Mission Hill School 2013- 2014 -- Life Science Theme: Ants
Emma Fialka-Feldman : 1st/2nd Grade Classroom

Desired Results			
Established Goals: ● Recognize that animals (including humans) and plants are living things that grow, reproduce, and need food, air, and water. (MA Life Science/Biology, PreK-2, Characteristics of Living Things 1.) ● Recognize that plants and animals have life cycles, and that life cycles vary for different living things (MA Life Science/Biology, PreK-2, Characteristics of Living Things 3.) ● Identify that ways in which an organism's habitat provides for its basic needs (plants require air, water, nutrients, and light; animals require food, water, air, and shelter) (MA Life Science/ Biology, PreK-2, Living Things and Their Environment 8.)			

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Understandings: Students will understand that… ● Animals and plants have basic needs that are met by their environment. ● Animals and plants change as they move through life cycles. ● Humans impact animals and plants.	Essential Questions: ● How do ants change overtime? ● How are ants and humans connected? ● Do we need ants? (Which animals "count"?) ***Mission Hill Habits of Mind*** <u>Conjecture:</u> How do ants live in different places? (What if things were different?) <u>Connection:</u> What is similar/different from ant life cycle to other animals/ plants? (Have I seen this before? Is there a pattern?) <u>Evidence:</u> How do my observations and investigations help me know more about ants? (How do I know this to be true? <u>Relevance:</u> Why do we care about ants? (Why does this matter?) <u>Viewpoint:</u> How do ants view us? How do other cultures view ants? (How might others see this?)		

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Students will know…(content) ● the life cycle of an ant (egg, larva, pupae, adult) ● 2-4 types of ants (example: fire ants, carpenter ants, pavement ants, sugar ants) ● how basic needs of ants are met ● the roles and jobs of ants in a ant colony (queen, worker, scout, soldier) ● structure of an ant farm, ant hill ● the body structures of ants ● benefits of ants (soil makers, seed sowers, pest police) ● various "pest control" products (organic and inorganic) and their impact on the surrounding environment	Students will be able to… (skills) ● document detailed, specific written and visual observations ● create and implement experiments/ investigations to answer questions about ants ● make informed hypothesis based on growing knowledge about ants ● draw conclusions, using evidence, about ants (their size, their behavior, their habitat, their needs, their purpose) ● collect data and represent findings		
Assessment Evidence			

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Performance Tasks	**Other Evidence**		
● All About Ants book (synthesizing information learned about ants in various texts, class/individual experiments, and field trips) ● Letter/Opinion piece: How should ants be treated? What should we do if there are ants in our school? What should we do if there are ants in our homes? (applying what ants need to survive and interviews of effects of pest control products)	● Observation journal to document findings from field visits and classroom observation sessions (written and visual evidence) ● Art: Anatomy of an ant or ant hill representation ● Art: Ant's habitat ● Math: Investigating with blocks - are you stronger than an ant? ● Math: Investigating - are you faster than an ant? ● Math: Are there more ants or humans? How do you know? ● Math: What do we look like to ants? ● Literacy: Ants – action/ verb vs. describe/ adjective ● Literacy: Non-fiction writing ● Literacy: Using non-fiction text features to find more information about ants ● Literacy: Gather information about ants from both pictures and text ● Developing questions to interview community members about experiences and responses to ants		
Learning Plan			

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Hook **(Week 1-2)** *Which animals count?* ***Why do ants bite?*** *Who is stronger you or ants?* *What do we know about ants?* *What do we want to learn about ants?* -Mold of ant hill (MOS) -Personal experiences with ants -Ant speed (time laps videos) -Ants working together (video & observation) -Number of ants vs. humans -Damage that ants can do	**Investigating** (Week 2-5) *Where and how can we find ants outside and inside?* *How do they exist with humans and without humans?* -Boston Nature Center -School Yard -Local stores in JP -Harvard Museum -Pest Control/Animal Control speaker -Classroom ant area set up (water ant farm, package ant farm, class made ant farm) -Taking care of ant farm -Ants in other habitats	**Documenting** (Weeks 3-Week 8) *What are we learning?* *How do we document are learning?* -Site visits -Careful scientists include particular things in their observations -Ant foraging maps -Ant masks in dramatic play -Ant's habitat -Anatomy of ant -Parts of ant farm replication -Life from point of view of ant	**Culmination** (Week 8-10) *How can we teach others about what we've learned?* *What is important about ants?* -Selecting work to show -Revising, editing

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Resources *Background Information*: http://www.massaudubon.org/Conservation_Science/ants.php *Jobs of Ants change overtime*: http://www.dailymail.co.uk/sciencetech/article-2311688/ANTS-change-job-grow-older-scientists-discover.html -Video: ants working as a community -Video: ants creating "damage" ***Literacy*** -Ant poems http://www.sharonmacdonald.com/teaching-web-archives/ants-poem.aspx http://writing.wikinut.com/A-Poem-about-an-Ant/1w803q78/ http://theteachersbackpack.blogspot.com/2012/04/weve-got-ants-in-our-pants-freebie-and.html http://www.poetry4kids.com/poem-81.html#.UiN-jWQ_9i4 -Ant songs: The Ants Go Marching -Ant leveled texts			

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http://www.readinga-z.com/book.php?id=85 (G) http://www.weeschool.org/wp-content/uploads/2012/11/AntsAntsandMoreAnts.pdf (G) http://www.amazon.com/Marching-Little-Leveled-Readers-Level/dp/0439586720 (C) *Ants* Cheryl Coughlan (E) *How Many Ants?* Larry Dane Brimner (E) The 512 Ants on Sullivan Street Losi (K) *Armies Of Ants* Walter Retan (o) Inside an Ant Colony Horrible Harry and the Ant Invasion -Ants and Other Insects (Scholastic) -Time for Kids: Ants -Ant folktale: The Grasshopper and the Ants, -Hey, Little Ant -National Geographic for Kids: Ants -The Ant Bully -Ant Cities -Two Bad Ants -Ants at the Picnic -Thinking About Ants by Barbara Brenner -The Life and Times of the Ant by Charles Micucci -Are you an Ant by Judy Allen -Those Amazing Ants by Demuth *Math* ***Cooking*** -Ants on a log			