sponge Pieces, sponge spicule observation, hydra observation Article reading about Sponge Cnidarian worksheet</td>
</tr>
<tr>
<td>Evening</td>
<td>Review today’s phylum</td>
</tr>
<tr>
<td>Study Hall</td>
<td>Review Questions Animal system summary chart: Poriferans, Cnidarians BOTF reading</td>
</tr>
<tr>
<td>7:00 - 9:00</td>
<td></td>
</tr>
</tbody>
</table>

### Day 3: Wednesday

<table>
<thead>
<tr>
<th>Time</th>
<th>Topics: Invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>Phylum: Platyhelminthes &amp; Nematoda</td>
</tr>
<tr>
<td>9:00-12:00</td>
<td>Lecture Experimental design: Live Planarian Observation</td>
</tr>
<tr>
<td>Afternoon</td>
<td>Phylum: Nematoda</td>
</tr>
<tr>
<td>1:00 – 3:00</td>
<td>Planarian observation &amp; Regeneration Lab Lab write up instruction</td>
</tr>
<tr>
<td>Evening</td>
<td>Review today’s phylum</td>
</tr>
<tr>
<td>Study Hall</td>
<td>Lab write up Review Questions Animal system summary chart: Platyhelminthes, Nematoda</td>
</tr>
<tr>
<td>7:00 - 9:00</td>
<td></td>
</tr>
<tr>
<td>Day 4: Thursday</td>
<td>Topics: Invertebrates</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Morning 9:00-12:00</td>
<td>Phylum: Mollusca</td>
</tr>
<tr>
<td>Afternoon 1:00-3:00</td>
<td>Phylum: Mollusca</td>
</tr>
<tr>
<td>Evening Study Hall 7:00-9:00</td>
<td>Review today’s phylum</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Day 5: Friday</th>
<th>Topics: Invertebrates</th>
<th>Activities / Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning 9:00-12:00</td>
<td>Phylum: Annelids</td>
<td>Lecture, Article discussion about earthworms</td>
</tr>
<tr>
<td>Afternoon 1:00-3:00</td>
<td>Phylum: Annelids</td>
<td>Earthworm dissection, Animal system summary chart: Annelids</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sunday Study Hall</th>
<th>Topics: Invertebrates</th>
<th>Activities / Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evening 7:00-9:00</td>
<td>Phylum: Arthropoda</td>
<td>Computer lab, Arthropod evolution activity, Article reading about horseshoe crabs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Day 6: Monday</th>
<th>Topics: Invertebrates</th>
<th>Activities / Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning 9:00-12:00</td>
<td>Phylum: Arthropoda Experimental Design</td>
<td>Walk to bay to collect specimens, Lecture, Systems review</td>
</tr>
<tr>
<td>Afternoon 1:00-3:00</td>
<td>Experimental Design</td>
<td>Insect observation, choosing of experimental animal, brain storming experimental design</td>
</tr>
<tr>
<td>Evening Study Hall 7:00-9:00</td>
<td>Experimental Design</td>
<td>Computer lab, Insect Diversity Web search, Primary source back ground research</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Day 7: Tuesday</th>
<th>Topics: Invertebrates</th>
<th>Activities / Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning 9:00-12:00</td>
<td>Phylum: Arthropoda</td>
<td>Horseshoe Crab debate, Insect Classification and Diversity, Insect Collection, Insect Observation and Drawings, then</td>
</tr>
</tbody>
</table>
### Day 8: Wednesday

**Topics: Invertebrates**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities / Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning 9:00-12:00</td>
<td>Self-Designed Experiments  Practice Run of Experiments: Adjustments to Methodology</td>
</tr>
<tr>
<td>Afternoon 1:00-3:00</td>
<td>Self-Designed Experiments  Experiment</td>
</tr>
<tr>
<td>Evening Study Hall 7:00-9:00</td>
<td>Self-Designed Experiments  Paper writing: Results and Discussion Section</td>
</tr>
</tbody>
</table>

### Day 9: Thursday

**Topics: Invertebrates / Intro to Vertebrates**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities / Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning 9:00-12:00</td>
<td>Phylum: Echinoderm  Chordates Research  Lecture  Vocabulary Review  Computer lab  Finalizing paper</td>
</tr>
<tr>
<td>Afternoon 1:00-3:00</td>
<td>Phylum: Echinoderm  Echinoderm comparative observation, Sea Star Dissection</td>
</tr>
<tr>
<td>Evening Study Hall 7:00-9:00</td>
<td>Review Phylum Echinoderm  Why is it a sea star and not a starfish?  Review Questions: Echinoderm BOTF reading</td>
</tr>
</tbody>
</table>

### Day 10: Friday

**Topics: Vertebrates**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities / Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning 9:00-12:00</td>
<td>Phylum: Chordates Introduction  Computer Lab  Researching assigned vertebrate organism  Lecture.</td>
</tr>
<tr>
<td>Afternoon 1:00-3:00</td>
<td>Vertebrates: Fish  Shark Dissection</td>
</tr>
</tbody>
</table>

### Sunday Study Hall

Evening 7:00-9:00

**Topics: Vertebrates**

<table>
<thead>
<tr>
<th>Activities / Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review Fish</td>
</tr>
<tr>
<td>BOTF discussion</td>
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<tr>
<td>Review Questions: Fish</td>
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</tbody>
</table>

### Day 11: Monday

**Topics: Vertebrates**

<table>
<thead>
<tr>
<th>Activities / Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Vertebrate research  Computer lab</td>
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<tr>
<td>Time</td>
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<tr>
<td>------------</td>
</tr>
<tr>
<td>9:00-12:00</td>
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<tr>
<td>Afternoon</td>
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<tr>
<td>1:00-3:00</td>
</tr>
<tr>
<td>Evening</td>
</tr>
<tr>
<td>Study Hall</td>
</tr>
<tr>
<td>7:00-9:00</td>
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</table>

### Day 12: Tuesday

**Topics: Animal Adaptations and Observations**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>Field Trip</td>
<td>Field Trip to Roger Williams Zoo</td>
</tr>
<tr>
<td>9:00-12:00</td>
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</tr>
<tr>
<td>Afternoon</td>
<td>Field Trip</td>
<td>Field Trip to Roger Williams Zoo</td>
</tr>
<tr>
<td>1:00-3:00</td>
<td>Vertebrates Presentation: Birds and Mammals</td>
<td>Research presentation</td>
</tr>
<tr>
<td>Evening</td>
<td>Review vertebrates and Zoo Field Trip</td>
<td>Review Questions: Birds, Mammals</td>
</tr>
<tr>
<td>Study Hall</td>
<td></td>
<td>BOTF reading</td>
</tr>
<tr>
<td>7:00-9:00</td>
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</tbody>
</table>

### Day 13: Wednesday

**Topic: Phylum Chordates**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>Vertebrates Presentation: Mammals</td>
<td>Lecture/Presentation</td>
</tr>
<tr>
<td>9:00-12:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afternoon</td>
<td>Vertebrates: Mammals</td>
<td>Rat Dissection</td>
</tr>
<tr>
<td>1:00-3:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evening</td>
<td>Review</td>
<td>BOTF reading</td>
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<tr>
<td>Study Hall</td>
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<tr>
<td>7:00-9:00</td>
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### Day 14: Thursday

**Topic: Zoology**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>Review</td>
<td>Animal diversity review activities</td>
</tr>
<tr>
<td>9:00-12:00</td>
<td></td>
<td>Review Vocabulary</td>
</tr>
<tr>
<td>Afternoon</td>
<td>Post-Assessment Course Material Wrap-up</td>
<td>Design Comic Strips “Catch up on your life”</td>
</tr>
<tr>
<td>1:00-3:00</td>
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</tr>
<tr>
<td>Evening</td>
<td>Making a Zoology Documentary</td>
<td></td>
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<tr>
<td>Study Hall</td>
<td></td>
<td></td>
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<tr>
<td>7:00-9:00</td>
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### Day 15: Friday

**Topic: Closing**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>Viewing of Zoology Documentary</td>
<td></td>
</tr>
<tr>
<td>9:00-12:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afternoon</td>
<td>Parent Conferences</td>
<td></td>
</tr>
<tr>
<td>1:00-3:00</td>
<td></td>
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</tbody>
</table>