

## Expedition Planning Template: Learning Outcomes

Expedition Title: Spiders: Helpful or Harmful?

Learning Outcomes:	
Conceptual Knowledge	Expert Thinking
All living things depend on each other.  Form follows function.	Arachnologists: <ul style="list-style-type: none"><li>● make observations</li><li>● ask questions</li><li>● answer questions based on observations, research, and evidence</li><li>● clearly communicate through writing and illustrations</li></ul>

Guiding Questions:
<p><b>Investigation 1:</b> What makes a spider a spider? (compare and contrast insects with spiders, form follows function)</p> <ul style="list-style-type: none"><li>● spiders are arachnids<ul style="list-style-type: none"><li>○ spiders vs. insects</li></ul></li><li>● body of spider (legs, eyes,</li><li>● spiderlings</li><li>● making webs (types of webs, how to they make a web, where they make a web)</li><li>● types of spiders found in DC (pick a couple types and describe)</li></ul> <p><b>Investigation 2:</b> How are spiders helpful? How are spiders harmful? (interdependence of living things)</p>

### Pros and Cons of spiders (helpful or harmful)

- spiders eat other insects that bother us: mosquitos, moths, flies, roaches
  - how they catch their prey with webs or hunt
    - making prey into liquid
- make spider webs in our house
  - what can you do? (catch and release vs. kill)
- spiders are venomous, but...
  - only two types in North America can actually hurt you
    - Brown Recluse
    - Black Widow
  - What do you do when bit by a spider?
- To kill or not to kill?
  - Use information to make a good decision about killing or not killing a spider

### **Investigation 3:**

How can we teach people the truth about spiders?

Telling others about spiders

- making our e-book
  - drawing scientific drawings
  - writing on specific topic about spiders

## Expedition Planning Template: Problem and Product

### Problem Statement:

- *What is the problem at the heart of the expedition?*

Many people are afraid of spiders and decide to kill them? Is that okay? Why or why not?

### Expert Role:

- *What expert role do students need to adopt in order to solve the problem?*

arachnologists

### Product:

- *Describe the product.*
- *How does the product serve as a solution to the problem at the heart of the expedition?*

informational e-book

- Student work:
  - scientific drawing of spider (done in art with Leah)
  - written non-fiction piece- All about a specific spider
  - Written opinion stating if you should kill or not kill their specific spider and why or why not

Each student has a different spider from DC area. Write an informative piece all about the spider. Also write opinion piece stating if you recommend them to kill it or not (this piece pops up when picture clicked on).

Students do research for specific DC spider at home for homework with resources sent home.

- send home homework four weeks in advance- one topic for each week, ex. what type of prey does your spider eat?

### **Launch**

- someone delivers tarantula to our room
- kids move to opposite sides of the room depending on how they are feeling (afraid, excited, curious, etc.)
- a few kids share why they are feeling that way
- go back to their seat to write about how they are feeling and why using FCSS

### **Showcase**

- Families look at book on computers or ipads
- slideshow of problem, solution- each kid has talking part, song about spiders from music class
- use bulletin board to display drawings and rough drafts

## Expedition Planning Template: Investigations and Case Studies

<b>Investigation/Case Study Title:</b> What makes a spider a spider?		
<b>Description:</b> compare and contrast insects with spiders, form follows function		
Standards	Long Term Learning Targets	Assessments/ Tasks
<p><b>LS1.A: Structure and Function</b></p> <ul style="list-style-type: none"> <li>• All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1)</li> </ul> <p>(from Next Generation Science Standards)</p>	<ul style="list-style-type: none"> <li>• I can describe what makes a spider a spider.</li> <li>• I can compare a spider and an insect.</li> <li>• I can illustrate a spider's life cycle.</li> <li>• I can compare the different ways spiders catch their prey.</li> </ul>	<p>Students take notes during research on topics below:</p> <ul style="list-style-type: none"> <li>• spiders are arachnids               <ul style="list-style-type: none"> <li>○ spiders vs. insects</li> </ul> </li> <li>• body of spider (legs, eyes, body parts)</li> <li>• spiderlings - life cycle</li> <li>• making webs (types of webs, how to they make a web, where they make a web)</li> <li>• food- prey, hunting styles</li> </ul>

<b>Investigation/Case Study Title:</b> How are spiders helpful? How are spiders harmful?		
<b>Description:</b> interdependence of living things		
Standards	Long Term Learning Targets	Assessments/ Tasks
<p>CCSS.ELA-LITERACY.RI.1.1</p> <p>Ask and answer questions about key details in a text.</p>	<p>Students read grade level text to answers questions about spiders.</p>	<p>Students use FCSS thinking routine to write essay on "Are spiders helpful or harmful animals?" (make rubric)</p>

<p>CCSS.ELA-LITERACY.RI.1.2 Identify the main topic and retell key details of a text.</p> <p>CCSS.ELA-LITERACY.RI.1.3 Describe the connection between two individuals, events, ideas, or pieces of information in a text.</p>	<p>I can describe the pros and cons of spiders and give evidence.</p> <p>Pros and Cons of spiders</p> <ul style="list-style-type: none"> <li>● spiders eat other insects that bother us: mosquitos, moths, flies, roaches <ul style="list-style-type: none"> <li>○ how they catch their prey with webs or hunt <ul style="list-style-type: none"> <li>■ making prey into liquid</li> </ul> </li> </ul> </li> <li>● make spider webs in our house <ul style="list-style-type: none"> <li>○ what can you do? (catch and release vs. kill)</li> </ul> </li> <li>● spiders are venomous, but... <ul style="list-style-type: none"> <li>○ only two types in North America can actually hurt you <ul style="list-style-type: none"> <li>■ Brown Recluse</li> <li>■ Black Widow</li> </ul> </li> </ul> <p>What do you do when bit by a spider?</p> </li> <li>● To kill or not to kill? Why or why not?</li> </ul>	
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<p><b>Investigation/Case Study Title:</b> How can we teach people the truth about spiders?</p>		
<p><b>Description:</b> creating the e-book</p>		
Standards	Long Term Learning Targets	Assessments/ Tasks
	<p>I can write an informational text to teach others about my spider.</p>	<ul style="list-style-type: none"> <li>● send home homework four weeks in advance- one topic for each week, ex. what type of prey does your spider eat?</li> </ul>

<p>CCSS.ELA-LITERACY.W.1.2</p> <p>Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.</p> <p>CCSS.ELA-LITERACY.W.1.1</p> <p>Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.</p>	<p>I can write an opinion piece to convince others to kill or not kill my spider.</p> <p>Telling others about spiders</p> <ul style="list-style-type: none"> <li>● making our e-book <ul style="list-style-type: none"> <li>○ drawing scientific drawings</li> <li>○ writing on specific topic about spiders <ul style="list-style-type: none"> <li>■ Write “All About” piece on spider</li> <li>■ Write opinion piece on spider</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Final product- use FCSS routine, rubric on informational writing about spiders and opinion piece on spiders</li> </ul>
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### Expedition Planning Template: Resources

<b>Anchor Texts:</b>
<p><u>Spiders</u> by Gail Gibbons  <u>Spinning Spiders</u> by Melvin Berger  <u>Spiders</u> by Claire Llewellyn  <u>Spiders</u>, Time for Kids  <u>Spider’s Lunch</u> by Joanna Cole</p>
<b>Field Work:</b>
<p>Natural History Museum</p>

Zoo  
 Look for spiders in natural habitat (woods, field, etc)

**Additional Resources:**

The Spider and the Fly by Tony DiTerlizzi (lesson plan in The Read-Aloud Project site)  
 Charlotte's Web by E.B. White (lesson plan in The Read-Aloud Project)

**Expedition Calendar**

			Feb. 19th	Feb. 20th
			Launch (see above details) <ul style="list-style-type: none"> <li>write about how they feel about spiders using FCSS thinking routine</li> </ul>	<ul style="list-style-type: none"> <li>survey other people about feelings on spiders</li> <li>KWI on what we know about the problem</li> </ul>
Feb. 23rd	Feb. 24th	Feb. 25th	Feb. 26th	Feb. 27th
Start investigation #1: What makes a spider a spider? <ul style="list-style-type: none"> <li>use R.A.N. strategy by Tony Stead (what I think I know, confirmed, misconceptions)</li> </ul>	<ul style="list-style-type: none"> <li>use Venn Diagram to compare spiders to insects</li> <li>use same graphic organizer to record notes that students will use for their research on spider.</li> </ul> Students have own research folder to	<u>Spiders</u> by Gail Gibbons		



	organize and collect notes.			
<b>March 2nd</b>	<b>March 3rd</b>	<b>March 4th</b>	<b>March 5th</b>	<b>March 6th</b>
				Magic School Bus Spins a Web <a href="http://www.youtube.com/watch?v=D2WMOlleS3M">//www.youtube.com/watch?v=D2WMOlleS3M</a>
<b>March 9th</b>	<b>March 10th</b>	<b>March 11th</b>	<b>March 12th</b>	<b>March 13th</b>
<b>March 16th</b>	<b>March 17th</b>	<b>March 18th</b>	<b>March 19th</b>	<b>March 20th</b>
<b>Investigation #2:</b> How are spiders helpful? How are spiders harmful?  Start new R.A.N. chart			half day- site seminar	<b>no school- site seminar</b>
<b>March 23rd</b>	<b>March 24th</b>	<b>March 25th</b>	<b>March 26th</b>	<b>March 27th</b>
Send home information on spiders to start researching specific spider  find good pictures of spiders for Leah, send to her to print in color	Have an expert pest control person come in to tell why spiders are bad	Have a gardener come in to tell why spiders are good		

March 30th	March 31st	April 1st	April 2nd	April 3rd
	Have person who is afraid of spiders come in. Class interviews to find out why they are afraid?	<b>students start drawing pictures of spiders in art</b>	FCSS- students supply support for claim "Spiders are harmful"	
April 6th	April 7th	April 8th	April 9th	April 10th
peer critique- on FCSS	FCSS- students provide support for claim "Spiders are helpful"	Have data of FCSS for DAS loop	go to Natural History Museum to learn about spiders in the Insect Zoo (need to research this to see if it is worth the trip)	
April 13th	April 14th	April 15th	April 16th	April 17th
<b>SPRING BREAK</b>				
April 20th	April 21st	April 22nd	April 23rd	April 24th
<b>Investigation #3:</b> Start scientific drawings of spiders  Write first draft of all about spider piece	Reading: Anansi books folk tales vs. informational books (review plot of fictional story, character traits from 1st semester)			
April 27th	April 28th	April 29th	April 30th	May 1st
Revise draft of All About piece				Write opinion pieces on spiders

				Go for hike at National Arboretum to look for spiders in natural habitat. Collect spiders and bring back to class to study and research.
<b>May 4th</b>	<b>May 5th</b>	<b>May 6th</b>	<b>May 7th</b>	<b>May 8th</b>
				Have art and writing completed
<b>May 11th</b>	<b>May 12th</b>	<b>May 13th</b>	<b>May 14th</b>	<b>May 15th</b>
Start rehearsing showcase lines * allow students to read ebook		Students write FCSS to answer the question (Should we kill spiders Why or why not?) Compare to first draft from beginning of expedition.		
<b>May 18th</b>	<b>May 19th</b>	<b>May 20th</b>	<b>May 21st</b>	<b>May 22nd</b>
				<b>Showcase</b>