

# OVERNIGHT SCIENCE CAMP



## **Arts Integrated Pilot Lessons**

**2017-18**

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*Created in collaboration*

*With*

*Student Engagement and Arts and Career Education*



# GRADE 6

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## ***Artists who are Scientists-Observation:***

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*Twin Rivers Unified School District*

**THEME:** Observation of the natural world is a skill used by both artists and scientists.

**BIG IDEAS:**

- Artists, scientists, and writers possess and use some of the same skills and knowledge.
- Keen observation of the natural world is an important skill as scientific knowledge is based on empirical evidence.

**ESSENTIAL QUESTIONS:**

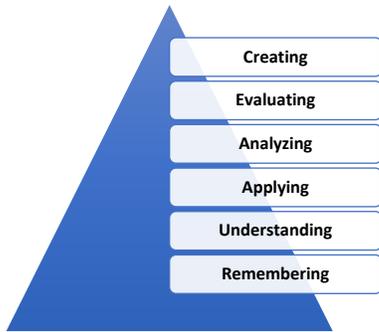
- How does the skill of observation help scientists, writers and artists?
- How is observation to detail important in science, art, and writing?
- How can we use observation to think in metaphor? How does metaphor help us understand the natural world?

**CULTURAL / LINGUISTIC RESPONSIVE STRATEGY:**

Respect: Students will use respectful listening and collaborative skills as they work together in groups to design and problem-solve their creative problem. (Hybrid tool/insect activity-Zoo, Hybrid insect (combine two insects) responding to environmental changes, or Insect super hero (human/insect combo) Adventure story.

Responsibility: Students will be responsible for their contributions to the group process in researching and designing their projects.

**Blooms Taxonomy Chart**



Throughout the lesson, students will be operating on different levels of Bloom’s taxonomy with the emphasis on creating, analyzing, and applying.

**DEPTH OF KNOWLEDGE (DOK)**

The DOK levels are indicated for each lesson in this unit in the student learning goal chart.

**SUMMARY:** This lesson is a compilation of several sessions that are connected by the thread of observation of the natural world. The sessions are designed to build both aesthetic and scientific observational skills. Then students use those skills to explore various problems posed by the teacher that involve critical thinking and creativity as well as scientific knowledge. Finally, the work can serve as pre-writing activities for a variety writing assignments. These lessons could be used prior to Outdoor Science experience or divided with some prior and some afterwards. Teachers could ask students to keep a visual journal of things they see while at science camp as well.

**STANDARDS ADDRESSED:**

Content Areas	Standards
<b>New Generation Science Standards</b>	<i>Connections to Nature of Science</i> Science knowledge is based upon logical and conceptual connections between evidence and explanations
<b>Common Core-English Language Arts</b>	<b>Language Standards</b> Reading Standards for Literature <i>Key Ideas and Details</i> a. Describe how a particular story’s or drama’s plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.

	<p><i>Integration of Knowledge and Ideas</i></p> <p>a. Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of that text, including contrasting what they “see” and “hear” when reading the text to what they perceive when they listen or watch.</p> <p><b>Speaking and Listening Standards</b></p> <p>a. Engage effectively in a range of collaborative discussions.</p>
<b>National Core Arts Standards</b>	<b>Anchor Standards:</b>
<b>Visual Art</b>	<p>1: Generate and conceptualize artistic ideas and work.</p> <p>2. Organize and develop artistic ideas and work.</p> <p>a. Explore and invent art-making techniques and approaches.</p> <p>b. When making works of art, utilize and care for materials, tools, and equipment in a manner that presents a danger to oneself and others.</p> <p>3. Interpret intent and meaning in artistic work.</p>

**LESSON OBJECTIVES:**

<b>Subject Focus</b>	<b>Informational Knowledge</b>	<b>Skills &amp; Processes Knowledge</b>
<b>Next Generation Science Standards</b>	<ul style="list-style-type: none"> <li>Know that hypotheses are based on scientific observation and knowledge. (Levels 1 &amp; 2)</li> </ul>	<p>Demonstrate proficiency in using scientific and artistic vocabulary. (Levels 1 &amp; 2)</p> <p>Create reasoned hypotheses for future scientific research. (Level 4)</p>
<b>Common Core: ELA</b>	<ul style="list-style-type: none"> <li>Understand metaphors or analogies provide us with a way to connect learning across disciplines. (Levels 1 &amp; 2)</li> </ul>	<p>Write poetry and expository text using appropriate descriptive words and metaphors using drawings. (Levels 3 &amp; 4)</p> <p>Write expository paragraphs with topic sentences and supporting details using their drawings. (Levels 2 &amp; 3)</p>
<b>National Core Arts Standards</b>	Cite evidence that Artists and Scientists use similar processes to learn about and to	Demonstrate an increased awareness of the world around them.

<b>Visual Arts</b>	communicate about the natural world. (Level 3) Contour drawing based on careful observation is a record of the natural world. (Levels 1-3)	Demonstrate an increased ability to make observational and imaginary drawings. (Levels 1 &2)
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**PRIOR KNOWLEDGE:**

Students should know how to use and care for art materials.

<p><b>CHECK FOR UNDERSTANDING STRATEGY</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> K-W-L</li> <li><input type="checkbox"/> White Boards – Brainstorm Ideas</li> <li><input type="checkbox"/> Choral Response</li> </ul>
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**PRE-ASSESSMENT:**

Students can be asked to do an observational drawing of their hand or their shoe. Ask them to draw non-stop for 5 minutes. If possible have them use a sharpie instead of a pencil to eliminate erasures. Keep those drawings to compare after the unit.

**LESSON MATERIALS:**

- Paper-Can use white construction paper
- Sharpies
- Crayons, colored pencils or markers for final assignments
- Storyboard worksheet
- Poetry worksheet
- Venn Diagram worksheet
- Private Eye- Jewelers Loupes—if possible
- Magnifying glasses—if possible
- Natural objects (lesson uses Sweet Gum Tree seedpods—like spiky balls. They are plentiful in Sacramento)

**LESSON VOCABULARY:**

**Contour drawing:** Contour drawing is an artist’s style of drawing that uses line and draws the outlines and edges of an object or person.

**Contour:** Contour come from the French “Contour” which means outline.

**Line:** Line is one of the elements of art. Line is point moving in space. Lines can be drawn or implied.

**Observation:** In art, observation drawing is drawing from life. It involves carefully looking at the details of that object. In science, observation is receiving data about the outside world from our senses and recording that data.

**Texture:** Texture is the perceived or real surface quality of an object in a work of art.

**Magnify:** Magnify is making something appear larger than it is through a lens or a scope.

**Hypothesis:** Hypothesis is the proposed explanation for something, that becomes the starting point of a scientific investigation.

**Inference:** An inference is a conclusion that is reached based on evidence and reasoning. Someone comes in the house soaking wet and carrying an umbrella, one could infer that it is raining outside. On the other hand, seeing the person is wet and seeing the umbrella are observations.

**Compare:** Compare is the process of finding similarities and differences between two or more things.

**Simile:** Simile is compares something to something else using the words “as” or “like”. The horse is like a zebra without stripes.

**Analogy:** Analogy compares two things or concepts. Both similes and metaphors are kinds of analogies.

**Metaphor:** Metaphor says the object is something else, and doesn’t use the words “as” or “like”. Her cheeks are roses is a metaphor. Her cheeks are pink like roses is a simile.

#### **LESSON SEQUENCE:**

For the lessons, refer to the PowerPoint. It has images that support the lessons.

**Session 1:**  
**Artist and/or Scientists?**

This could be a single lesson or could be part of a series of lessons about scientists or scientific observation.

**Session Summary:** Students will explore the similarities between the processes used by both scientists and artists.

**Session Objectives:** Students will learn how artists, scientists and writers possess and use some of the same skills and knowledge.

**Outcomes of Learning:**

**Assessment:** Informal observation of children at work.

**Session Sequence:**

1. Provide students with the following vocabulary and phrases. Brainstorm additional actions or behaviors students perceive as being scientific or artistic.

**Suggested Activity Vocabulary—Try to get the students to list these and more by using prompting questions:** Observation (observe), investigation, record, predict, create, discover, invent, imagine, learn, study, think, communicate, model, visualize, use technology, inspire, wonder, explain, speculate, know about human body and its structure, know about chemicals from the earth, know how heat affects materials, know how the eye perceives space, knows the periodic chart, hypothesize, (you can brainstorm more words) (Choose words based on age level)

2. Then using a Venn diagram (provided in resource section) classify the vocabulary or phrases as something an artist or a scientist does.

3. Discussion points: What things are in common? Why?

**Session 2: Sequence**

*Summary of the Session:*

The students will use a jeweler’s loupe or their eyes to carefully observe the same natural and manmade object. An example of this is the seed pod of sweet gum tree, every student can have one to examine. **\*\*Teacher TIP\*\***Then while the class is looking at the **same** natural object, the teacher can write on the white board the things that students list (metaphors or analogies) of what the thing looks like. ***Since all students are looking at the same object, they can easily***

**build on each other's thinking.** In the discussion ask why the student suggested that particular metaphor and you could make a connection in terms of the structure's purpose or use. After your list is made, the class goes through the list and finds adjectives or metaphors, similes, etc. that have a common attribute such as sharp pointed beaks or spikes. The students then group these. For example, you could group all the following attributes: "it looks like a blowfish, sea urchin, porcupine, and a mace". Ask the students—what are these spikes for and the students will say how the spikes are used for defense. The discussion moves to the question; could these spikes provide protection for the seedpod? There are other commonly used descriptors that can lead to other hypotheses. The students could then make a hypothesis that the sharp pokey spikes of the seed pod are for its defense as well. Using those metaphors /analogies students can then create poetry using descriptive words or phrases. This activity can be done with objects collected on walking field trips.

**Session Objectives:**

Students will:

- Develop the artistic perception to observe and record details they see in the natural world.
- Develop skills both in drawing and close observation to create realistic drawings using contour drawing and sketching.
- Understand that drawings are more interesting when the artist creates interest through variety of lines and repetition of patterns.

**Topical Questions:** What is a contour? How do you do contour drawing? How does this kind of drawing help you learn to see? How can you use only line and still communicate what an object looks like? When I look carefully at an object can I see new details I never noticed before? How is contour drawing different from sketching, gesture drawing, or mechanical drawing?

Using the jeweler's loupe or just by looking children should be able to create various contour drawings that show careful observation of the object or animal.

**Assessment:** (specific relationship to the items above)

Drawings should show attention to detail. The drawing should show both edges and internal contours. There should be only lines-*no shading*. See Resource section for drawing check list.

**Materials:**

- Private Eye- Jewelers Loupes—these are optional but worth the investment.
- “Sharpies” or permanent markers—fine tips,
- White paper.
- Optional: pencils, watercolor or markers to make enlarged drawing using a grid.
- Objects to draw and observe. It is very helpful if you have a sufficient number of the same object for the first experience. This way, children can see and understand a variety of ways of thinking about the same object.

**Learning Sequence:****Session Activities:**

1. Show pictures of contour drawings using the provided PowerPoint.
2. Demonstrate the process of contour drawings. Emphasize the focus is on the object not the paper. Show how to use the jeweler’s loupe properly (big end touching the face and to focus object bring it close to the eye). Then provide all the students with the same object (seed pod). Students will then draw the object using a sharpie. (The sharpie is used to stop erasing and provide high contrast)
3. After the drawings are completed, ask the students to list what this object reminded them of? Why? List all these ideas on the board.
4. Use the list on the board for the science and language arts lessons.
5. Have the students then draw additional items provided. On a graphic organizer provided have the students list what things it makes them think of. Encourage at least 10 metaphors/analogies. This could be done in small groups –as long as each child has the same object (e.g. sea shell, seed pod, insect)

**Extension:**

To connect this activity to mathematics, the students can grid one of the small drawings and enlarge it. The students will engage in learning about proportion and scale.

The final drawing can then be painted. A connection can be made with Georgia O'Keefe and other modern artists who have used scale as an aspect of their work.

### **Session 3:**

#### ***Language Arts Writing Activities: A: Expository or B: Poetry***

**Expository Writing:** Students will create expository text demonstrating an understanding of topic sentences and supporting details.

**Assessment:** Using grade level standards, establish rubrics for various levels of proficiency. Students can create a student friendly rubric.

**Poetry:** Students will write a poem using metaphors/analogies generated during the drawing.

**Assessment:** Using grade level standards, establish rubrics for various levels of proficiency.

**Materials:** Paper, Pencil, Original artwork of Contour Drawing

#### **Learning Sequence:**

1. Read selections of poems.
2. Introduce free verse, Haiku, or I am poem

#### ***Poetry Samples:***

##### **Haiku**

Haiku is a three-line poem with a 5/7/5 pattern of syllables usually about nature.

Spiky brown seedpod  
A sea urchin in the grass  
Bare feet fear you, too

##### **I am Poem**

The "I am" poem is a riddle. The poem begins with a series of statements written as similes, analogies, or metaphors. The poem ends with a "what am I"? I am the ... Students love to share these and see if other students can answer the riddle.

##### **Example:**

I am a puffer fish floating among the leaves.  
I am a sea urchin in a grassy sea.  
Like a hedgehog, I can poke you or just roll away.

What am I?

I am a seedpod from a Sweet Gum Tree.

**Extensions or Alternatives:** You can take the same words and write them around the outside of the contour drawing, similar to a shape concrete poem.

#### **Session 4:**

### **Wild and Wacky Insect or Animal Zoo**

**Theme:** Artists and writers create fictional worlds with characters that they invent. Scientist can image worlds that have existed or will exist but are not currently seen.

#### **Topical Questions:**

How do artists and writers use the natural world to create fictional worlds? Do scientists invent new worlds yet to come? How do scientists provide images of worlds no longer visible?

**Lesson Narrative:** Students will invent and draw a new bug or animal by transforming a common household object into the new animal. The creature's characteristics should be based on adaptation to its habitat or behavior. Students will be able to use their academic and scientific vocabulary to describe their invented creature.

**Lesson Objectives:** Students will be able to synthesize what they have learned about the characteristics of insects (animals) and adaptations to habitat and environment.

#### **Session Outcomes:**

**What do we want children to know?** Artists and writers use observation from the natural world and scientific fact as a basis for fictional stories. **Sometimes artists create things out of other things. Sometimes scientists create new ideas out of old ideas.**

**What do we want children to do?** Create artwork and a story using the skills and knowledge from previous lessons. Students will take the details that they observed in their observational drawings to enhance drawings and writing for this cycle.

## **Session Outcomes:**

**What do we want children to know?** Artists can transform objects into new things never seen before. Transformation involves observation of the original object.

Specific vocabulary for the content area and the academic vocabulary related to science such as: compare, characteristic, habitat, etc.

**What do we want children to do?** Using their scientific knowledge (insect characteristics, adaptation) transform a household object into a new species.

Students should create an animal that has a basis in scientific fact, but is totally imaginary.

Students should be able to use correct scientific vocabulary to describe the animal and its adaptations to its habitat.

**Assessment:** Using grade level standards, establish rubrics for various levels of proficiency.

### **Session sequence:**

1. Use art from various stories to show how artists create worlds that don't exist but are rooted in reality.
2. Place on the tables a number of common and uncommon objects. (Scissors, garlic press, whisk, tools, stapler, etc. It is really fun to bring in strange tools from the garage, kitchen utensils, etc.)
3. Students select an object. (two or more can draw the same thing—but warn them the outcomes can NOT be the same)
4. First, they sketch the object selected. This drawing will help them see the parts of the object.
5. Then draw the object again as if it has become or transformed into an insect or animal. Integrate some of the actual functions of the object into the insect's adaptation if desired. Color with colored pencil or marker. The animal can be drawn in its habitat or done as a scientific illustration. (see this in the PowerPoint)

## **Writing**

**Session Narrative:** Students create a zoo or guidebook section on the “newly” found bug or animal. Students should describe the invented bug as if it really existed. They can describe its

characteristics and adaptations to its habitat. They can name their bug. If time, they can write a story about their bug. The graphic organizer for the guidebook is included in appendix.

**Topical Questions:** How do authors create new worlds? What is fantasy?

**Session Outcomes:**

**What do we want children to know?** Art can be a way to invent new things to write about.

**What do we want children to do?** Students will write a description of their new insect using scientific and academic vocabulary.

**Assessment:** Using grade level standards, establish rubrics for various levels of proficiency.

**Session Sequence:**

1. **Before** the students start writing, have them orally discuss their artwork and ideas with their table mates or pair share. This oral rehearsal allows them to use the vocabulary as well as think out their ideas. If you can, you can have one or two students, orally share about their artwork to the whole class. You can have students make suggestions or give ideas that the student might use in their writing.
2. Using the artwork developed in previous section, students will write descriptions. Teacher can use “Step-up to Writing”, Six Traits or any writing curriculum. Teachers should include mini lessons on specific grammar or writing skills that are a particular need for the class or small groups.
3. Teacher and student can conference for editing.
4. Work should be published or shared. This sense of audience will provide an authentic reason for the writing.

**BONUS: Special Added Lesson**

**Design Your Own Super Hero—That might Bug YOU!!**

Artists observe details in nature to create artwork and design creatures for movies and fiction. Students will observe the external and internal structures of human beings and insects.

Students will then do observational drawings of the structures. The task will be to create a space alien that is part insect and part humanoid.

**Standards Addressed:**

Content Areas	Standards
<p><b>Next Generation Science Standards</b></p>	<p><b>Obtaining, Evaluating, and Communicating Information</b>            Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas. (K-ESS3-3)</p> <p><b>ETS1.B: Developing Possible Solutions</b>            Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solutions to other people</p> <p><b>Structure and Function</b>            The shape and stability of structures of natural and designed objects are related to their function(s). (2-LS2-2)</p>
<p><b>Common Core-English Language Arts</b></p>	<p><b>Language Standards</b></p> <p>Reading-Non-fiction for comprehension            Understanding the difference between observation and inference            Reading Science fiction and able to understand that the genre uses science and fantasy</p> <p>Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.</p> <p>Writing            Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally.</p> <p><b>Speaking and Listening Standards</b>            a. Engage effectively in a range of collaborative discussions.</p>
<p><b>VAPA</b></p>	<p><b>NCAS Anchor Standards:</b></p>
<p><b>Visual Art</b></p>	<p>Anchor Standard #1: Generate and conceptualize</p>

	<p>artistic ideas and work.</p> <p>Anchor Standard #2: Organize and develop artistic ideas and work.</p> <p>Anchor Standard #3: Refine and complete artistic work.</p> <p>b. When making works of art, utilize and care for materials, tools, and equipment in a manner that presents a danger to oneself and others.</p> <p>3. Interpret intent and meaning in artistic work.</p>
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**LESSON OBJECTIVES with Depth of Knowledge Levels:**

<b>Subject Focus</b>	<b>Informational Knowledge</b>	<b>Skills &amp; Processes Knowledge</b>
<b>Next Generation Science Standards</b>	<ul style="list-style-type: none"> <li>Know that hypotheses are based on scientific observation and knowledge. (Levels 1 &amp; 2)</li> </ul>	<p>Demonstrate proficiency in using scientific and artistic vocabulary. (Levels 1 &amp; 2)</p> <p>Create reasoned hypotheses for future scientific research. (Level 4)</p>
<b>CC ELA</b>	<ul style="list-style-type: none"> <li>Understand metaphors or analogies provide us with a way to connect learning across disciplines. (Levels 1 &amp; 2)</li> </ul>	<p>Write poetry and expository text using appropriate descriptive words and metaphors using drawings. (Levels 3 &amp; 4)</p> <p>Write expository paragraphs with topic sentences and supporting details using their drawings. (Levels 2 &amp; 3)</p>
<b>National Core Arts Standards</b>	<p>Cite evidence that Artists and Scientists use similar processes to learn about and to communicate about the natural world. (Level 3)</p> <p>Contour drawing based on careful observation is a record of the natural world. (Levels 1-3)</p>	<p>Demonstrate an increased awareness of the world around them.</p> <p>Demonstrate an increased ability to make observational and imaginary drawings. (Levels 1 &amp; 2)</p>

**PRIOR KNOWLEDGE:**

Students should know how to use and care for art materials.

**CHECK FOR UNDERSTANDING STRATEGY**

- K-W-L
- White Boards – Brainstorm Ideas
- Choral Response

**PRE-ASSESSMENT:**

Students can be asked to do an observational drawing of their hand or their shoe. Ask them to draw non-stop for 5 minutes. If possible have them use a sharpie instead of a pencil to eliminate erasures. Keep those drawings to compare after the unit.

**LESSON MATERIALS:**

Paper-Can use white construction paper

Sharpies

Crayons, colored pencils or markers for final assignments

Storyboard worksheet

Private Eye- Jewelers Loupes—if possible

Magnifying glasses—if possible

Actual insects if available (mounted in plastic or pinned) or photographs

Worksheet with human skeleton

**LESSON VOCABULARY:**

Use vocabulary that is currently focused in classroom reading or science.

Vocabulary from previous lessons.

**Skeleton:** Skeleton is a firm structure or framework of a living thing that in vertebrates. It is usually made out bone and cartilage.

**Exoskeleton:** An exoskeleton is a hard covering that supports and protects the bodies of some types of animals. The word **exoskeleton means** “outside skeleton.” Many invertebrates, or animals without backbones, have **exoskeletons**.

**Mutant:** A mutant is a change in form or qualities of something.

**Dynamic:** In art, something is said to be dynamic because it shows force or movement. Diagonal lines are dynamic.

**Structure:** Structure is the arrangement of the parts in a larger body or object.

**Lesson Sequence and Extensions**

Artists observe details in nature to create artwork.

**1. Pre-teaching:**

To help children “see” better provide an opportunity to look at the human form and compare with insects. Have a child stand in front of the class—help kids see the structure and

proportions of the human body. Compare that with an insect. (Please use the PowerPoint for this unit. Look at images from Pixar's Bug's Life and discuss how it is human yet insect. Students practice using evidence to draw an inference or make a claim.) Demonstrate the basic proportion of human body. Measure with a ruler the head and show relationship to torso, arms, and legs. Talk about how the arms are attached to the shoulder—NOT the torso.

### **Scientific Observation---INSECT**

If you have insect mounts you can use those. If not and you can handle it—let the kids use real bugs. Final option—photographs of insects on internet or in books or scientific drawings of insects.

1. Have students do observational drawings of several insects—both top and bottom.
1. Discuss what an exoskeleton is? How is our skeleton different?
2. Students observe the external and internal structures of human beings and insects. Do observational drawings of the structures of humans and insects.
3. Then create a space alien or super hero that is part insect and part humanoid. Have students think about how they can combine an insect body part with the human form. What super power would give their character? Older children can do sketches and then create a larger character study. Smaller students can do just one drawing.
4. Once their creature/hero is designed and drawn. They can fill out the character sheet. Using their drawing to suggest ideas. Students can share their ideas-either to the whole class or table groupings. This oral rehearsal is critical in the writing process and will increase the student success and engagement.
5. Then in groups of 3-4 have students storyboard and write a short story about their characters.
6. Use the graphic organizers. Have students share their storyboard idea to the class to get other ideas or suggestions. Remind them that the real moviemakers like at Disney/Pixar do storyboard shares as a way to refine and expand a story idea.
7. Students write their stories. You can publish as a book with their drawings or post on a bulletin board. Or students can record their stories and you can publish online on class website or other tech sources with parents.

## **Resources:**

*Bug's Life* by Pixar

Maria Sibylla Merian

<https://www.theatlantic.com/science/archive/2016/01/the-woman-who-made-science-beautiful/424620/>

<http://www.botanicalartandartists.com/about-maria-sibylla-merian.html>

Insects

<http://kids.nationalgeographic.com/animals/hubs/insects/>

<http://extension.illinois.edu/insects/01.html>

<http://kids.sandiegozoo.org/animals/insects>

Human skeleton

<http://www.ducksters.com/science/bones.php>

<http://www.dkfindout.com/us/human-body/skeleton-and-bones/>

[http://www.kidsbiology.com/human\\_biology/skeletal-system.php](http://www.kidsbiology.com/human_biology/skeletal-system.php)

## **ASSESSMENT:**

### **ASSESSMENT STRATEGY**

Teacher observation, Student self-assessments

### **ASSESSMENT TOOLS**

See appendix

### **RESOURCES: (websites, videos, books, etc.)**

**Resources:** Poetry samples from poetry books. If possible find a diamante or concrete shape poem to share. Check out: Outside the Lines: Poetry at Play, by Brad Burg, 2002. ISBN: 0-399-23446-2 and Doodle Dandies: Poems That Take Shape by J. Patrick Lewis, 2002. ISBN: 0689848897)

Private Eye, Jewelers Loupes and materials. [www.the-private-eye.com/](http://www.the-private-eye.com/)

## **Art**

*Emphasis Art*, by Frank Wachowiak

*Talking about Student Art* by Terry Barrett

*The Colors of Learning Integrating Visual Arts into Early Childhood Curriculum* by Rosemary Althouse

*Drawing on the Right Side of the Brain*, Betty Edwards

## **Writing and poetry**

R is for Rhyme

A Child's Introduction to Poetry by Michael Driscoll

*The Vocabulary Book* by Michael Graves

*Bringing Words to Life*, Isabel Beck

### **Insects**

*Butterfly and The Bog Beast* by Joanna Cole & Bruce Degen (Magic Schoolbus Book)

*Insect Invaders* by Anne Capeci (Magic Schoolbus Chapter Book)

*Butterfly Battle* by Nancy White (Magic Schoolbus Chapter Book)

*Charlie the Caterpillar* by Dom DeLuise

*About Insect, A Guide for Children* by Cathryn Sill

*Ladybugs and other Insects* by Gallimard Jeunesse & Sylvaine Peyrols (Scholastic First Discovery Book)

*The Little Buggers: Insect and Spider Poems* by J. Patrick Lewis

*Insectlopedia* by Douglas Florian

*Hurry and the Monarch* by Antoine O Flatharta

*La Mariposa* by Francisco Jimenez

*Buzz Bumble to the Rescue* by Lynn E. Hazen

*The Journey, Stories of Migration* by Cynthia Rylant

*All About Bugs and Spiders* by Dee Phillips

*A Place for Butterflies* by Melissa Stewart

*Beautiful Butterfly Book* by Sue Unstead

*Butterfly House* by Eve Bunting

*Are You a Butterfly* by Judy Allen & Tudor Humphries

plus other Backyard Books (Are you an Ant? Bee? Dragonfly? Grasshopper? Ladybug? Snail, Spider?)

*Painted Lady Butterflies* by Donna Schaffer

plus other *Capstone Life Cycle Series: Mealworms, Milkweed Bugs, Millipedes, Pillbugs, Silkworms*

*Monarch Butterfly of Aster Way* by Elizabeth Ring

*Ladybug at Orchard Avenue* by Kathleen Zoehfeld

*Butterfly and Moth Eyewitness Book* by Paul Whalley

*Clara Caterpillar* by Pamela Edwards

*Insect e-guides* by David Burnie

*Counting in the Garden* by Kim Parker

*Old Black Fly* by Jim Aylesworth

*Behold the Bold Umbrellaphant & Other Poems* by Jack Prelutsky

*Diary of a Spider* by Doreen Cronin

*Diary of a Worm* by Doreen Cronin

*Creepy Crawly Calypso* by Tony Langham

*What Color is Camouflage?* By Carolyn Otto

Appendix: Worksheets, graphic organizers, etc.

Storyboard for Super Hero/Villain Story

Do small quick idea sketches for your story-before writing the story.

<b>Setting</b>	<b>Characters</b>	<b>Problem</b>
<b>Climax</b>	<b>Resolution</b>	<b>Cover Page/with title</b>

Name: \_\_\_\_\_

## Character Worksheet

1. What is the name of your character?
2. Where does the character live?
3. What is special or different about your character?
4. Is your character a good guy/gal or a villain? Explain
5. Who or what is their arch enemy? Why are they arch enemies?

Name:

**Student Check List For  
Observation Drawing and Poem**

Project	Check if there or complete
I drew a carefully observed drawing of the object. My contour lines show the exterior and interior contours to show details.	
My poem uses figurative language to describe the object.	
My poem used word or phrases that describe the object in my drawing.	

What did you observe about the object you drew?

Did doing a careful observational drawing help you observe details that you missed?  
Give an example of something you didn't notice before you did the drawing.

Name:

**Student Check List For  
Super Hero/Villain Project**

Project	Check if there or complete
My character shows insect and human components. My drawing complete shows details of my character.	
I filled in my character worksheet completely.	
My group completed the storyboard for our story. We have all parts in our story.	
Our story is complete. We used descriptive language. We used active verbs to make our story exciting.	

The best part of my character is:

Why do you think your story is exciting? Give examples from your story.

**Name:**

## **Wild and Wacky Insect Zoo Guidebook**

**Name of Species:**

**When was it discovered?**

**Where was it discovered?**

**About the animal:** (Describe its appearance and its adaptation)

### **Habitat and Diet**

Where in the world does it live? Shade in the areas where it lives.



What does it eat? Is it a predator or is it prey?

**Family life:** What is its life cycle? Does it lay eggs? Is there metamorphosis? Complete or Incomplete?

**Conservation:** Is the animal endangered? What conservation efforts are underway?

Name:

**Artist or Scientist?**  
**Skills, knowledge, ways of doing things**

