Plants
Distance Learning Study Guide
1st – 3rd Grade

Sponsored by: TANDBERG
Dear Educator:
We are scheduled for a Plants 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 things on the study guide. Each student needs these materials to fully participate in the program.
2. All templates need to be traced onto construction paper 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 bags or Ziploc baggies.
4. Pass out all materials PRIOR to the 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 4 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 a yard stick (just hold out the yard stick and students can take a piece of tape from it- teacher recommended!).
5. We will lead all students through the puppet building steps and learning activities.

The program does not allow time for the students to cut out their 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 for the program.
• If you have any technical questions, please contact us directly at (404) 881-5117.

Thank you!!!

21st Century Award Winner
2014

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

Perky Plant Puppet

Materials List

Each student will need all of the following items:

1 8 1/2 to 9 oz. paper or styrofoam cup (DO NOT USE PLASTIC CUPS)
1 drinking straw (bendy type)
1 stem (template on pg. 3)*
3 leaves (template on pg. 3)*
1 flower (template on pg. 3)*
1 flower middle (template on pg. 3)*
1 grass (template on pg. 4)*
construction paper to trace templates
scissors
glue
masking tape

*Templates must be pre-cut before the program!
Templates

Stem Template (1 of 5)

Flower Template (2 of 5)

Leaf Templates (3 of 5)

Flower Middle Template (4 of 5)
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

Technology

**NT. K-12.1** Creativity and Innovation
**NT.K-12.2** Communication 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** The characteristics of organisms; life cycles of organisms; organisms and environments
Activity 1: How Does Light Affect Plants?

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
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-DATA.PK-2.1 Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer
NM-DATA.PK-2.2 Select and use appropriate statistical methods to analyze data
NM-DATA.PK-2.3 Develop and evaluate inferences and predictions that are based on data NM-DATA.3-5.1 Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer.
NM-DATA.3-5.2 Select and use appropriate statistical methods to analyze data
NM-DATA.3-5.3 Develop and evaluate inferences and predictions that are based on data NM-D.
ATA.3-5.4 Understand and apply basic concepts of probability

Activity

Objective: Students will participate in a hands-on scientific experiment on plant growth. Students will analyze data and develop sound conclusions on how light effects plants.

Materials: Shoebox with lid, beans, small rocks, soil, water, sunny window sill, pencils, paper.

Procedure:

1. Have students cut a one-inch square window at one end of a shoebox. Fill the bottom of the box with small rocks. Add soil until the box is approximately 2/3 full.
2. Plant the bean seeds and then water. Cover the box with the lid. Only open the lid to water the seeds.
3. Place the covered plant on a sunny, warm window sill to allow for germination.
4. Have students record observations and collect data in a “scientific” log (pencil and paper). Students should measure plant growth in inches and centimeters over the course of 1-2 weeks.
5. After a week, open the lid and watch how the new plants bend toward the light provided by the window! Based on the data recorded, students should analyze and write down a conclusion in their log about how light affects plants. Continue to observe plant growth for one week and record measurements.
6. Finally, students should create a simple bar graph showing the growth of the plant.
Activity 2: Pick an Exotic Plant to Research

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

NS.K-4.3 Life science
NL-ENG.K-12.5 Communication strategies
NL-ENG.K-12.8 Developing research skills
NL-ENG.K-12.12 Applying language skills

Activity
Objective: Students will conduct research to write at least three paragraphs about an exotic plant of their choosing using the writing process: prewriting, drafting, revising, editing and publishing.

Materials: Chart paper, markers, pencils and paper, (crayons or markers and construction paper if making books), library books, computers with word processing software and Internet access if available.

Procedure:
1. Discuss the meaning of the word exotic with students. (exotic—1.introduced from another country, not native to the place where found; 2. strikingly or excitingly different or unusual.) What might be some examples of exotic plants? (Venus Fly Trap, Christmas Cactus, special flowers, etc.)
2. Prewriting: On chart paper, brainstorm ideas with your class. Make a list of exotic plants. After students have selected a plant and have found resources, ask them to take notes on things about their plant that they found especially interesting and things that might be interesting to share with others.
3. Drafting: From their notes, ask students to compose a first draft of their report.
4. Revising: Have students revise their reports. Is there a clear introduction, middle and closing? Does the report make sense? What could they add to make it better?
5. Editing: Have students edit their reports for correct spelling, capitalization and punctuation.
Activity 3: Plants as Food: Create a Talking Food Pyramid

National Curriculum Standards met by this activity

Please go to www.educationworld.com for a complete list of national standards.

NPH-H.K-4.6 Setting goals for good health
NA-VA.K-4.1 Understanding and applying media, techniques, and processes
NA-VA.K-4.6 Making connections between visual arts and other disciplines
NA-T.K-4.1 Script writing by planning and recording improvisations based on personal experience and heritage, imagination, literature, and history
NA-T.K-4.2 Acting by assuming roles and interacting in improvisations
NA-T.K-4.3 Designing by visualizing and arranging environments for classroom dramatizations
NA-T.K-4.4 Directing by planning classroom dramatizations

Post Activity

Objective: Students will identify food groups and create a food pyramid; students will identify plants as part of a healthy diet; students will create props and participate in a drama activity.

Materials: Large piece of cardboard (appliance box), box cutter, pencils, paints, colored markers, rulers, construction paper, glue, Perky Plant Rod puppet (created during the live videoconference), computer with Internet access, printer, magazines*, scissors*.

* materials needed for Extension exercise

Procedure:

1. Go to www.mypyramid.gov/downloads/MiniPoster.pdf to download a mini-poster of the new food pyramid. Teachers may want to review the USDA information on this Web site prior to the activity -www.mypyramid.gov.

2. Display the mini-poster and discuss the idea of a food pyramid with your class. What is a food pyramid? How does it help us to live a healthier lifestyle? How many servings are needed from each food group for a healthy diet based on your age?

3. Next, create a blank food pyramid out of a refrigerator box (call local appliance stores such as Sears, Whirlpool, etc.) or any large piece of cardboard. Have students draw the outline of the pyramid. Next, have students measure and draw a 10” x 10” window in each section. Teachers can cut out each window with an x-acto knife or box cutter. This will allow a “window” or small stage for a puppet. Students should then label each food group and decorate the pyramid using paints and markers.

4. Next, students should determine one type of fruit, vegetable or grain their Perky Plant Rod puppet produces. Examples include tomato plant, beans, corn, peppers, grapes, lemons, raspberries, wheat, etc.

5. Pass out construction paper. Have students draw illustrations representing their plant onto the paper. Ex: If a student chooses a corn plant, the student may draw an ear of corn. Students should cut these out and glue them to the cup, or cover/replace the flower of their puppet with the new food if they choose.
6. Pass out paper and pencils and instruct students to write three sentences about the plant. Students should identify their food group as well. Teachers may want to prompt students by listing specific questions on the board such as “What does the plant produce?”or “How many servings should you have every day?” Students should write three responses in complete sentences. This will provide each student with a “script.” Ex: My plant produces corn. It belongs to the grain food group. I am 8 years old, so I need ___ servings a day.

7. Set up the food pyramid or have two students hold each side of it to create a stage. Allow students to rehearse in small groups for about 15-30 minutes to practice popping their puppet out of the correct food group window. They will also need to practice their lines during this time.

8. Show time! Allow 3 students behind the food pyramid at a time. Students should then take turns popping their puppet out of the correct food group. After they say their line, they exit the “stage” and sit with the audience. Repeat until every student has gone.*

*Extension Exercise: Because the focus of the above activity is plants, meats and dairy products may not be addressed. Have students identify the food groups not represented by plants. Next, pass out old magazines and have students cut out photos to paste in these categories. The plant puppets can always pop out of these food groups and address the food cycle (plants are eaten by cows, cows produce milk, etc.).

---

Other Resources

Websites to Explore

http://www.mypyramid.gov
Download information and print out a mini poster of the new food pyramid.

http://www.urbanext.illinois.edu/gpe
Solve a mystery—The Great Plant Escape! Students learn all about plants while solving a mystery through this interactive website.

http://plants.usda.gov/
Have a question about plants? Find the answer at the U.S. Department of Agriculture Plants Database.

http://www.cssainc.org/
Can’t tell a prickly pear from a saguaro? The Cactus & Succulent Society of America is an international organization dedicated to education, protection and preservation of some of nature’s most unique creations.

-continued on the next page
Websites to Explore

http://www.atlantabotanicalgarden.org/home
Visit the wonderful Atlanta Botanical Garden online.

http://aggie-horticulture.tamu.edu/wildseed/
Wondering about wildflowers? Stop by the Wildflowers in Bloom Web site.

http://www.enchantedlearning.com/subjects/plants/types/cactus/
Visit this site to discover interesting facts about cactus plants.

http://www.carnivorousplants.org/
Investigate the International Carnivorous Plant Society’s Web site.

Selected Bibliography

• Bash, Barbara. Desert Giant: The World of the Saguaro Cactus. BT Bound, 2002