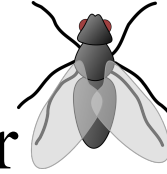


Diary of a Spider



(Design an Arthropod Toy)

Background: We just read one of our favorite books Diary of a Spider by Doreen Cronin. In this hilarious book, we read about Spider and his friend Fly and all of the ways that they are alike and different. We have also studied invertebrates and Arthropods and done scientific drawings of insects/spiders by making careful observations of them. At the beginning of the year we learned how to design cards with movable parts and we have learned about levers. Today we are going to invent and design a new insect or spider that could be a toy that includes levers that help the invertebrate move.

Challenge: Your challenge is to invent a new Arthropod that has the characteristics of a spider OR an insect and design a toy that has movable parts and a lever. The legs must show joints and the body must have other traits of an arthropod, i.e. exoskeleton, segmented body, and paired jointed appendages. Your toy arthropod should have a catchy name and you must include a tag to attach to your toy to present at our Arthropod convention held for the Kindergarten class.

Criteria:

- must contain a/or lever(s) to promote movement of legs.
- must include characteristics of an arthropod (exoskeleton, segmented body, and paired jointed appendages.)
- Must be made only with provided materials
- Must be neat, sturdy and colorful
- Must have a catchy name on a tag
- Must be enticing so someone would want to play with it.
- Must fit in a shoebox

Materials:

- Popsicle sticks
- Paper fasteners
- Construction and scrap paper
- Plastic scraps
- Aluminum foil
- Wiggly eyes, pom poms
- Pipe cleaners
- Paint
- String

Tools:

- Scissors
- Crayons/markers
- Crop-o-dile
- Glue/glue gun
- Hole punch
- Paint brushes

Standards:

SOL LA 2.3 & 3.2 ... oral communication skills
SOL 1.5.....animals have needs and characteristics
SOL Science 3.4.....animal adaptations
SOL Science 3.10...human influences on species
STL 11... The design process
STL 17... Communication technology

Portfolio for "Diary of a Spider"

Name: _____ Date: _____

1. What is the problem? (in your own words)

2. Brainstorm Solutions:

Sketch 2 possible solutions below.

3. Create the solution you think is best.

4. Test your Solution.

	Y	N
<ul style="list-style-type: none">• must contain a/or lever(s) to promote movement of legs.		
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<ul style="list-style-type: none">• Must be made only with provided materials		
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<ul style="list-style-type: none">• Must fit in a shoebox		

5. Keep notes of your progress

What problems did you encounter? How did you solve them?

Problem	Solution

6. Evaluate your solution.

Was it the best solution?	Yes	No
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Would your other idea work better?	Yes	No
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Why?

What is one thing you could do to improve your toy?

7. Draw a sketch of your final product.

Rubric for Arthropod Toy



Criteria assessed	Beginner	In training	You got it!!
Portfolio			
Restate problem in my own words			
Brainstorm two ideas / sketches			
Record final design with picture and notes			
Team Work			
Share my ideas with K class			
Answers questions from class			
Listen to feedback			
Final product			
Must contain a lever			
Must include characteristics of an arthropod			
Must only be made with providing materials			
Must be nice sturdy and colorful			
Must have a catchy name on a tag			
Must be enticing			
Must fit in a shoebox			
Oral Presentation			
Used language to persuade and inform			
Shared something that was challenging and how it was modified..			

SOL details:	
2.3	The student will use oral communication skills. a) Use oral language for different purposes: to inform, to persuade, to entertain, to clarify, and to respond. b) Share stories or information orally with an audience.
3.2	The student will present brief oral reports using visual media. a) Speak clearly. b) Use appropriate volume and pitch. c) Speak at an understandable rate. d) Organize ideas sequentially or around major points of information. e) Use contextually appropriate language and specific vocabulary to communicate ideas.
1.5	The student will investigate and understand that animals, including humans, have basic needs and certain distinguishing characteristics. Key concepts include
	a) basic needs include adequate air, food, water, shelter, and space (habitat);
	b) animals, including humans, have many different physical characteristics; and
	c) animals can be classified according to a variety of characteristics.
3.4	The student will investigate and understand that adaptations allow animals to satisfy life needs and respond to the environment. Key concepts include
	a) behavioral adaptations; and
	b) physical adaptations.
3.10	The student will investigate and understand that natural events and human influences can affect the survival of species. Key concepts include
	a) the interdependency of plants and animals;
	b) the effects of human activity on the quality of air, water, and habitat;
	c) the effects of fire, flood, disease, and erosion on organisms; and
	d) conservation and resource renewal

