Distance Learning/Videoconferencing at the Center for Puppetry Arts

Spiders

Distance Learning Study Guide
1st – 6th Grade

Visual Communication Equipment provided by: Cisco
Dear Educator:

We are scheduled for a Spiders videoconference with your group. You will need to do some preparation prior to the program. Below are the directions necessary for preparation (REQUIRED TO PARTICIPATE IN THE PROGRAM).

1. The materials list is the first thing on the study guide. Each student needs these materials in order to fully participate in the program.
2. All templates need to be traced onto construction paper (any color is fine) and cut out.
3. Please bring all pre-cut pieces and other materials to the program. It is helpful if each student has an individual bag with their own puppet parts. You can use small paper lunch baggies or Ziploc baggies.
4. Students may share hole punchers.
5. Pass out all materials PRIOR to program start time. This includes glue, tape and scissors. It is helpful if each student has his/her own glue stick or bottle. Please have 7 strips of clear tape precut and ready for each student. You can pre-tear pieces and stick them to the sides of the table, OR stick them to yard sticks (just hold out yard stick and students can take a piece of tape from it—teacher recommended!).
6. We will lead all students through the puppet building steps and learning activities.
7. The program does not allow time for students to cut out materials.
   - The activities in the study guide are for you to use at your discretion as either pre or post activities. We will be doing different activities with them during the program.
   - Please let us know if you have any questions about how to prepare.
   - If you have any technical questions, please contact us directly at (404) 881-5117.

Thank you!!

The Distance Learning Team
Center for Puppetry Arts

Direct studio line: 404-881-5117
1404 Spring Street, NW at 18th
Atlanta, GA 30309-2820 USA
www.puppet.org/edu/distance.shtml
http://vimeo.com/channels/272008
Visit us on Facebook!
Headquarters of UNIMA-USA
Member of Theatre Communications Group & Atlanta Coalition of Performing Arts
Videoconferencing Activity

Spider Marionette Puppet

Materials List

Each student will need all of the following:

1 jumbo craft stick
2 pieces of string (each 12 inches in length)
1/4 of a piece of pipe cleaner
Cephalothorax (template on pg. 3)*
Abdomen (template on pg. 3)*
8 legs (template on pg. 3)*
hole punchers (students can share)
glue (students can share)
markers or colored pencils (to draw eyes)
tape
scissors
* Templates **must be** pre-cut before the program!
Spiders Templates

Leg (each student needs 8) (1 of 3)
National Curriculum Standards
met during live videoconference
Please go to www.educationworld.com for a complete list of national standards.

Fine Arts/Visual Arts
NA-VA.K-4.1 Understanding and applying media, techniques, and processes
NA-VA.K-4.2 Using knowledge of structures and functions
NA-VA.K-4.3 Choosing and evaluating a range of subject matter, symbols, and ideas
NA-VA.K-4.5 Reflecting upon and assessing the characteristics and merits of their work and the work of others
NA-VA.K-4.6 Making connections between visual arts and other disciplines
NA-VA.5-8.1 Understanding and applying media, techniques, and processes
NA-VA.5-8.2 Using knowledge of structures and functions
NA-VA.5-8.3 Choosing and evaluating a range of subject matter, symbols, and ideas
NA-VA.5-8.5 Reflecting upon and assessing the characteristics and merits of their work and the work of others
NA-VA.5-8.6 Making connections between visual arts and other disciplines

Technology
NT.K-12.1 Creativity and Innovation
NT.K-12.2 Communications and Collaboration
NT.K-12.3 Research and Information Fluency
NT.K-12.5 Digital Citizenship
NT.K-12.6 Technology Operations and Concepts

Life Science
NS.K-4.3 Life Science
NS.5-8.3 Life Science
Pre- & Post-Videoconference Classroom Activities

**Activity 1: Spider Discoveries**

*National Curriculum Standards met by this activity*

Please go to [www.educationworld.com](http://www.educationworld.com) for a complete list of national standards.

- **NT.K-12.1** Creativity and Innovation
- **NT.K-12.3** Research and Information Fluency
- **NT.K-12.4** Critical Thinking, Problem Solving, and Decision Making
- **NT.K-12.5** Digital Citizenship
- **NT.K-12.6** Technology Operations and Concepts
- **NS.K-4.3** Life science
- **NL-ENG.K-12.4** Communication skills
- **NL-ENG.K-12.5** Communication strategies
- **NL-ENG.K-12.8** Developing research skills
- **NL-ENG.K-12.7** Evaluating data
- **NL-ENG.K-12.12** Applying language skills

**Activity**

Did you know? Biologists guess they have only identified about 20% of Australian spiders. This is largely due to huge sections of the continent that are still uninhabited. Also, Australia is home to some of the world’s deadliest spiders such as the Sydney Funnel-Web Spider.

**Objective:** Students will label the body parts of a spider; students will use a computer to research spiders; students will illustrate and describe a spider and its habitat.

**Materials:**
Copy of Attachment A for each student, computer with Internet access, pencils, colored pencils or crayons, paper.

**Procedure:**

1. Pass out Attachment A to each student. Identify and label the main body parts of all spiders—cephalothorax, abdomen, eight legs, simple eyes, jaws/fangs (chelicera), spinnerets, pedipalps, pedicel.
2. Next, have students research a spider’s life by going to the following Web site: [www.amonline.net.au/spiders/](http://www.amonline.net.au/spiders/). Allow students to explore the topic “A Spiders Life” in small groups of 2 or 3. One student should operate the computer, while the other(s) take(s) notes on the information. Set a brief time limit for research. This part of the exercise is meant to supply data in order to stimulate interest and ideas for their spider “discovery.”
3. Distribute paper and colored pencils to students. Have students produce a drawing of the spider they recently “discovered.”
4. Students should then write a descriptive paragraph about their spider answering the following questions:
   • What is the spider’s name?
   • Where does the spider live?
   • Is it a web builder or hunting/wandering spider?
   • What does it like to eat?
   • Is it large or small?
   • What are its predators and how does it protect itself?
   • What makes this spider unique?
5. Next, students should present their discovery to the class.
6. Post drawings in the classroom.

**Activity 2: Spiders are a Drag!**

**Enhancing Math Skills with Dragline Rulers**

**National Curriculum Standards met by this activity**

Please go to [www.educationworld.com](http://www.educationworld.com) for a complete list of national standards.

- **NM-MEA.PK-2.1** Understand measurable attributes of objects and the units, systems, and processes of measurement
- **NM-MEA.PK-2.2** Apply appropriate techniques, tools, and formulas to determine measurements
- **NM-MEA.3-5.1** Understand measurable attributes of objects and the units, systems, and processes of measurement
- **NM-MEA.3-5.2** Apply appropriate techniques, tools, and formulas to determine measurements
- **NM-PROB.PK-12.1** Build new mathematical knowledge through problem solving
- **NM-PROB.PK-12.2** Solve problems that arise in mathematics and in other contexts
- **NM-PROB.PK-12.3** Apply and adapt a variety of appropriate strategies to solve problems
- **NM-PROB.REP.PK-12.1** Create and use representations to organize, record, and communicate mathematical ideas
- **NM-PROB.REP.PK-12.2** Select, apply, and translate among mathematical representations to solve problems
- **NM-PROB.REP.PK-12.3** Use representations to model and interpret physical, social, and mathematical phenomena.

**Activity**

Spiders are a great way to introduce math skills to your students. Dragline rulers are a great activity for practicing measurement and word problems.

**Objective:** Students will measure and record measurements of spider draglines; students will solve simple word problems.

**Materials:** Yarn or string, scissors, pencils, paper, copies of spiders in figure A, tape or glue.

-continued on next page
Procedure:

1. Trace spiders onto paper and cut out.
2. Cut string into various lengths.
3. Attach paper spiders (Figure A) to one end of each piece of string with either glue or tape. Explain to students that spiders make draglines – long silk threads from which they hang. Spiders make this special strand to help them drop from their webs or hang in the air to escape from enemies.
4. Have students measure the draglines and record their measurements.
5. Next, ask students to compare their findings. Which spider has the longest dragline? The shortest? Arrange them in order from shortest to longest. Which dragline is ____ inches? How many draglines are longer than ____ inches?
6. Create simple word problems using the dragline measurements. Ex: The Crab Spider has a dragline that equals 5 inches. The Garden Spider’s dragline is 2 inches longer than the Crab Spider’s dragline. How long is the Garden Spider’s dragline?

Figure A

Wolf Spider    Garden Spider    Crab Spider
Activity 3: Spiders and Folktales: Comparing Stories with a Venn Diagram

National Curriculum Standards met by this activity
Please go to www.educationworld.com for a complete list of national standards.

NL-ENG.K-12.1 Reading for perspective
NL-ENG.K-12.6 Applying knowledge
NL-ENG.K-12.7 Evaluating data
NL-ENG.K-12.9 Multicultural understanding
NL-ENG.K-12.11 Participating in society
NL-ENG.K-12.12 Applying language skills

Activity

Objective: Students will compare and contrast elements from two different versions of an Anansi story contributing ideas for a Venn diagram. Materials: Chart paper, colored pencils or markers, two or three books with Anansi stories such as Anansi the Spider by Gerald McDermott, Anansi Does the Impossible: an Ashanti Tale by Eric Kimmel, and “The Return of Anansi” story from Trickster Tales: Forty Folk Stories from Around the World by Josepha Sherman.

Procedure:

1. First read two versions of an Anansi tale to your students. The books listed above represent Anansi in the Ghana and Jamaican cultures.
2. On chart paper, make a simple Venn diagram (see illustration below). Draw each circle with a different color marker. In the rectangles, label the circles with the book titles.
3. Students should recall elements that are the same in both versions. The similarities should be listed in the space where the circles overlap. Unique elements to each story should be placed under the corresponding circle where it does not overlap.
4. Have students draw spider illustrations or scenes from the books to be displayed with the diagram in the classroom.
Activity 4: Spiders & Scorpions:
Comparing Two Arachnids

National Curriculum Standards met by this activity
Please go to www.educationworld.com for a complete list of national standards.
NS.K-4.1 Science as inquiry
NS.K-4.3 Life science
NS.5-8.1 Science as inquiry
NS.5-8.3 Life science
NT.K-12.1 Basic operations and concepts
NT.K-12.5 Technology research tools

Activity
Objective: Students will go online to read about two types of arachnids and compare and contrast the characteristics of each.
Materials: Computer with Internet access, printers, pencils, paper
Procedure:

1. Explain to students that spiders and scorpions are not insects but belong to a class of animal know as arachnids. You may want to compare and contrast insects and arachnids first.
2. Have students go to: www.enchantedlearning.com/subjects/arachnids/spider/Spiderprintout.shtml to read the information about spiders.
3. Students should then go to www.enchantedlearning.com/subjects/arachnids/scorpion/Scorpionprintout.shtml and read the information about scorpions. They may want to print each page.
4. After they have studied the information on both Web pages, ask students to write down as many similarities and differences between spiders and scorpions as they can. They should use two pieces of paper, one labeled “Similarities” and one labeled “Differences.”

Similarities:

• Both have eight legs, seven segments on each leg, tiny claws on each leg
• Both come in different colors
• Both are carnivores (eat other animals)
• Both have hard exoskeletons
• Both have pedipalps
• Both can be poisonous to humans

Differences:

• Spiders have feelers (pedipalps), scorpions have large, pincer-like pedipalps (claws for trapping prey
• Scorpions live longer than spiders
• Scorpions do not spin webs like spider do; they do not have spinnerets like spiders do
• Scorpions eject poison from the tail, spiders eject poison from the jaw

5. Discuss findings with students.
Other Resources

Websites to Explore

www.pocanticohills.org/spiders/spiders.htm
Second graders created this Web site about spiders. It provides good general information on web builders
and hunters. It also ties into Charlotte’s Web.

www.amonline.net.au/spiders/The Australian Museum
Online spider’s page is full of excellent information on arachnids.

www.spiderzrule.com/
This great Web site has information on all types of spiders, including lots of great pictures and topics;
worksheets, activities, anatomy of a spider and spider first aid are some examples.

www.sedl.org/scimath/pasopartners/spiders
This page is from the Southwest Educational Development Laboratory and provides a great activity
meeting math, science and language arts objectives.

Selected Bibliography


Label the main body parts of all spiders: cephalothorax, abdomen, eight legs, simple eyes, jaws/fangs (chelicera), spinnerets, pedipalps, pedicel.