

# Final Project: A Lesson Plan

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## Growing A Seed

Science/Bible/Technology

Grades 2-3

### Description

Introduction: Question: What did God do on the third day of Creation? Read Gen. 1:11-13. Question: Did God plant seeds? Discussion re: God's power And majesty and why He created seed bearing plants. Also read "Johnny Appleseed" and discuss.

I will then tell the students they are going to learn what is in a seed and how a seed grows into a plant. I will divide them into groups of three or four, making sure there is a mixture of second and third graders in each group, and explain that each group will be responsible for growing a lima bean into a small plant.

Procedure: Each group will be given five lima beans, a clear plastic glass, blotter paper, & paper towel. I will demonstrate how to place the lima beans in several positions between the blotter paper and the side of the plastic glass. Then I will show the students how to stuff the middle of the glass with paper towel and fill with water. Wait until the paper towel is soaked and spill out any excess water. We will then place the glasses in a sunny spot and check them everyday to observe what is happening.

The students in each group share these responsibilities and will:

- ? take pictures with the digital camera or draw pictures in KidPix to record the growth of their plants.
- ? keep a journal (in KidPix or notebook) and describe their daily observations.
- ? measure and record the data in the journal or spreadsheet.
- ? make a graph (bar or line) to show the growing process.
- ? be responsible to be sure the lima beans have enough water.

I will discuss the rubric for the Lab Report on the first day to be sure they understand what is expected, on the second day I will remind them of the Lab Report rubric and review it if necessary, and also introduce them to the rubric on work skills so they know working together is important. At the end of each week the groups will compare their observations. Students will learn how to move their pictures from the drawing area and put them into a slideshow. (See directions included) When each group has a plant they will prepare a slide show of the growth of their plant(s) from their drawings or digital camera pictures. They will complete their graph showing the growth progress of their plant. They will hand in their journals for grading (all part of the Lab Rubric).

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**Culmination:** The Slide Show will be ready for the 1<sup>st</sup> Parent-Teacher conference and each group's show will be playing with their names all shown on the title page. Assessment will be done using the Lab Report Rubric and the Collaborative Work Skills Rubric. (Note: I also have a Keyboarding rubric and will make a Computer Skills rubric to post in the Computer Lab area so they know what is expected.)

## Faith

**Integration:** This entire lesson will readily lend itself to bringing in God as The Creator and Sustainer of life. We will be able to see how God has in His love for us provided for the plant's reproduction and in turn provided for us food and a beautiful world. The children will be encouraged to draw parallels of God's care for the plants and us, His children. Worships the first weeks will be on Creation and God's love and provisions for us and the beauty of His creations, which make our lives, so blessed.

## Curriculum

**Benchmarks:** California Science Content Standards

- ? Life Sciences: Grade 2
  - 2. Plants and animals have predictable life cycles. As a basis for understanding this concept:
    - a. *Students know* that organisms reproduce offspring of their own kind and that the offspring resemble their parents and one another.
- ? Investigation and Experimentation: Grade 2
  - 4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:
    - b. Measure length...with appropriate tools and express those measurements in standard metric system units
    - d. Write or draw descriptions of a sequence of steps, events, and observations.
    - e. Construct bar graphs to record data, using appropriately labeled axes.
    - f. Use magnifiers to observe and draw descriptions of small objects or small features of objects.
    - g. Follow oral instructions for a scientific investigation.
- ? Life Sciences: Grade 3
  - 3. Adaptations in physical structure or behavior may improve an organism's chance for survival. As a basis for understanding this concept:
    - a. *Students know* plants and animals have structures that serve different functions in growth, survival, and reproduction.
- ? Investigation and Experimentation: Grade 3

5. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:
  - a. Repeat observations to improve accuracy and know that the results of similar scientific investigations seldom turn out exactly the same because of differences in the things being investigated, methods being used, or uncertainty in the observation.
  - c. Use numerical data in describing and comparing objects, events, and measurements.
  - d. Predict the outcome of a simple investigation and compare the result with the prediction.
  - e. Collect data in an investigation and analyze those data to develop a logical conclusion.

Nets Standards: Grade 2/3\*

Prior to completion of grade 2, students will:

1. Use input devices (mouse, keyboard) and output devices (monitor, printer) to successfully operate computers, ...and other technologies.
2. Use a variety of media and technology resources for directed and independent learning activities.
3. Communicate about technology using developmentally appropriate and accurate terminology.
5. Work cooperatively and collaboratively with peers, family members, and others when using technology in the class.
6. Demonstrate positive social and ethical behaviors when using technology.
7. Practice responsible use of technology systems and software.
8. Create developmentally appropriate multimedia products with support from teachers, family members, or student partners.
9. Use technology resources (writing tools, digital cameras, drawing tools) for problem solving, communication, and illustration of thoughts, ideas, and stories.

\*The next standard group 3-5 begins: Prior to completion of Grade 5, so I will use these for 2/3.

## Materials

### Needed:

Clear plastic cups  
 Blotter paper  
 Lima beans  
 Paper towels  
 Classroom computers  
 KidPix  
 Word

Written instructions for the students to  
 "Save" a drawing to KidPix and to  
 "Save" their drawings into a slide show.

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## Teacher

- Preparation:
1. Take "Technology in the Early Elementary Classroom"
  2. Gather all needed materials
  3. Be sure to learn how to make a slide show with pictures from a digital camera.

## Student

- Preparation:
1. Know how to listen and follow directions.
  2. Be familiar with KidPix, able to draw and save.
  3. Be familiar with a digital camera, able to take a picture.
  4. Know the essentials for a bar graph.

## Other

- Activities:
1. Compare a dry lima bean with a soaked (soak overnight) lima bean. Make a chart to compare them.
  2. Split a soaked lima bean and see what's inside. Cover = seed coat, inside: baby plant/embryo and food. Draw and label parts.
  3. Observe the growing lima beans; notice no matter which way the seed was positioned the plant grew upwards. When they are about 1 inch above the glass, turn it on its side, keep away from the sun, and predict how the plants will grow. Draw pictures of the glass before and after turning it on its side. A few days later check to see what's happened. Draw a picture. Who predicted correctly? Why did this happen? (The stems should have bent to grow upwards. Plants have growth hormones that respond to the Earth's gravitational pull. This causes roots to always grow down and stems to grow up. This is called "geotropism".)
  4. Draw a plant and label the parts. Third graders do a report on the purpose of each plant part, to read to the second graders. Second graders find pictures of plants, in magazines /Internet etc, and write a short report about each plant to present to the third graders.

## Follow-up

- Activities:
1. A study of the flower, its parts and their purpose would provide several more lessons. Investigations could include lessons on photosynthesis and transpiration.

Assessment: Rubrics (2) attached

**PLEASE**

**KEEP**

**SCROLLING...**

**There's more!!!!**

## KIDPIX: Save A Picture

1. Draw your picture in KidPix and write your name on the lower edge.
2. Click on "Save" button to your right.  
The "Save Picture As" screen will open.
3. Click on Desktop.
4. Click on "C" drive.
5. Go to \_\_\_\_\_ Folder.
6. Click twice to Open Folder.
7. Go to "File Name" box, highlight, then delete.
8. Type in your name + .kpx
9. Click on "Save" button in screen.

If you are not saving to a slideshow, EXIT KidPix and tap the next person lightly on the shoulder.

## Save to a Slide Show

(Teacher must first do the title page)

1. Click on SlideShow arrow (lower right).
2. Click on next empty blue box.
3. Click on green rectangle with red arrow right below the blue box.  
A screen "Load Picture" will open.
4. Click on desktop, then "C", then \_\_\_\_\_ Folder twice to open it.
5. Click on your name for your picture.
6. Click on "Open". Your picture should appear in the Slide Show box.
7. Click on "Save" icon (purple computer on right).
8. A "Save SlideShow As" screen will appear.
9. Click on "Save" in the screen.
10. Then click on "Yes".
11. EXIT SlideShow and KidPix.

Great Job!! You are done. Tap the next person lightly on the shoulder.

There' more.....



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## Ask AJ!



### The Story of Johnny Appleseed

Johnny Appleseed spent 49 years of his life in the American wilderness planting apple seeds. Johnny Appleseed's real name was John Chapman. He was born September 26, 1774 in Massachusetts. He created apple orchards in Illinois, Indiana, Kentucky, Pennsylvania and Ohio. After 200 years, some of those trees still bear apples.

Johnny Appleseed's dream was for a land where blossoming apple trees were everywhere and no one was hungry. A gentle and kind man, he slept outdoors and walked barefoot around the country planting apple seeds everywhere he went. It is even told that he made his drinking water from snow by melting it with his feet.

Johnny was a friend to everyone he met. Indians and settlers -- even the animals -- liked Johnny Appleseed. His clothes were made from sacks and his hat was a tin pot. He also used his hat for cooking. His favorite book was the Bible.

There are many tales about Johnny Appleseed. It is said that once Johnny fell asleep and a rattlesnake tried to bite him, but the fangs would not go into his foot because his skin was as tough as an elephant's hide. Another tale describes him playing with a bear family.

Johnny Appleseed died in 1845. It was the only time he had been sick -- in over 70 years!!!

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## Collaborative Work Skills: **Growing A Seed**

Teacher name: Ms. Georgia Cluff

Student Name \_\_\_\_\_

CATEGORY	Excellent	Good	Satisfactory	Needs Improvement
<b>Focus on the task</b>	Consistently stays focused on the task and what needs to be done. Very self-directed.	Focuses on the task and what needs to be done most of the time. Other group members can count on this person.	Focuses on the task and what needs to be done some of the time. Other group members must sometimes nag, prod, and remind to keep this person on-task.	Rarely focuses on the task and what needs to be done. Lets others do the work.
<b>Preparedness</b>	Brings needed materials to class and is always ready to work.	Almost always brings needed materials to class and is ready to work.	Almost always brings needed materials but sometimes needs to settle down and get to work	Often forgets needed materials or is rarely ready to get to work.
<b>Working with Others</b>	Almost always listens to, shares with, and supports the efforts of others. Tries to keep people working well together.	Usually listens to, shares, with, and supports the efforts of others. Does not cause "waves" in the group.	Often listens to, shares with, and supports the efforts of others, but sometimes is not a good team member.	Rarely listens to, shares with, and supports the efforts of others. Often is not a good team player.
<b>Problem-solving</b>	Actively looks for and suggests solutions to problems.	Refines solutions suggested by others.	Does not suggest/refine solutions, but will try out solutions from others.	Does not try to solve problems or help others. Lets others do the work.

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## Lab Report: **Growing a Seed**

Teacher name: Ms. Georgia Cluff

Student Name \_\_\_\_\_

CATEGORY	Excellent	Good	Satisfactory	Needs Improvement
<b>Journal/Notebook</b>	Clear, accurate, dated notes are taken regularly.	Dated, clear, accurate notes are taken occasionally.	Dated, notes are taken occasionally, but accuracy of notes may be doubtful.	Notes rarely taken or of little use.
<b>Data</b>	Professional looking and accurate representation of the data in a graph. Graph is labeled and titled properly.	Accurate representation of the data in a graph. Graph is labeled and titled.	Accurate representation of the data in written form, but no graph or table shown.	Data are not shown OR are inaccurate.
<b>Drawings/Diagrams</b>	Clear, accurate pictures are included. Pictures are labeled neatly and accurately.	Pictures are included and are labeled neatly and accurately.	Pictures are included and are labeled.	Needed pictures OR important labels are missing.
<b>Spelling, Punctuation and Grammar</b>	One or fewer errors in the report.	Two or three errors in the report.	Four errors in the report.	More than 4 errors in the report.

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