Grades 3 through 5

Lesson Plans

American Peanut Council
Education Services Department
P.O. Box 845
Nashville, NC 27856-0845
(252) 459-9977
FAX (252) 459-7396
e-mail: info@aboutpeanuts.com

Day One, Lesson #1

Time Estimate: 20-30 minutes
Content Area: Language/Social Studies
Grouping: Large Group

Objectives
• The student will demonstrate basic knowledge of peanuts.
• The student will share ideas in a brainstorming session.

Materials
• Activity Sheet #1 for each student
• Chart or blackboard
• Marker or chalk
• Bag of in-shell peanuts

Procedure
1. Pass out Activity Sheet #1 and state, "I want to know how much you know about peanuts." Give students about five minutes to complete the activity sheet.

2. Go over correct answers on sheet as a class.

3. Ask the students what they would like to learn about peanuts. Write ideas on chart/blackboard.

4. Hold up a bag of peanuts to stimulate brainstorming about what event might have in-shell peanuts for sale. Write these ideas on the chart/blackboard.

5. Tell students there are several kinds of peanuts. Have students think of all the foods and products which might contain peanuts or peanut oil. Write these on chart/blackboard.

6. Point out how many things you have written about peanuts giving the class lots to talk about in the next few days!

Assessment Questions
Do students have some knowledge of peanuts?
Did each student participate in brainstorming?

Day Two, Lesson #2

Time Estimate: 45-60 minutes
Content Area: Science/Language
Grouping: Partners

Objectives
• The students will use vocabulary skills to label parts of peanut.
• The students will work together as partners to label the peanut and peanut plant.
• The students will demonstrate ability to label parts of their picture.

Materials
• Blackboard and chalk
• In-shell peanuts for each student
• Activity Sheets #2 and #3 for each student

Procedure
1. Have students choose a partner with whom to work. Have a helper pass out a peanut and Activity Sheet #2 to each student.

2. List the parts of the peanut on the board: germ, endocarp, mesocarp, exocarp, pericarp, cotyledon and testa. Discuss the meanings of the prefixes such as Endo-, Meso-, and Exo-.

3. Have students work together to figure out which part of the peanut matches the label (5-10 minutes). Allow students to share their guesses before revealing the correct answers.

4. Have students name the different ways food grows (on trees, on vines, underground, on bushes).

5. Pass out Activity Sheet #3. Have students label the peanut plant.

Assessment Questions
Were students able to correctly label some parts of the peanut and peanut plant? Did students work together as partners?

Day Three, Lesson #3

Time Estimate: 20-30 minutes
Content Area: Science
Grouping: Individual

Objectives
The student will follow step-by-step instructions to plant a peanut.
The student will create a chart or journal to record the growth of their peanut plant.

Materials

Large, clear cup
Sand or sandy loam soil
3-5 peanuts for each student
Plastic spoons
Permanent markers
Paper towels

Procedure

1. Use raw peanuts (usually found in the produce department or farmer's market). Soak them overnight.

2. Give each student the following list of instructions:

> **A**. Get a cup. Write your name on it with a permanent marker.
> **B.** Make a small drainage hole in the bottom of your cup.
> **C.** Place sand to within one inch of the top of your cup.
> **D.** Plant 3-5 peanuts about 2 inches deep in the soil. Press the soil firmly, but do not pack.
> **E.** Hold a paper towel under your cup. Moisten soil with water, but do not soak.
> **F.** Place cup in a warm spot on windowsill with a paper towel under it.
> **G.** Create your own chart or journal to keep a record of your peanuts' growth. (You may provide an example if necessary.) Make your first entry today.

3. Review directions together. Provide two or three stations in the room where children can carry out the task independently.

Lesson #3 continued

4. Keep plant in warm room and exposed to direct sunlight as much as possible.

5. In two to three weeks the plants should sprout. About two weeks after sprouting the plants should be transplanted into a larger pot (about 12 inches in diameter) or a ten gallon aquarium. The aquarium allows students to see the peanuts growing underground. If you cannot drill a drainage hole in the aquarium put a layer of rocks at the bottom to allow some drainage and be careful not to over-water. Considering classroom space, you may want to send the plants home with students and only replant a few in the classroom for everyone to watch.

6. Blooms should appear on the plant approximately 45 days after the plant has emerged. Mark these days on the calendar for follow-up:

14 days	Sprouts
45 days	Blooms
90 days	Peanuts

Assessment Questions
Can student follow step-by-step instructions?
Does student provide adequate care for plant?
Does student make entries in chart or journal?

Day Four, Lesson #4

Time Estimate: 20-30 minutes
Content Area: Health
Grouping: Cooperative Groups to Individual

Objectives
• The student will demonstrate knowledge of at least one group from the USDA Food Guide Pyramid.
• The student will name the members of at least one group from the pyramid.
• The student will participate in a cooperative group.

Materials
• Butcher paper
• Markers (6)
• Activity Sheet #4

Procedure
1. Divide the class into six groups. Give each group a big piece of butcher paper.
2. Draw a Food Guide Pyramid on the board. Decide as a class the names of the six food groups on the pyramid. Give each group of students one of the six food groups as their label.
3. Give each group time (10 minutes) to brainstorm about foods which are members of their food group and list them on the butcher paper.
4. Discuss each group's list as a class. Discuss any characteristics peanuts have in common with members of each food group. Discuss why they are members of the meat and meat substitutes group.
5. Distribute Activity Sheet #4 and have students complete.

Assessment Questions
Does student have some knowledge of the Food Guide Pyramid and its groups? Did students participate cooperatively in naming members of a Food Group?

Day Five, Lesson #5

Time Estimate: 45 minutes
Content Area: Geography
Grouping: Large Group to Individual

Objectives
• The student will locate and name countries which grow peanuts.
• The student will locate and name countries which import peanuts from the U.S.

Materials
• Large world map
• Activity Sheet #5 for each student
• Map colors for each student

Procedure
1. Distribute Activity Sheet #5. Place a large world map in a location where everyone can see it. Have one student come up and locate #1, United States on the large map. Have students write number "1" on the United States on their map.

2. Have another student locate and name another country which is marked on the activity sheet. Point it out to everyone on the large map so all can repeat the procedure of writing down the country and marking it with the corresponding number on the map.

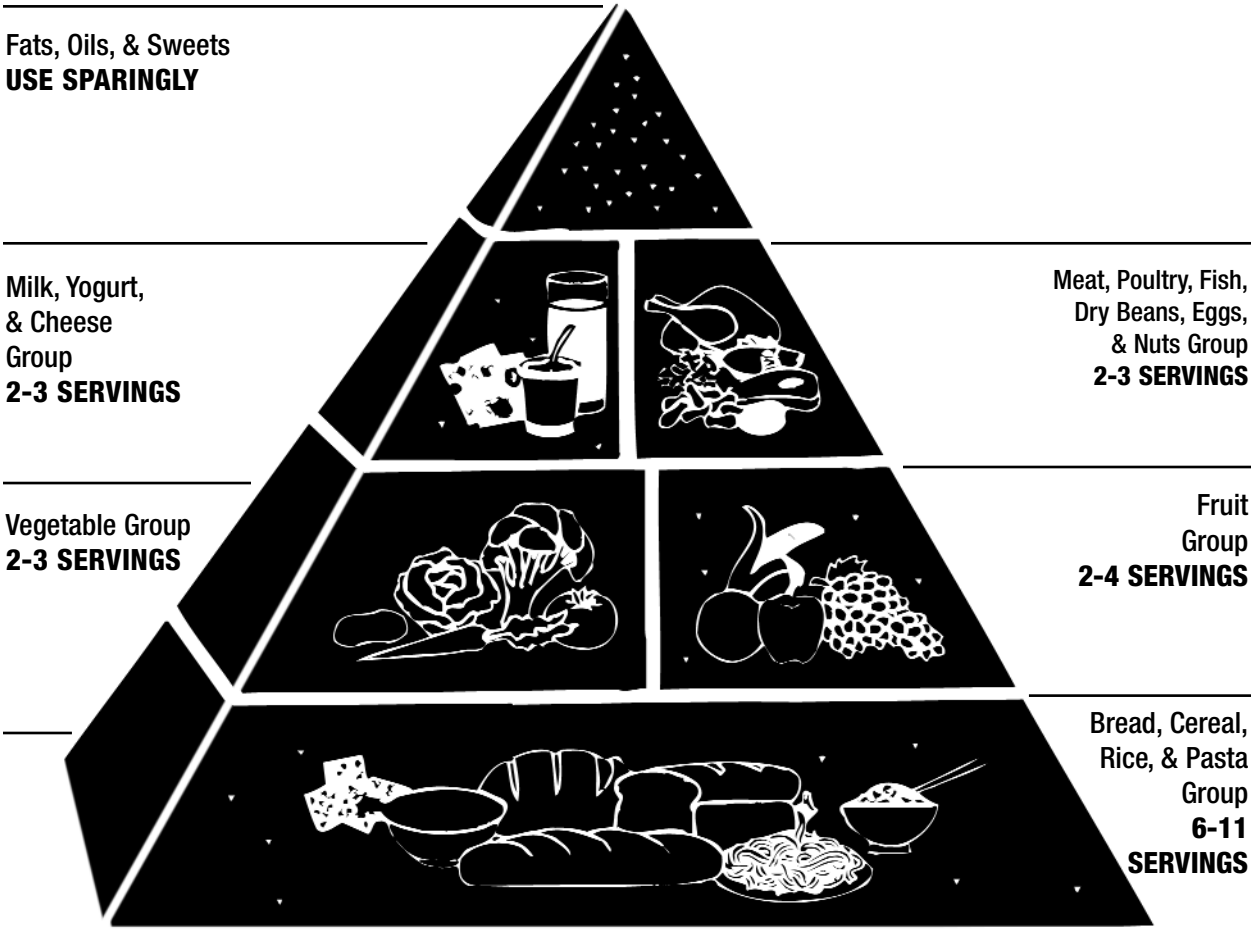
3. Repeat this procedure until each marked country has been named.

4. Have students complete the bottom part of the activity sheet on their own. Review the meaning of "import" if necessary.

Assessment Questions
Is student able to locate and name countries on a world map? Does student demonstrate some map skills? Can student name some countries which grow peanuts? Can student name countries which import peanuts? Does student understand the meaning of "import"?

Food Guide Pyramid

A Guide to Daily Food Choices



Source: U.S. Department of Agriculture/U.S. Department of Health and Human Services

Use the Food Guide Pyramid to help you eat better every day . . . the Dietary Guidlines way. Start with plenty of Breads, Cereals, Rice, and Pasta; Vegetables; and Fruits. Add two to three servings from the Meat group.

Each of these food groups provides some, but not all, of the nutrients you need. No one food group is more important than another – for good health you need them all. Go eas on the fats, oils, and sweets, the foods in the small tip of the Pyramid.

To order a copy of "The Food Guide Pyramid" booklet, send a $1.00 check or money order made out to the Superintendent of Documents to: Consumer Information Center, Department 159-Y, Pueblo, Colorado 81009.

U.S. Department of Agriculture, Human Nutrition Information Service, August, 1992, Leaflet No. 572

Day Six, Lesson #6

Time Estimate: 30-40 minutes
Content Area: Health/Nutrition
Grouping: Large to Small to Individual

Objectives
• The student will investigate the type of information listed on food labels.
• The student will write an evaluation of their favorite food based on the nutritional information listed on the label.

Materials
• Food labels that students bring from home
• Blackboard/Chalk
• Activity Sheet #6

Procedure
1. Have students bring in one or more food labels with nutritional information.

2. Have students take turns naming the different kinds of information listed on their labels while you list the types of information on the board. (For example: serving size, daily values, amount in grams, calories from fat, etc.)

3. Ask the students what the various elements are: What does Daily Value mean? (The amount of each nutrient we should consume daily.) What are calories? (A calorie is a measurement of energy in food.) How many calories do people the age of the students need a day? (About 2,000)

4. Hand out Activity Sheet #6. Have student complete sheet.

5. Have students divide into their small groups from yesterday's lesson about the Food Pyramid. Have students share their labels in their small groups and come to a group decision about which foods are most nutritious and which are least nutritious according to the labels.

6. After returning to the large group, allow one person from each group to share their group's information.

Assessment Questions
Did the student bring in a label? Does the student understand the information on a food label? Did the student properly evaluate the nutritional content of his/her favorite food?

Day Six, Lesson #7

Time Estimate: 60 minutes
Content Area: Geography/Social Studies
Grouping: Large Group to Partners

Objectives
• The student will brainstorm about crops from the south.
• The student will research products from a southern state with a partner.
• The student will name three crops from a southern state.

Materials
• Research materials, such as encyclopedias
• 9 pieces of posterboard
• Marker

Procedure
1. Have students try to name the nine states which grow peanuts. As a hint, tell students that all nine states are in the south. Write each correctly named state on a piece of posterboard and hang it on the wall.

2. Have students brainstorm about other crops which might be grown in the nine states, taking into consideration their climates.

3. Have students choose a partner or two with whom to work (class should be divided into nine parts). Have each pair or threesome work together to find out the top three crops of one of the nine states. As each group finds the correct information, have them list it on their posterboard and draw a picture depicting each crop on the posterboard.

4. Return to large group and have each pair or threesome share the information they found.

Assessment Questions
Does the student demonstrate some knowledge of southern climate? Does the student work with a partner to conduct research? Is the student able to name three southern crops?

Day Seven, Lesson #8

Time Estimate: 30 minutes
Content Area: Social Studies/Math Sequencing/Language
Grouping: Large Group to Individual

Objectives
• The student will use vocabulary skills to define words which describe a peanut farmer's duties.
• The student will correctly sequence the duties of a peanut farmer.
• The student will construct a timeline depicting the duties of a peanut farmer.

Materials
• Activity Sheet #7
• Sentence strips
• Tape

Procedure
1. Make sentence strips with the following phrases (embolden or highlight words as indicated): (1) Fertilize the fields, (2) Plow the soil, (3) Plant the seeds, (4) Cultivate to rid the field of weeds, (5) Spray to eliminate bugs and diseases, (6) Irrigate the peanuts, (7) Harvest the peanuts, (8) Separate the peanuts from vines and (9) Haul peanuts to a buying station.

2. Place sentence strips out of order on blackboard where all can see them. Review meanings of difficult words. Discuss the part of speech which describes each of the highlighted words (verbs).

3. Have students write down the phrases in the order they believe to be correct.

4. As a class, have students try to guess the correct order of a peanut farmer's duties by sequencing the phrases. Allow students to change someone else's guess if they can explain why they disagree.

5. Hand out Activity Sheet #7. Have students compare the sequence they guessed to the correct sequence in the activity sheet.

6. Have students create a timeline depicting the steps of a peanut farmer's responsibilities.

Assessment Questions
Is the student able to define unfamiliar words? Can the student sequence correctly? Can the student construct a timeline?

Day Seven, Lesson #9

Time Estimate: 30-40 minutes
Content Area: Math
Grouping: Large Group

Objectives
• The student will discover numerical information about peanuts in the U.S. by working through word problems.

• The student will practice addition, subtraction, multiplication, and division.

Materials
• Activity Sheet #8
• Blackboard and chalk

Procedure
1. Hand out Activity Sheet #8.

2. As a class go through the sheet together, allowing students to share their guesses before revealing the correct answers.

3. Work word problems one at a time, allowing students time to try to figure them out individually. Some examples are: How many pounds of peanuts would an average farmer be able to grow on a typical size peanut farm? How many pounds of peanuts are produced in a typical year in the United States using the average yield and total acreage provided? (Convert the total pounds into tons.) How many pounds of peanuts are exported each year?

4. Have a student come to the blackboard for each problem and write down the calculation involved. Allow class to agree or disagree each time. Guide students with incorrect answers to the correct answers.

Assessment Questions
Can the student name some numerical facts about the growth of peanuts in the U.S.? Does the student demonstrate ability to synthesize word problems? Is the student able to add, subtract, multiply and divide?

Day Eight, Lesson #10

Time Estimate: 15-20 minutes
Content Area: Language
Grouping: Large Group to Individual

Objectives
• The student will punctuate correctly using question marks, exclamation points and periods.
• The student will learn new information about peanuts.

Materials
• Chalkboard or chart
• Chalk or marker
• Set of punctuation cards for each student
• Tape

Procedure
1. Give each student a set of three cards, one with a question mark, one with an exclamation point, and one with a period. Discuss the differences between a statement, a question, and an exclamation.

2. Write sentences on the board or chart.

3. Let students take turns taping appropriate punctuation to the end of each sentence.

Sample Sentences
• My grandfather has been a peanut farmer for thirty years.
• Peanut farmers work very hard!
• Peanuts are grown mostly in the south.
• Do peanut farmers usually plant their peanut crops in April or May?
• I think peanuts are great!
• The peanut plant is unusual because it flowers above the ground and fruits below.
• In the old days, peanut farmers used to plant and harvest peanuts by hand.
• I can't believe you thought peanuts grew on trees!
• Did you know that one-fourth of the peanuts grown in the U.S. are used to make candy?
• A combine is used to separate peanuts from their vines.
• What happens to a peanut crop if it doesn't get adequate moisture?
• Peanuts are protein powerhouses!
• Peanuts don't contain cholesterol.

Assessment Questions
Does student punctuate correctly? Can student name some new information about peanuts?

Day Eight, Lesson #11

Time Estimate: 45 minutes
Content Area: Creative Dramatics
Grouping: Cooperative Groups

Objectives
• The student will interpret the five stages of making peanut butter through creative dramatics.
• The student will work cooperatively with a small group.

Materials
Activity Sheet #9

Procedure
1. Hand out the activity sheet. Read through the sheet together, reviewing difficult vocabulary.

2. Have the students work together to plan an interpretation of the five steps involved in making peanut butter through creative dramatics.

3. Have the students break up into groups of about 4-5 people. Allow enough time and space for students to consider ideas and practice presentations.

4. Have each group act out their interpretation of each stage. Compare the different interpretations.

Assessment Questions
Does the student participate productively in a cooperative group? Does the student actively contribute to group presentation? Does the student contribute ideas to the presentation?

Day Nine, Lesson #12

Time Estimate: 30-45 minutes
Content Area: History/Social Studies
Grouping: Large Group

Objectives
• The student will demonstrate listening skills as the teacher reads factual information (or reading skills).
• The student will verbally reproduce their knowledge of peanuts in a game format.
The student will participate with self-control in group game.

Materials
Teacher's Guide

Procedure
1. Ask the students if they have ever seen Jeopardy on television. Allow them to explain the way the game is played so that everyone understands.

2. Advise the students that many of the answers in the game will be revealed in the pages which you will read to them or allow them to read on their own. Stress the importance of careful listening or reading. The following sections from the Teacher's Guide should be read: Introducing the No-Nut Peanut, The Origins of the Peanut, Peanuts Sweep the Country, Dr. George Washington Carver - Father of the Peanut Industry, The Introduction of Peanut Butter, and Nutrition in a Nutshell.

3. Remind students that the way to play the game is to tell you the question which one would ask in order to get the answer you will read. If the student does not make their response in question format, their team will lose points. However, if they state the correct question their team will receive points. Set up a point system which seems appropriate for your classroom, but let each team begin the game with some points on the scoreboard.

4. Read an answer from the following "Sample Answers and Questions." Allow the first student whose hand goes up to answer first. If that student is correct, his/her team scores points. If that student is incorrect, proceed to choose a student on the next team, etc., until someone answers correctly. The teacher should act as referee, deciding who gets to answer on each team's turn, trying not to choose anyone twice until every team member has had an opportunity to answer once.

5. If a student yells out the correct answer when it is not his/her turn, his/her team loses points.

6. Prepare more answers and questions if students are enjoying the game and would like to continue.

Sample Answers and Questions
• 400 years ago Spaniards went to this place to find gold. They found peanuts too. (Where is South America?)
• Peanuts became a popular U.S. snack at these two events. (What are ball games and circuses?)
• This African-American scientist helped find over 300 uses for the peanut. (Who was Dr. George Washington Carver?)
• Jars shaped like peanuts have been found in the tombs of these Indians. (Who were the Inca Indians?)
• The Spaniards took peanuts to this continent where they traded them for elephant tusks and spices. (Where is Africa?)
• In 1890 a St. Louis doctor made this health food with ground peanuts. (What is peanut butter?)
• Soldiers on both sides ate peanuts during this war. (What is the Civil War?)
• There are many names for peanuts. These are two. (What are ground nuts, earthnuts, goober peas, goobers, monkey nuts, manila nuts, guinea seeds, pinda, etc.?)
• In the 1700's, botanists considered peanuts to be excellent food for these animals. (What are pigs?)
• This Civil War song was inspired by roasting peanuts over an open fire. (What is "Eatin' Goober Peas"?)
• This insect threatened cotton crops in the south and was partly responsible for the increase in peanut farming. (What is the boll weevil?)
• This man applied for the first patent for peanut butter in 1895. (Who is Dr. John Harvey Kellogg?)
• Peanuts and peanut butter are in this food group because of their high protein content. (What is meat?)
• Nearly 80% of the fat in peanuts is this kind. (What is unsaturated - the good kind?)
• Peanuts and peanut butter provide 12% of this nutrient, needed to form bones and body tissues. (What is protein?)

Assessment Questions
Does the student have good listening or reading skills?
Does the student participate acceptably in a game with a competitive format?

Day Nine, Lesson #13

Time Estimate: 30-45 minutes
Content Area: Math
Grouping: Individual

Objectives
• The student will add and subtract multi-digit numbers in order to figure out the answer to a riddle.
• The student will construct an exercise similar to the model, using math concepts which are currently being studied in your classroom.
• The student will learn peanut trivia.

Materials
• Activity Sheets #10 and #11

Procedure
1. Review, as necessary, the concepts of addition and subtraction of multi-digit numbers.

2. Hand out the activity sheets for students to work. For an added edge, give students a time limit or let them compete for some type of reward.

3. After students have had a chance to work both sheets, have them create a riddle of their own using current math concepts. For instance, if you are studying addition of fractions, have them use fraction calculations in their exercise.

4. Have each student work another student's riddle to see if it works!

Assessment Questions
Can student add and subtract multi-digit numbers? Was the student able to complete each riddle? Did the student construct his/her own riddle using current math concepts?

Day Ten, Lesson #14

Time Estimate: 45 minutes
Content Area: Culminating Activity

Materials
• Peanut Snacks
• Party decorations
• Cups, napkins, spoons
• Party hats
• Activity Sheet #12
• Peanutty prizes

Procedure
1. Invite another class or parents to a Peanut Party. Send peanut -shaped invitations made from grocery sacks or brown construction paper.

2. Have the children make hats decorated with peanut drawings to wear for the party.

3. Decorate room and prepare peanut snacks.

4. Exhibit peanut activities and plants around the room.

5. Have the class act out their interpretations of making peanut butter (Lesson #11).

6. Teach guests peanut songs.

7. Have activity sheet available for party-goers and their guests to work on together for peanutty prizes.