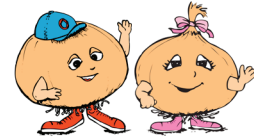


# Lesson 1:

## Onions from the Ground Up



### Lesson Highlights

#### Objective

##### Student will:

- Complete an onion-themed KWL chart.
- Construct knowledge of the stages of onion growth.
- Create an onion growth timeline.

##### Curriculum Connections:

- Science/Botany

##### Student Skills Developed:

- Science Skills-sequencing and visually representing

##### Materials Needed:

- KWL chart
- *Onions-Vegetable Alliums* PowerPoint
- *Onions from the Ground Up* PowerPoint
- Plant growth pictures for each student
- Timeline information sheet

#### Getting Started:

Have students complete a KWL chart. In a KWL chart, a student or group of students makes three lists of things:

1. What it is they *already know* about a subject.
2. What it is they *want to know* about a subject.
3. What they *learned* about a subject.

First, they list what they already know about onions. Second, they list what they want to learn through this unit of study on onions. Finally, after completing the unit, students re-visit their original lists, reflect on the knowledge constructed during the unit, and list what they learned through these lessons and activities.

#### Activity:

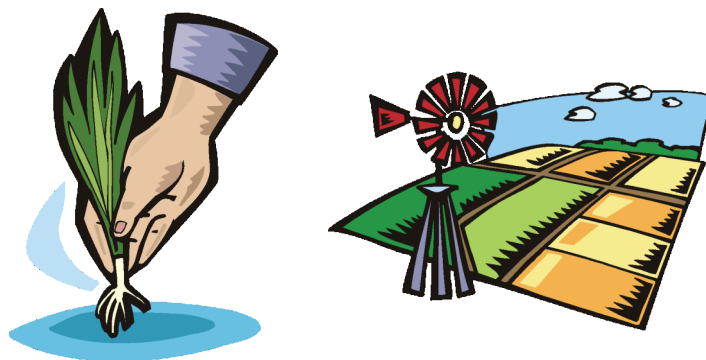
**Share Layers of Health Benefits.** Using the *Onions-Vegetable Alliums* and *From the Ground Up* PowerPoint(s) share and discuss the information with the students.

**Have students make an onion growth stage timeline.** Cut apart the plant growth pictures and have students sequence growth stage pictures correctly onto plant growth timeline.

#### Extensions:

**Have students complete an Onion Root Tip Lab.** See lesson plans in Webography listing.

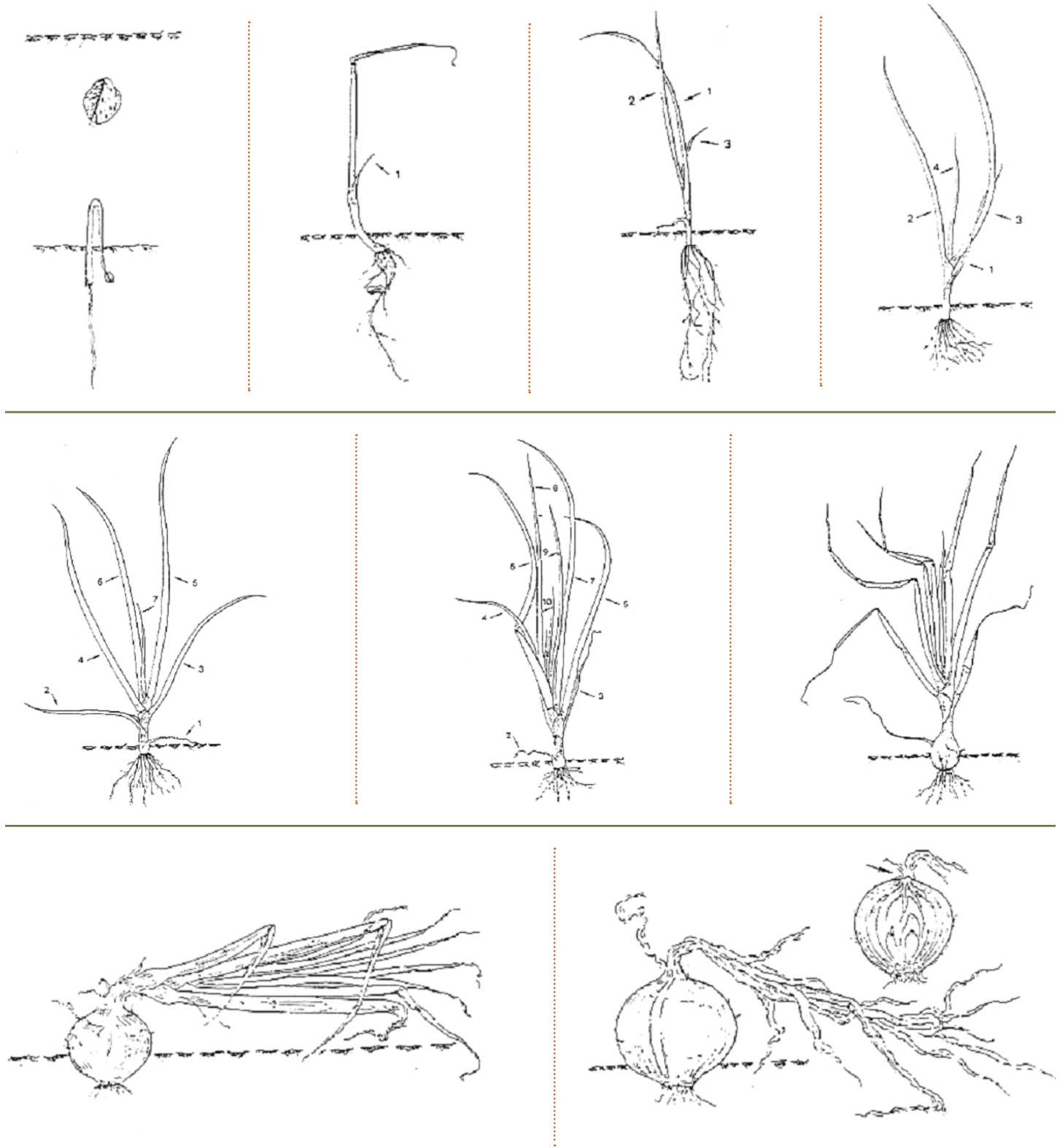
**Continue exploring the mitosis process with onions.** See lesson plans in Webography listing.



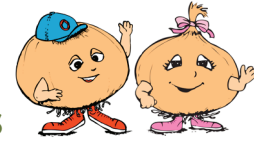
# Lesson 1:

## Onions - Vegetable Alliums

Onions and Other Vegetable Alliums by J.L. Brewster of the Crop Production Science in Horticulture series.



## Lesson 2: Layers of Health Benefits



### Lesson Highlights

#### Objective

##### Student will:

- Read/listen to and discuss onion-themed quotations.
- Complete an onion-themed KWL chart.
- Construct knowledge of the health benefits of onions.
- Create advertisement posters for onions.

##### Curriculum Connections:

- Science/Health
- Language Arts

##### Student Skills Developed:

- Science Skills-healthy decision making
- Language Skills-persuasive writing

##### Materials Needed:

- *Notable, Quotable Onions* handout
- KWL chart
- *Layers of Health Benefits* PowerPoint
- *Onions in Literature* PowerPoint
- Paper and drawing supplies to make posters

#### Getting Started:

##### Have students read or listen to *Notable, Quotable Onions*.

Point out that poets, authors, and historical figures – such as Ulysses S. Grant, Benjamin Franklin – talk about onions in poetic and metaphoric ways. This demonstrates that onions are an important part of American culture.

**Have students discuss quotations in pairs.** Have each pair of readers explore the quotations. Tell students to select the quotation they enjoy and be prepared to explain why it is their favorite. Have each pair of readers share their favorite quotation and rationale with the class.

**Have students revisit KWL chart.** First, have students list what they have learned about onions in previous lessons. Second, have them add to their lists of what they already know about onions as plants. Finally, they list what they want to learn about onions as plants. Discuss.

#### Activity:

**Share *Layers of Health Benefits*.** Using the *Layers of Health Benefits* PowerPoint share and discuss the information with the students.

**Have students work in pairs to create and share advertising posters about onions.**

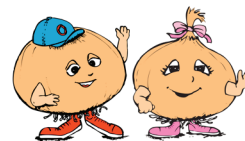
#### Extension:

**Have students keep a food journal for a week.** See lesson plans in Webography listing.

**Continue exploring the mitosis process with onions.** At the end of the week, students share journals and explore the findings. Discuss in what forms students consumed onions and celebrate how students who consumed onions benefited from them. Share *Simple Tips to Enjoy More Onions*.



## Lesson 3: Layers of Nutrition and Recipe Conversion



### Lesson Highlights

#### Objective

##### Student will:

- Understand the nutritional value of one serving of Portuguese Sausage and Onion Stew.
- Understand and apply measuring equipment and terminology in the recipe.
- Define and understand terms used in preparation of and cooking ingredients in the recipe.

##### Curriculum Connections:

- Science
- Reading/Writing
- Mathematics

##### Student Skills Developed:

- Science Skills-nutritional value of one serving size; understand preparation and cooking terms used in the recipe
- Reading/Writing Skills-read, record, and understand nutritional information for recipe ingredients
- Mathematic Skills- will have an understanding of the utensils used to measure in food preparation

##### Materials Needed:

- *Student Nutrition Facts Worksheet* <http://kidshealth.org>
- Nutrition labels from recipe ingredients for Portuguese Sausage and Onion Stew
- Vocabulary list
- Cookbooks for vocabulary definitions
- Access to computers for vocabulary definitions

#### Getting Started:

**Give the students the vocabulary list for terms used to prepare and cook ingredients.** Students can find definitions for cooking terms in cook books or at [www.how-to-cook-gourmet.com/culinary-terms.html](http://www.how-to-cook-gourmet.com/culinary-terms.html)

The teacher should go over the vocabulary terms with the students to be sure they understand the terminology. (The teacher could demonstrate the terms if possible.)

#### Vocabulary:

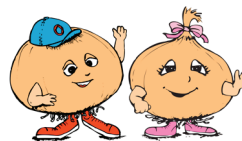
sliced / cubed / diced / minced / crushed / sauté / boil / simmer / crumble

#### Activity:

**Have students complete the Nutrition Facts worksheet.** Distribute the Onion Stew recipe to the students. Hand out labels for the ingredients for the Stew recipe. (Students can be divided into cooking groups to collect their information). Have students use their Nutrition Facts sheet <http://kidshealth.org/> to collect the nutritional information from each ingredient and add them together to find the combined nutritional value of one serving of the stew. Help the students evaluate the nutritional value of the stew. Give the students the vocabulary list for terms used to prepare and cook ingredients.



## Lesson 4: Cooking Lab



### Lesson Highlights

#### Objective

##### Student will:

- Apply information learned from reading and following instructions.
- Use cooking vocabulary terms and methods to prepare and cook ingredients to make soup for their class.
- Use scientific method to predict results of and evaluate their final product.

##### Curriculum Connections:

- Science
- Math
- Language Arts

##### Student Skills Developed:

- Science Skills-scientific method for making observations; organizational skills
- Language Skills-reading a recipe and following directions; use vocabulary terms and methods to prepare and cook ingredients
- Math Skills-double the size of the recipe

#### Activity:

**Students will complete the Scientific Method worksheets.**

[www.sciencebuddies.com/mentoring/project\\_scientific\\_method.shtml](http://www.sciencebuddies.com/mentoring/project_scientific_method.shtml).

Explain that the scientific method is a way to make scientific observations. The students will ask the question "What will happen to the ingredients when they are cooked? Will they be hard, soft, or crunchy? Will they lose their nutrients?" Explain that the students have done the background research by eating various foods in the past. Have students construct their Hypothesis. Following the directions in the recipe will be their procedure.

**Conduct the Cooking Lab.** Divide students into cooking groups. (No more than 6 students per group recommended.) Divide the number of students in the class by six to decide how many recipes of the stew you will need. It is recommended that ingredients be prepared and then combined in several large kettles rather than a kettle for each group. Note: A serving size is 2 cups (16 oz.).

**Hand out Cooking Lab sheets and recipes for each student.**

**Have students wash their hands (recommended hand washing technique).** [www.washinghands.net/posters](http://www.washinghands.net/posters)

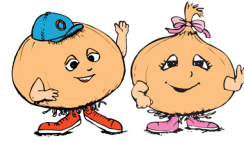
**Have students sanitize the work surfaces.**

**Hand out the ingredients for the recipes.** Students can be divided into pairs or groups for each ingredient and prepare it according to instructions on the recipe.

Each group should have the equipment needed for their food preparation or take their food item to the appropriate preparation station. Specific food preparation stations can be organized in different locations in the classroom and students can report to the correct station for their food item.



## Lesson 4: Cooking Lab



### Materials Needed:

- *Student Scientific Method Worksheet* [www.sciencebuddies.com/mentoring/projects/scientificmethod.shtml](http://www.sciencebuddies.com/mentoring/projects/scientificmethod.shtml)
- Recipe ingredients listed in the recipe
- Stove top burners, a large sauté pan, and a stock pot or an electric skillet and a slow cooker, scissors, knives, can opener, garlic press, large stirring spoon, and a soup ladle
- Serving bowls, spoons, and napkins
- Cleaning Supplies
  - hand soap
  - dish soap
  - wash cloths
  - drying towels
  - hot water

**Have students prepare their ingredient(s) and add them to the kettle.** While the Stew is cooking, have students clean up the food preparation areas.

**Have students use their recipes to figure how much of each ingredient is needed to double the size of the recipe.** For students in grades with higher math skills, the students could use the grocery store tapes to figure out what it would cost for a single serving of the Stew. This can be done while they eat their Stew.

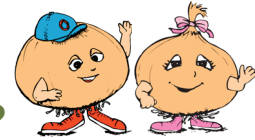
**Lead the students in a discussion to finish their Scientific Method Worksheets.**

# SCIENCE



# Lesson 5:

## Do You Know About Onions?



### Lesson Highlights

#### Objective

##### Student will:

- Make onion fact-based mathematical predictions.
- Complete an onion-themed KWL chart.
- Construct knowledge of onion production process.
- Create a United States onion production map.
- Complete a bar graph to compare onion production.

##### Curriculum Connections:

- Science/Botany
- Geography
- Social Studies
- Mathematics

##### Student Skills Developed:

- Science Skills - onion production
- Geography Skills - map
- Social Studies Skills - agricultural distribution
- Mathematic Skills - creating and interpreting bar graphs

##### Materials Needed:

- *Do You Know about Onions?* worksheet
- KWL chart
- *Onions from the Ground Up* PowerPoint
- United States Map Outline
- Onion Distribution Fact Sheet

#### Getting Started:

**Have students read and complete *Do You Know About Onions?* worksheet.** Have students share their answers with a partner. Then, share the correct answers.

**Have students revisit KWL chart.** First, have students list what they have learned about onions in Lessons 1-2. Second, have them add to their lists of what they already know about the onion growing process. Finally, they list what they want to learn about the onion growing process. Discuss.

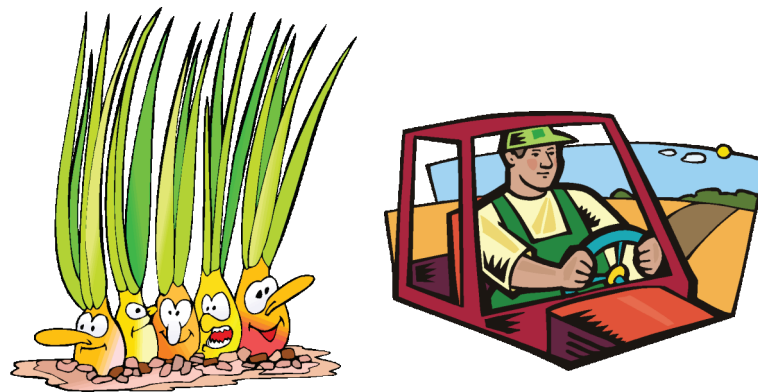
#### Activity:

**Share *Layers of Health Benefits*.** Using the *Onions from the Ground up* PowerPoint share and discuss the information with the students.

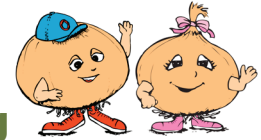
**Complete the United States Onions Production Map and Bar Graph.**

#### Extension:

**Have students write a fictional biography of an onion documenting what they learned about the onion growing process.**



# Lesson 6: Onions, Ogres and Marketing



## Lesson Highlights

### Objective

#### Student will:

- Play an on-line game to become alert to components of advertisements.
- Use a Venn Diagram to compare and contrast.
- Critically read and discuss a current newspaper article.

#### Curriculum Connections:

- Technology
- Science
- Language Arts

#### Student Skills Developed:

- Science Skills - thinking about onion characteristics
- Language Arts - critical thinking and reading informational text

#### Materials Needed:

- Individual student access to internet
- Venn Diagram Worksheet for each student
- Article "The Onion's Best Friend is an Ogre" for each student

### Getting Started:

**Have students play Admongo Game.** To educate children in grades four through six in the parlance of marketing – about how advertising works so they can make better, more informed choices when they shop or when they ask parents to shop on their behalf.

<http://www.admongo.gov/>

### Activity:

**Have students complete the Compare/ Contrast Venn Diagram for Shrek and Onions.** [www.eduplace.com/graphicorganizer/pdf/venn.pdf](http://www.eduplace.com/graphicorganizer/pdf/venn.pdf)

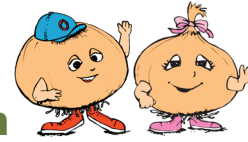
**Have students read and discuss "The Onion's Best Friend is an Ogre."** <http://online.wsj.com/article/SB10001424052748704123604575323433042544568.html> Focus the discussion on how Shrek has helped onion sales increase.

### Extension:

**Have students rewrite a famous fairy or folktale into an Onion Tale.** For example: "Goldilocks and the 3 Onions."



# Lesson 7: The People vs. Onion



## Lesson Highlights

### Objective

#### Student will:

- Learn about court procedures as they perform a mock trial.
- Practice critical thinking skills as they participate in a mock trial.
- Construct knowledge of onions and the digestive process.

#### Curriculum Connections:

- Social Studies
- Language Arts
- Science

#### Student Skills Developed:

- Social Studies Skills - court room procedures
- Language Arts Skills - oral language and critical thinking
- Science Skills - cause and effect

#### Materials Needed:

- Mock Trial Script for each participant.

### Activity:

**Perform a Mock Trial: The People vs. Onions.** This mock trial is written so a class can enact their own trial. This is written in the format of a play. The directions are given in italics, which the students should not read aloud. The jury does not use a script because their primary task is to listen. If there are more children than parts, it is suggested the teacher assign additional roles to include everyone. Possible roles could include: a student to read the "facts of the case" in the beginning, more alternate jurors than normal, reporters from various media outlets, law students observing a trial, interested family members, friends of the defendant, a relief person for the court reporter during the defense phase of the trial, and so forth. If you have court observers, interview them after the trial to provide opportunity for oral participation.

### Extension:

**Have students write a newspaper article describing the case.**

