The following lessons can be used for a science unit that can be used in 1st or 2nd grade. In this 3 day unit, students shall demonstrate knowledge of basic science concepts of physical science, life science, and earth and space science through direct experience, including an understanding of concepts related to everyday life through characteristic properties of objects, patterns, and how they repeat, and cycles. By the end of this unit, students should be able to explain the life cycle of a pumpkin, identify the stages of a pumpkin's life cycle, and recognize a pattern in nature. Students will get excited about learning while doing the hands on activities included in this lesson.

First Grade Science Lessons/Unit

Life cycle of a plant - the pumpkin

Concept: the life cycle of a plant - the pumpkin.

Instructional objectives:

- students will be able to explain the life cycle of the pumpkin.
- students will be able to identify the stages of a pumpkin's life cycle.
- students will be able to recognize a pattern in nature.

Materials:

3, or 4 small pumpkins (so students can work in smaller groups)
Pumpkin, Pumpkin story by Jeanne Titherington
paper and a marker
pumpkin carving tools (or a sharp knife for the teacher to use)
life cycle picture cards
2 bowls (one with water in it)
old newspaper
2 cookie sheets
salt
access to an oven
container for baked seeds
pumpkin life cycle worksheets
copy of the pumpkin life cycle song
For centers:

dried pumpkin seeds	dirt
plastic cups	water
pumpkin carving tools	more newspaper
pumpkin life cycle cards	pumpkin theme books

orange Play-doh, tools and/or cookie cutters

Procedures:

- Day 1 -

1) Sit together in a circle, pass around a pumpkin, and ask the children what they know about

pumpkins - make a list.

2) Read the story *Pumpkin, Pumpkin.*
(this story briefly explains the pumpkin life cycle)

3) Ask the children if they learned any other facts about pumpkins, add these facts to your list.

4) Cut open the pumpkin & let each child pick out a seed, ask them if they know why seeds are important.

5) Using the picture cards of a pumpkin life cycle, discuss the life of a pumpkin.
- show the cards one at a time beginning with #1, talk with the children about what they see on the card / what it is demonstrating.

6) After that discussion, teach them the pumpkin life cycle song,

7) Then explain to the students that today they will be cleaning the pulp and seeds out of the pumpkins and that they will need to save the seeds in the bowl provided. Students can help cover work space with newspaper.

8) When the pumpkins have been cleaned and the work area is cleaned up, bring the children back together in a circle.

9) Show the students the bowl of water. Explain that it is for seeds to be soaked overnight, so that tomorrow they will be able to split them open and see the embryo inside that starts the life of the pumpkin. Let each child add a seed (you can add a few extra in case of "problems" that may come up).

10) Let children go back to their small groups so they can lay the rest of the seeds out on cookie sheets to dry. Explain that some of them are for planting (tomorrow) and that you will be baking some for them to taste.

11) After class, teacher can salt (or not) and bake the laid out seeds for tasting tomorrow.

-Embryo idea from Scholastic's "Let's Find Out," October 2000.

- Day 2 -

1) Show the children the baked seeds, pass them out so the students can taste.

2) As they are munching, bring out the list of pumpkin facts and review it with the children - ask if anyone has anything to add,

3) Ask the students if they recall the pumpkin life cycle song - sing it again!

4) Let each student choose a soaked pumpkin seed, show them how to split it open, explore the embryo inside.

5) Explain to the children that they will be working in centers;

a. pumpkin seed planting - teacher/aide/parent supervised.

b. pumpkin carving (be sure that all families approve because not all cultures celebrate Halloween-themes) - teacher/aide/parent supervised.

c. pumpkin life cycle picture cards; children can put in correct order, then mix up again for the next student to try.

d. library - provide lots of pumpkin books to read/explore,

e. sensory - orange Play-doh; add some tools and/or cookie cutters. - Day 3 -

1) Ask the children if they can recall the life cycle of the pumpkin.

2) Ask the children if they know of any other plants/foods that begin as a seed.

3) Sing your song again, but substitute these other plants/foods in place of the "pumpkin' word.

4) (Evaluation) Distribute a worksheet with pumpkin life cycle picture cards on it - mixed up, Children can color, cut, then glue them onto a long rectangle of paper in the correct order.

the life cycle of a pumpKin

(at day one....)
seed

(then about 7-10 days until you see....)
sprout / leaves

(about 2 months, 10 days later you will see....)
flower / green pumpkin

(at about *4* months, 10 days watch for an....)
orange pumpkin

Information taKen from Scholastic's "Let's Find Out," October 2000.

Pumpkin Life Cycle Song (Tune: "You get a line & I'll get a pole, honey" tune)

Together let's go plant a seed, in dirt
Together let's go plant a seed, in dirt
Together let's go plant a seed,
soon we'll have a sprout to feed,

Vines & leaves grow next, you see,

Vines & leaves grow next, you see,
Vines & leaves grow next, you see,
they start a flower for you & me,

That flower hides a pumpKin green,
That flower hides a pumpKin green,
That flower hides a pumpKin green,
LOOK closely or it won't be seen,

To turn bright orange it won't taKe long,
To turn bright orange it won't taKe long,
To turn bright orange it won't taKe long, and
that's the end of my pumpKin song,