LESSON 8.1 – ECOSYSTEM DIORAMA PROJECT

OBJECTIVE: In Lesson 8.1, we are learning about the various biotic and abiotic factors that make up an ecosystem, as well as how these factors work together to maintain a balanced ecosystem. By creating a 3-D diorama of an ecosystem, students become aware of the various pieces and parts that help make up the ecosystem, as well as how they work together. By creating a simple three-dimensional model, students are receiving visual and mechanical reinforcement of the lessons we are learning throughout Unit 8, as well as revisiting our lessons about how to represent and model scientific information (from Lesson 1.4).

INSTRUCTIONS:

1) Students will decide what type of ecosystem they would like to make. Students may pick a general type of ecosystem (rainforest, coral reef, desert, etc.) or a specific ecosystem (Everglades, African savannah, Gobi Desert, etc.). A list of possible ecosystem choices has been included in these instructions, but if a student wishes to model an ecosystem not listed, they may present their idea to the teacher for his/her approval.

2) Students will build a 3-dimensional model ecosystem diorama. Dioramas should be no larger than a copy paper box or small moving box. Students are responsible for fully modeling their ecosystem, including climate/environmental conditions, physical structures and living organisms (plants and animals) that are typical to that ecosystem.

3) Students will complete an Ecosystem Snapshot worksheet – these will be provided in-class to all students. Students may handwrite or type their answers. Students must answer all questions thoroughly and accurately, and must list the references they used to gather their information, to receive credit for this portion of the assignment.

PROJECT GUIDELINES:

• Ecosystems must be three-dimensional. Students that simply draw or color a picture of an ecosystem will not receive credit for this project.

• Projects should be no bigger than a small moving box or copy paper box, but ideally, should be the size of a shoebox.

• Students may use a variety of different materials to create their ecosystem. Craft materials (construction paper, printed scrapbook paper, tissue paper, clay, cotton batting, pipe cleaners, yarn, beads, buttons, fake moss, etc.), household materials (plastic wrap, aluminum foil, toothpicks), non-decomposable natural materials (rocks, seashells, starfish, etc.), and nature-themed figurines and toys can all be used to create your ecosystem.

• DO NOT USE ANY EDIBLE, ORGANIC, DANGEROUS OR MESSY ITEMS IN YOUR PROJECT!!! These can attract insects, become smell, make a mess or create a safety hazard. Using banned items in your model will result in a ZERO F grade! Banned project materials include (but are not limited to):
  - Fruits and vegetables
  - Nuts and seeds
  - Jello or gelatin
  - Actual water or liquids of any type
  - Candy (including marshmallows, licorice, etc.)
  - Real plants, moss, fungi, insect or animals (dead, alive or preserved)
  - Unsecured sand or dirt
  - Glitter
  - Glass containers
  - Sharp objects (push pins, straight pins, needles, fish hooks)

TURNING IN YOUR PROJECT:

• Ecosystem dioramas are due on the assigned due date during the student’s class period. Students will turn in their projects by placing their dioramas on the countertop at their class period’s “station” (will clearly be labeled around the room and will be pointed out by the teacher). Student’s name must be on BOTH the Ecosystem Snapshot Sheet AND the diorama itself!

• Models that are submitted late will have FIVE POINTS DEDUCTED FOR EVERY DAY PROJECT IS LATE. After 10 days, projects will no longer be accepted for late credit.
GOOD THINGS TO KNOW:

• If you are unsure of how to best build your model or need creative ideas, research ecosystem diorama projects on Google or Pinterest – there are THOUSANDS of examples available at the click of a mouse!

• **In order to receive full credit for this project, you must submit BOTH your diorama AND your Snapshot Sheet by the due date.** Submitting one or both of these pieces late will result in points being deducted from your grade and/or a failing grade on this project!

• All dioramas need to have some sort of solid framework. The best and easiest thing to use for this is a basic cardboard shoebox. However, you may also use plastic shoeboxes, plastic storage boxes, plastic or acrylic fishbowls/tanks, old Tupperware containers, etc. **DO NOT USE GLASS CONTAINERS AS YOUR FRAMEWORK!** The framework for this project should be no larger than a small moving box or printer paper box due to classroom space constraints.

• Please make sure that all items in your diorama (including whatever material you use to represent the ground) is securely fixed to your diorama in a safe manner (glue, tape, twine, cord, etc. – **DO NOT USE PINS OR HOOKS!**). If your diorama is falling apart or things are rattling around loosely, it will negatively affect your grade!

• **You do not have to spend a lot of money creating your ecosystem diorama.** The supplies you need to create a diorama can easily be found from household supplies or purchased from Dollar Store, Walmart, Target, or discount craft stores. I am not grading you on how “fancy” or expensive your project is – I’m grading you on thoroughness, accuracy and the demonstration of your understanding of the concepts at hand.

• Any students suffering significant financial hardship and are unable to purchase supplies for this project will be given an alternate project to complete. Request for an alternate project MUST come from the PARENT (via email) with a clear explanation as to why they are requesting an alternative project. **PLEASE NOTE** – the alternative project will require as much, if not more, work than the original project and will be graded strictly, so this is not an “easy way out” of having to build a diorama!

• PARENTS – any questions or concerns about this project can be forwarded to me via email at katherine.tousignant@browardschools.com. I am happy to answer any questions you might have.

ECOSYSTEM EXAMPLES

Below is a list of possible ecosystems that you may choose from to create your ecosystem diorama. However, if there is an ecosystem that you wish to model that is NOT on this list, you may ask your teacher if you may use it!

<table>
<thead>
<tr>
<th>Marine Ecosystems</th>
<th>Terrestrial Ecosystems</th>
<th>Specific Ecosystem Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Beach/Shoreline</td>
<td>• Cave</td>
<td>• A U.S. National Park (pick one)</td>
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<tr>
<td>• Coral Reef</td>
<td>• Coniferous Forest/Tiaga</td>
<td>• African Savanna</td>
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<tr>
<td>• Deep Ocean/Ocean Floor</td>
<td>• Deciduous/Temperate Forest</td>
<td>• Amazon Rainforest</td>
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<tr>
<td>• Estuary</td>
<td>• Desert</td>
<td>• Amazon River Basin</td>
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<td>• Kelp Forest</td>
<td>• Grassy Plains</td>
<td>• Arctic Tundra/Ice</td>
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<td>• Tide Pool</td>
<td>• Mountains</td>
<td>• Everglades</td>
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<td></td>
<td>• Savannas</td>
<td>• Galapagos Islands</td>
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<td></td>
<td>• Tropical Rainforest</td>
<td>• Great Barrier Reef</td>
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<td></td>
<td>• Tundra</td>
<td>• Great Lakes</td>
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<td><strong>Aquatic Ecosystems</strong></td>
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<td>• Rocky Mountains</td>
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<tr>
<td>• Creek or Stream</td>
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<td>• Sahara or Gobi Desert</td>
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