**Maryland Ecosystems**

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**Project Summary**

Want to explore living ecosystems, but cannot travel your state, country or world, here is a project to help students do this from the comforts of your classroom. Classes will have student developed ecosystem tanks. There will be an explanation of each ecosystem tank that is updated throughout the school year. Students will be able to interact with each classroom and each tank through secure blogging.

**Activity Structure**

**Information Exchange**:

* Each classroom will be using the information provided by the different living ecosystem tanks to gather information and data on that ecosystem, which they cannot gather independently since they do not have that living ecosystem.
* Each classroom will provide information and answer questions about their ecosystem to inform the other classrooms within the project.

**Participants**

**Grades Targeted**: 4th Grade

**Number of Classes**: Unknown

* All CCPS Classes will be invited.
* There must be a minimum of 4 classes from at least 2 different schools.

**Special Characteristics:**

* Classes need to have a student developed ecosystem tank.
* Internet access.

**Location**: Carroll County Public Schools

**Recruiting:** (Initial)

* **Posting:** Carroll County Public Schools STEM 4th Grade Email Group (Sample Email)
* **Posting Date:** Beginning of August/ Adaptation Units
**Deadline:** Friday, September 26, 2014

**Standards:**

**NGSS**

* **2-LS4-1** Make observations of plants and animals to compare the diversity of life in different habitats.
* **3-LS4.3** Construct an argument with evident that in a particular habitat some organisms can service well, some survive less well, and some cannot survive at all.
* **3-LS4.4** Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.
* **5-LS2-1** Develop a model to describe the movement of mater among plants, animals, decomposers, and the environment.

**CCSS Speaking and Listening:**

* **CCSS.ELA-Literacy.SL.4.1**(a,b,c) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly. (Classroom Page, Blog)
* **CCSS.ELA-Literacy.SL.4.4** Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. (Evaluation)

**CCSS Writing:**

* **CCSS.ELA-Literacy.W.4.2** (a,d) Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (Classroom Page)
* **CCSS.ELA-Literacy.W.4.4** Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Classroom Page, Blog)
* **CCSS.ELA-Literacy.W.4.6** With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting. (Classroom Page, Blog)
* **CCSS.ELA-Literacy.W.4.8** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (Evaluation)
* **CCSS.ELA-Literacy.W.4.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. (Evaluation)

**ISTE**

* **1. Creativity and innovation** (a,b)Students demonstrate creative thinking, construct

knowledge, and develop innovative products and processes using technology.

* **2. Communication and collaboration** (a,b)Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
* **4. Critical thinking, problem solving, and decision making** (b,c)Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

**Outcomes:**

At the end of the project …

* **Class:** Each class will have a webpage, which met the project criteria, that explains the development and choices that were made with their ecosystem tank that has been updated at least twice throughout the school year.
* **Student:** Each student will have gained knowledge of a variety of ecosystems through examining class pages and interactive blogging with classes. Their knowledge will be assessed by teacher choice of assessment.
* **Teacher:** Each teacher will have developed a live ecosystem tank web page on the project site, following the project criteria, and develop a telecollaborative community within their classroom.

**Resources Needed:**

**Technology:**

* Digital Camera
* Computers
* Internet Access
* Video Camera (Optional)

**Telecommunications**:

* Access to [Maryland Ecosystem](http://marylandecosystems.weebly.com/)
* [Kidblog](http://kidblog.org) Classroom and Student Accounts

**Other**:

* Living Ecosystem Tank

**Time Frame**

The project will be ongoing throughout the school year. Students will need to post 2 updates by the designated dates (listed below) and respond to blog questions weekly.

**Project Span:**

* Start: November 3, 2014
* End: May 4, 2015

**Activities**

**Initial Project Set-up and Classroom Page** (Posted by November 3, 2014):

* Prior to the project students will need to have prior knowledge of Maryland ecosystems and choose one to develop a living ecosystem tank.
* The class will develop a webpage as part of the [Maryland Ecosystem Project](http://www.weebly.com/weebly/userHome.php) website.
	+ The teacher will choose how to develop the classroom page. (Ideas: Whole class, individual with teacher summary of all, divide students into groups and be assigned one of classroom pages)
	+ Page needs to included:
		- Type of Ecosystem
		- Background information on the ecosystem
		- Materials used and why they were chosen
		- Identify all living parts and if there will be any additional care needed to care for them
		- Photos or videos of the ecosystem
		- List of locations that the ecosystem can be found in Maryland

**Mid Project Classroom Page Update** (Posted by March 2, 2015):

* The class will post an update on their living ecosystem onto their page.
	+ The teacher will choose how to write the update to the classroom page. (Ideas: Whole class, individual with teacher summary of all, divide students into groups and be assigned one of classroom pages
	+ Information to be included in the Update:
		- Any changes to the ecosystem, including:
			* Materials Added
			* Materials Taking Out
			* Any living parts that died
			* Maintenance needed on the tank
			* Feature Some Questions and Answers from the blog

**Final Project Classroom Page Update** (Posted by May 4, 2015):

* The class will post a final update on their living ecosystem onto their page.
	+ The teacher will choose how to write the update the classroom page. (Ideas: Whole class, individual with teacher summary of all, divide students into groups and be assigned one of classroom pages
	+ Information needed to be included in the Update:
		- Any changes to the ecosystem, including:
			* Materials Added
			* Materials Taking Out
			* Any living parts that died
			* Maintenance needed on the tank
			* Feature Some Questions and Answers from the blog
			* List any changes that they would make

**Blog** (Throughout the project):

* The teacher would need to setup an account with [Kidblog](http://kidblog.org) and setup student accounts. The teacher will need to setup a blog designed for the Maryland Ecosystem Project and subscribe to the other blogs that are participating.
* The teacher can choose how the blog is maintained and questions are answered. They should review all posts before they become public.
* Blog Posts
	+ A blog post should occur weekly and answer any questions that were left on previous blog post.
	+ The weeks that updates are required, the post can state that the page has been updated and does not need to contain any additional information.
	+ Example Topics (These are just examples and should not limit what students post about).
		- Something was added
		- Something died
		- Change in the tanks water
		- The water quality of the tank
		- Interesting Facts about the ecosystem or tank

**Evaluation Project** (Optional Posted by June 1, 2015):

* By the end of the project, each student will be able to demonstrate an understanding of different Maryland ecosystems and demonstrate proficiency in NGSS.
	+ The teacher can choose how they would like to evaluate this.
	+ The teacher can choose to submit work to the project coordinator for consideration to be displayed on the [Maryland Ecosystem Project](http://marylandecosystems.weebly.com/) website.
	+ Examples of Student Evaluations
		- PowerPoint Presentation
		- Animoto Video
		- Written Report
		- Brochure
		- Microsoft Photo story

**Project Evaluation**

At the completion of the project, a survey will be distributed to all participating classes to reflect on the project.

**How to Register**

Fill out the Google Form. Please make sure to fill out all sections on the form. If you have any other questions, please use the contact form located on the contact page.

Once the registration is complete, you will be contacted about your registration and any required additional information by email with the address that is provided.

A confirmation of approval will be emailed to all classes that are accepted. Within this email you will receive instruction on how to create a weebly and kidblog account and how to connect them to the project.