

# PLANNING FORM

TEACHER CREATED    INDIVIDUAL  
WHOLE GROUP

## Member(s)

All students

## Start/End Dates

Spring, Summer,  
Fall

## Disciplines

Science  
ELA

## Designer(s)

Teacher-created/  
Student-created

## Project Type

Whole, Small,  
Individual

## Level

Middle School  
Gr. 5-8

# Along came a spider...

## PROJECT IDEA

Spider v. Insect; Spiders of our region; technology to collaborate (iNaturalist.com). Students will engage in questioning and investigation by: responding to video on spiders amazing qualities; Engage in a Science Walk to discover and document real spiders; whole group build a taxonomy of spiders by multiple characteristics; create a Field Journal based on non-fiction science writing and new vocabulary; Attend seminars

### Resources

iNaturalist.com Website Citizen Science  
Community  
Science Teacher  
Local college/university staff  
Local museum

### Entry Event (Video)

[National Geographic Super Spider Documentary](#)

### Essential Question:

How Can We Change Creep Out to Shout Out?

How can knowing spiders overcome arachnophobia?

### Professional Role

Scientist –  
arachnologist,  
zoologist

### Guiding Questions:

How are spiders different from insects?

How are spiders a great example of diversity and adaptation?

In what ways are spiders valuable?

What are the varieties within phylum arachnid in our area?

In what ways can we connect with experts to learn about arachnids?

How can we powerfully share our knowledge about spiders?

## LEARNING TARGETS

### NGSS

MS-LS1-8. Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.

MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-LS1-3. Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

### Common Core-English Language Arts 6-8 – Middle School

CCSS.ELA-LITERACY.W.8.2

Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

CCSS.ELA-LITERACY.W.8.2.A

Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

CCSS.ELA-LITERACY.W.8.2.B

Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.

CCSS.ELA-LITERACY.W.8.2.D

Use precise language and domain-specific vocabulary to inform about or explain the topic.

## SKILLS

### 21st Century Skills

- Critical thinking and problem solving
  - Reasons effectively
    - Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation
    - Make judgments and decision
    - Effectively analyze and evaluate evidence, arguments, claims and beliefs
    - Interpret information and draw conclusions based on the best analysis
- Collaboration
- Communication: writing-speaking-listening
- Habits of mind
  - Thinking and communication with clarity and precision

## ASSESSMENTS

### Formative Assessments:

- Weekly review of Field Journal research notes based on field journal for non-fiction writing resources
- Weekly review of vocabulary notes and active use in conversation
- Journaling on questions: How is your attitude changing about spiders? What have you learned this week about science writing or science drawing? What views about science and/or scientists (zoologist, etymologist, arachnologist) have you been discovering? How could you help people to value and not harm spiders?

- Work plan summaries for each small group
- Mini-lesson checking for understanding: exit ticket, quiz, game, etc.
- Weekly writing check-in on science writing and CCSS's above

## PRODUCT(S)

### Summative Assessments:

- Field Journal
- Photo Journal
- Spider Classification Chart
- Spider Magazine
- iNaturalist.com website content and dialogue with citizen scientists
- Celebration of Learning: presentation of knowledge and magazine sharing with younger students groups

## ACTIVITIES AND TASKS

### Phase 1 – Whole Group Research on Spiders: Fieldwork, Classroom, and Internet Research

- Investigate classroom materials on spiders; local libraries will gather for you. Search web.
- Join in Spider Hunt: go spider hunting with camera and field journal to collect notes of discoveries. Possibly capture spiders to investigate and then return to their home. Review Spider Tips and Cautions.
- Have Mini-lessons on 1.) non-fiction science writing and 2.) science drawing and critique for Field Journal.
- Keep Field Journal with research notes and technical drawings throughout project.
- Give Mini-Lesson on science taxonomy, and specifically, Spider Taxonomy with examples.
- Collaborate as a class to create Spider Classification by description. (use blank form)
- Extra option: With Field Journals in hand, visit community college, university, or museum to view spider collection. Interview the collection expert. Make drawings of interesting spiders and take photos for Photo Journals.

### Phase 2 – Individual Projects on Specific Spiders

- Choose spider. Research, describe, technical draw. Create Field Journal entries.
- Create your Photo Journal. (use Word template and example) (Use Photo Journal Rubric)
- Register and Login to iNaturalist.com, complete data entry on your spider. Gather information from community of researchers on-line at iNaturalist.com.
- Each student creates magazine section/article on individual spider.

### Phase 3 – Small Groups Author Spider Magazine

- Small Groups take on roles: editor, graphic designer, writer, science editor, ads, circulation
- Create work plan, assignments, and deadlines as small groups and whole group
- Get magazine subscribers; invite younger students group(s) for spider event with magazine.
- Create magazine design: sections and articles (Use Microsoft Word and see example)
- Small Groups work to complete sections and articles content. Edit. Publish.
- Distribute magazine to subscribers. Whole group teaches younger students and shares magazine.