### Appendix A: Bloom’s Taxonomy (from Stanny, 2016)

<table>
<thead>
<tr>
<th>Lower order</th>
<th>Higher order</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Remember</strong></td>
<td><strong>II. Understand</strong></td>
</tr>
<tr>
<td>Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.</td>
<td>Demonstrate understanding of facts and ideas by organizing, comparing, interpreting, giving descriptions, and stating main ideas.</td>
</tr>
</tbody>
</table>

### Arrangement and Comprehension
- Arrange
- Copy
- Define
- Describe
- Identify
- Label
- List
- Locate
- Match
- Name
- Outline
- Quote
- Recall
- Recite
- Record
- Repeat
- Recognize
- Reproduce
- Retell
- Select
- State
- Tabulate
- Tell
- Visualize

### Knowledge and Comprehension
- Classify
- Describe
- Differentiate
- Discuss
- Distinguish
- Explain
- Extend
- Generalize
- Give an example
- Group
- Illustrate
- Indicate
- Infer
- Interpret
- Organize
- Order
- Paraphrase
- Report
- Restate
- Review
- Rewrite
- Select
- Show
- Summarize
- Translate

### Application and Analysis
- Calculate
- Chart
- Choose
- Compile
- Compute
- Construct
- Demonstrate
- Diagnose
- Interpret
- Modify
- Predict
- Prepare
- Relate
- Show
- Solve
- Teach
- Transfer
- Use
- Write

### Evaluation
- Appraise
- Break Down
- Categorize
- Classify
- Compare
- Conclude
- Connect
- Contrast
- Correlate
- Criticize
- Deconstruct
- Deduce
- Diagram
- Discriminate
- Dissect
- Evaluate
- Map
- Outline
- Prioritize
- Role-play
- Separate
- Subdivide
- Survey
- Test

### Creation
- Argue
- Assess
- Choose
- Consider
- Convince
- Criticize
- Critique
- Debate
- Decide
- Defend
- Editorialize
- Find errors
- Grade
- Judge
- Justify
- Persuade
- Rate
- Rearrange
- Reorganize
- Recommend
- Reframe
- Reorder
- Support
- Weigh

### Additional Terms
- Adapt
- Anticipate
- Assemble
- Collaborate
- Combine
- Compose
- Construct
- Design
- Develop
- Devise
- Express
- Facilitate
- Formulate
- Hypothesize
- infer
- Integrate
- Intervene
- Invent
- Negotiate
- Originate
- Plan
- Prepare
- Produce
- Propose
- Report
- Revise
- Simulate
- Speculate
- Structure
- Validate
- Write
<table>
<thead>
<tr>
<th>Program</th>
<th>Location</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquarium Exploration</td>
<td>Indoor</td>
<td>Through individual and small group activities, students observe form and function while discussing the diversity and ecological significance of fishes and invertebrates found in Georgia’s coastal waters.</td>
</tr>
<tr>
<td>Aquarium Behind the Scenes</td>
<td>Indoor</td>
<td>Extend a scheduled Aquarium Exploration with an informative tour of the aquarium workspaces and a discussion of the methods used for caring for animals on exhibit.</td>
</tr>
<tr>
<td>Touch Tanks</td>
<td>Indoor</td>
<td>Students observe and handle live invertebrates, typically including whelks, sea stars, spider crabs, hermit crabs and horseshoe crabs.</td>
</tr>
<tr>
<td>Intro to Fishes</td>
<td>Auditorium - Indoor</td>
<td>Using preserved specimens and skulls, students discover the secret lives of fishes during this interactive discussion session.</td>
</tr>
<tr>
<td>Intro to Georgia Coast</td>
<td>Auditorium - Indoor</td>
<td>This program reviews the physical and biological processes that shape the Georgia coast.</td>
</tr>
<tr>
<td>Intro to Salt Marsh</td>
<td>Auditorium - Indoor</td>
<td>Discover what lives in the salt marsh and review the physical, biological and chemical processes that define a salt marsh and determine the diversity of species and ecological structure found in these tidally influenced wetlands.</td>
</tr>
<tr>
<td>Marine Debris 101</td>
<td>Auditorium - Indoor</td>
<td>Students learn about the sources of marine debris and the ocean processes (such as tides and currents) that influence the type, amount and frequency of plastic debris accumulating along Georgia’s coast.</td>
</tr>
<tr>
<td>Coastal Reptiles</td>
<td>Auditorium - Indoor</td>
<td>Learn about the characteristics of this ancient group of vertebrates that have allowed them to survive for hundreds of millions of years.</td>
</tr>
<tr>
<td>Fish Dissection</td>
<td>Laboratory - Indoor</td>
<td>Students compare features of a fish’s lifestyle to those of humans and other organisms in order to learn how fish are specifically adapted for life in the water.</td>
</tr>
<tr>
<td>Microplastics</td>
<td>Laboratory - Indoor</td>
<td>Students explore the prevalence of microplastics in sediments, aquatic environments and marine biota.</td>
</tr>
<tr>
<td>Fish ID</td>
<td>Laboratory - Indoor</td>
<td>Using dichotomous keys, students identify fishes based on external features.</td>
</tr>
<tr>
<td>Gyotaku</td>
<td>Laboratory - Indoor</td>
<td>The time-honored art of Gyotaku has been practiced for utilitarian and creative reasons for centuries.</td>
</tr>
<tr>
<td>Invertebrate Lab</td>
<td>Laboratory - Indoor</td>
<td>Sample the invertebrate community found living beneath the water line on floating docks.</td>
</tr>
<tr>
<td>Squid Dissection</td>
<td>Laboratory - Indoor</td>
<td>Investigate squid form and function thorough dissection and discussion of internal anatomy with a guided activity sheet.</td>
</tr>
<tr>
<td>Oyster: The Fanatic Filterers</td>
<td>Laboratory - Indoor</td>
<td>Students take a close look at this keystone species as they dissect and identify the internal filtering features of an oyster and calculate filtering rates of live oysters.</td>
</tr>
<tr>
<td>Plankton Lab</td>
<td>Laboratory - Indoor</td>
<td>Students learn how marine animals and plants are part of the plankton community and how they reproduce.</td>
</tr>
<tr>
<td>Horseshoe Crab Discovery</td>
<td>Laboratory - Indoor</td>
<td>Discover the ecological and economical importance of horseshoe crabs using live specimens and natural artifacts.</td>
</tr>
<tr>
<td>Barrier Island</td>
<td>Water - Outdoor</td>
<td>Travel by boat to a wild and remote barrier island. Bottlenose dolphins, sea birds and bald eagle nests are often seen along the way.</td>
</tr>
<tr>
<td>Estuary</td>
<td>Water - Outdoor</td>
<td>Students sample the benthic communities found in tidal rivers and sounds, then identify, sort, count and record species, environmental and positional data.</td>
</tr>
<tr>
<td>Scientific Sampling</td>
<td>Outdoor</td>
<td>This study aboard the R/V Sea Dawg emphasizes the biological communities of an estuary and the abundance and diversity of organisms living there.</td>
</tr>
<tr>
<td>Bottlenose Dolphin</td>
<td>Water - Outdoor</td>
<td>Following an introductory discussion on cetacean biology, students board skiffs to explore coastal waters while searching for dolphins.</td>
</tr>
<tr>
<td>Oyster Reef</td>
<td>Water - Outdoor</td>
<td>Travel by skiff to a nearby island and investigate oyster reef communities and their</td>
</tr>
<tr>
<td>Habitat</td>
<td>Setting</td>
<td>Activity</td>
</tr>
<tr>
<td>-------------------------------</td>
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<td>----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Marine Debris on Barrier Islands</td>
<td>Water - Outdoor</td>
<td>Students collect marine debris at designated sandy beach sites using NOAA shoreline survey protocols.</td>
</tr>
<tr>
<td>Maritime Forest Study</td>
<td>Land - Outdoor</td>
<td>Hike through on-site transitional and mature maritime forests to experience coastal Georgia’s climax plant community.</td>
</tr>
<tr>
<td>Salt Marsh Study</td>
<td>Land - Outdoor</td>
<td>Students discuss the importance of the marsh ecosystem to the coastal systems of Georgia.</td>
</tr>
<tr>
<td>Salt Marsh Transect</td>
<td>Land - Outdoor</td>
<td>Students put their knowledge to practical use in this field study in order to gain a broad perspective of salt marsh zonation and ecology.</td>
</tr>
<tr>
<td>Developed Barrier Island</td>
<td>Land - Outdoor</td>
<td>Students explore the sandy beach, survey examples of development related impacts and discuss the natural physical processes, environmental and infrastructure issues and development trends impacting developed barrier islands.</td>
</tr>
<tr>
<td>Marine Debris in Salt Marsh</td>
<td>Land - Outdoor</td>
<td>Students collect marine debris at designated salt marsh sites using NOAA shoreline survey protocols.</td>
</tr>
</tbody>
</table>
### Appendix C

<table>
<thead>
<tr>
<th>Ocean Literacy Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Earth has one big ocean with many features.</td>
</tr>
<tr>
<td>The ocean and life in the ocean shape the features of Earth.</td>
</tr>
<tr>
<td>The ocean is a major influence on weather and climate.</td>
</tr>
<tr>
<td>The ocean made the Earth habitable.</td>
</tr>
<tr>
<td>The ocean supports a great diversity of life and ecosystems.</td>
</tr>
<tr>
<td>The ocean and humans are inextricably interconnected.</td>
</tr>
<tr>
<td>The ocean is largely unexplored.</td>
</tr>
</tbody>
</table>