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Unit- Plants and Seeds

Target audience- Kindergarten classroom in an international school.
- I am basing my unit on my most previous teaching position, which was teaching Kindergarten at an international school in the Netherlands. There was a high population of ESL students at the school, but we had very few students with special needs in the classroom, so I am adding a student to my class description with ADHD, who is in a classroom which I currently volunteer at once a week.

Description of class
Kindergarten class with students aged five to six. There are twelve students in the class, including:

“Jack”- ADHD, works very well one-one, enjoys listening to short stories, has difficulty following directions, participating in group work, and staying focused on and completing assignments. He may have a learning disability, as well (currently being tested).

Several students- ESL- Language is an important consideration in all lessons. This class had only 1 native speaker, and two others who spoke English proficiently at the beginning of the year. Children at this age learn English very quickly, but new students join the school throughout the year, so all of my lessons must consider the need of ESL learners.

Other considerations-
Since this is an international school, I always try to take advantage of the diversity that is available and make lessons multicultural whenever possible.

Topic- “Seeds”
*This topic is the first part of a larger unit, “Plants and Seeds” which would last about 1 month.

Week 1- Seeds
Week 2- Parts of plants, “eating plants”
Week 3- Flowers- life cycle of plants
Week 4- Trees

During this unit (seeds) students will learn what seeds are and will examine and make observations about various types of seeds. They will learn about how and why seeds travel and will learn about what conditions are necessary for a seed to grow into a plant and will plant their own seeds.

This topic is important because it helps students to learn about living vs. non-living things, and teaches them how to observe the things they see growing around them in nature, as well as what is necessary in order for life to grow. It is a great topic to teach at this age level, because young children are naturally inquisitive and this is a unit which provides many opportunities for fostering their curiousness and guiding them to more
closely observe things they see growing around them. Also, since Holland is well known for its flowers, it is a great tie-in to learning more about the country they are living in during week 3- Flowers.

**Lesson #1 – What is a seed?**

**Goals**
1. Students are able to identify and describe seeds.
2. Students understand that seeds grow into plants.
3. Students are able to locate seeds in flowers, fruits, and vegetables.

**Materials**
1. variety of seeds
2. Chart paper for KWL
4. Variety of flowers, vegetables and fruits to dissect
5. Magnifying lenses (1 for each student)
6. Observation checklist
7. Pictures and posters about seeds for science bulletin board
8. Information and story books about seeds to add to classroom library (see suggestions below.)

**Introduction**
Students sit on the carpet; show a handful of seeds and ask if anyone knows what they are.
Complete the first two parts of a KWL chart (Know, Want to know, Learned), on large pieces of seed-shaped paper.

**Procedure**
1. Read *Seeds! Seeds! Seeds!*
2. Discuss the story with students. Ask them to describe the types of seeds they saw in the story. Review the things that Buddy Bear did with seeds, while referring back to the pictures from the book. Discuss the purpose of seeds- that they grow into plants.
3. Show again the handful of seeds from introduction. Pass some around and encourage students to feel their texture and to pay attention to size, color, shape, etc. Ask them if any of the seeds look the same as the ones from the book.
4. Students guess where each seed comes from. Teacher identifies ones which students are not able to guess. Stress the fact that each seed can only grow into one thing; the plant that it came from. Illustrate this by showing a pumpkin seed, drawing a pumpkin on the white board, and placing the seed inside of the pumpkin. Ask students to name other things that they think have seeds in them.
5. Divide students into groups of 3-4. Give each group a variety of flowers, fruits and vegetables, and ask them to find their seeds. As they are working, remind students that the seeds they find will grow into the thing that they got it from.
Also provide each student with a magnifying lens to observe the seeds. Afterwards, teacher places seeds in containers for observation at the science learning table.

**Closing**
Return to the carpet and discuss what the students observed. Ask them to describe how the different seeds look and where they found them. Ask students what would happen if we planted the seeds. Non-English speaking students may use the white-board to illustrate what they have seen and learned today. Tell students that tomorrow we will be finding our own seeds outside and then describing what they look like.

**Evaluation**
Students will be evaluated for understanding during group work time, and through questions during closing time. Teacher should observe groups as they are working, ask questions, and observe if all students are participating and if they seem to understand the purpose of the activity. Teacher uses observation checklist to ensure that each child is observed during group time.

**Books to add to library**
- *A Seed is Sleepy* - Dianna Hutts Aston
- *Anno's Magic Seeds* by Mitsumasa Anno
- *From Seed to Plant* by Gail Gibbons
- *Seeds* by Ken Robbins
- *A Seed in Need: a First Look at the Plant Cycle (First Look: Science)* by Sam Godwin and Simone Abel
- *Curious George Plants a Seed (Curious George Early Readers)* by H.A. and Margret Rey
- *What Kinds of Seeds Are These?* by Heidi Bee Roemer
- *What's This?: A Seed's Story* by Caroline Mockford
- *Carrot Seed* by Ruth Krauss & Crockett Johnson

**Lesson #2 - Finding and describing seeds**

**Goals**
1. Students are able to recognize and find seeds on a nature trail
2. Students choose one seed, and identify 3 words to describe it

**Materials**
1. computer to view "Sock Seeds" video
2. Paper bags- one for each student
3. Large socks- 1 for each student to place over shoe.
4. Seed observation sheet- “My Seed”
5. pea, rice, rock, corn, bean, pumpkin seed, and bead, for “Is it a Seed?” experiment

Introduction
Review the concepts covered in lesson #1. Look at posters and pictures of seeds and point out the containers of seeds that students found in previous lesson. Ask students to define the role of a seed, and review what some of the different seeds looked like and where they found them. Show a few seeds and ask students if they know where that seed came from and what it will grow into.

Procedure
1. Watch video- "Sock Seeds" (video length- 3 minutes)
2. Tell students that we are going to go on a “seed hunt.” They may choose to collect seeds in a paper bag, by wearing a sock over one of their shoes like in the video, or through both methods. Explain that when we return to the classroom they will choose one seed which they will need to describe. Also explain that we will not be “planting” our socks as they did in the video, but I will send a note home to their parents with a link to this video, so they can complete the activity at home if they wish.
3. Give each child a small paper bag and/or a sock to collect seeds with and take them into the nature trail behind the school to go on a “seed hunt.”
4. Encourage students to look on the ground or on flowers to find seeds. Make sure that each child collects at least a few different types of seeds; point out where to find them if necessary, but allow children to explore on their own first. When seeds are found on the ground, ask students to look around and guess what plant or tree the seeds came from.
5. Bring seeds back to the classroom. Allow students a few minutes to examine their seeds and compare with classmates.
6. Review words which can be used to describe seeds- colors, shape, size, etc. Students choose one seed, and complete “My Seed.” They tape or glue the seed they chose in a box on the top, then complete 3 lines of “My seed is_______. Students should sound out the words on their own. Extra assistance can be given to ESL students, and others if needed by showing them pictures of different shapes with the word written next to each shape, and asking them which shape is closest to their seed. They may copy the word. Similar assistance can be given for other describing words.
7. As students complete their “my seed” sheet, they may choose to go to one or more of 3 activity tables. Students may choose to work individually, in partners, or in small groups at each table.
   A. Sorting Seeds- Several cups of seeds are placed on the table. Students choose one cup, and choose a method to sort them, either by color, type, shape, etc. They may use a graphic organizer to help them sort the seeds.
   B. Graphing Seeds- Students make a graph showing how many there are of each type of seed.
   C. Patterns- Students make a pattern of their choice using a variety of seeds.
Closure
Students return to the carpet and share their “my seed” sheets. They will hold their seed up for the class, and if possible, read what they have written. For students unable to read, the whole class may read aloud what is written.
Review places where students found their seeds. Ask them if they think seeds only grow right next to the plant they came from, or if they are able to move. Tell them that tomorrow we will learn about how seeds are able to move from one place to another.

Experiment- Is it a seed?
Set up experiment, which students will observe over the next couple of weeks. Ask students to predict if each of -pea, rice, rock, corn, bean, pumpkin seed, and bead are seeds. After predictions, plant each in a separate pot of soil, and ask students how we will know if it is a seed or not. They should come to the conclusion that if it is a seed, it will grow.
I have not included explanation for follow-up of this experiment in further lessons, but students would be checking it daily during morning meeting to see if anything has begun to grow.

Evaluation
Evaluation is based on completion of ‘my seed” activity, with or without help, and on presentation of the activity.
Teacher will also evaluate for understanding during students’ participation at the activity tables. Teacher can ask directed questions about descriptions of seeds, and about different ways to sort them as the students are working.

Lesson #3- How do seeds travel?

Goals
1. Students learn that many seeds are designed to travel so that they can grow in new places
2. Students research and learn ways which seeds are able to travel

Materials
1. dandelion flower turned to seed
2. poster of dandelion and its seeds
3. Several copies of each of the following books:
   a. The Dandelion Seed, by Joseph P. Anthony
   b. The Tiny Seed, by Eric Carle
   c. How Seeds Travel, by Cynthia Overbeck
   d. How and Why Seeds Travel by Elaine Pascoe
4. Recorded version of each book on tape for listening center.
5. Digital version of each book for use on computer, prepared using text-speech software.
6. Variety of seeds at learning table
Introduction
Review the types of seeds we have looked at so far in this unit. We have been focusing so far on describing the characteristics of seeds. Ask students to guess why they think seeds have different shapes. Explain that the shape of some seeds helps them to travel from one place to another. Show a dandelion that has turned to seed and blow it across the room (providing that no students are allergic). Also show students a poster of dandelion flowers and a close-up of the seeds. Ask students how the design of the seed helps it to travel. Ask students to move around the room and pretend they are a dandelion seed blowing in the wind. Return to carpet and discuss why seeds might want to travel to a new place.

Procedure
1. Tell students that being carried by the wind, like a dandelion seed, is only one way that seeds can travel. They are going to be detectives and find out other ways that seeds can travel by looking through books and by examining seeds. Show students each of the 4 books that they may choose to look through, and direct them to the learning table where they can find a variety of seeds such as maple seeds (helicopters), fruit seeds, and clinging seeds. They may also choose to listen to recorded versions of each book at the listening center, or view a digital version on the computer.
2. Walk with students to each station (library, learning table, listening center, computer) and carefully explain how they can use each to search for the information they need. If they use books to look for information, remind them that they can also learn a lot from looking at the pictures if they are not able to read or understand the words.
3. Students may choose to work individually or in pairs. If they choose to work in pairs, teacher will help with choosing the pair. Their assignment is to find 3 different ways that seeds can travel. They must use at least two different stations to look for information. They can record their information by drawing a picture, writing about it, or by explaining it to the teacher who will help them to record the information.
4. Repeat the assignment to students, remind them of where to look for information, and allow them sufficient time to explore the stations and find the information they need. Teacher should carefully monitor students as they work, helping them to stay on task if necessary, and providing further assistance to students who do not seem to understand the assignment. Teacher should guide students to ensure that all are able to complete the assignment, and should encourage students who are able to complete it easily, to search for further information.

Closure
When all students have completed the assignment of finding at least 3 ways that seeds travel, return to the carpet and allow students to share what they found out. They may share orally or by showing the pictures that they have drawn. As they are sharing, teacher completes chart, “How do seeds travel?” As students mention things like water, wind, clinging to people or animals, passing through animals, etc., teacher pastes prepared pictures showing each of these things to the chart, along with a written title explaining each. If students name others, teacher can draw a picture on the chart and write next to it. Review the reasons why seeds would want to travel.

Take students out to playground where they can find many dandelion flowers. (This lesson, of course, needs to be planned at the right time of year) Allow them to pick and blow dandelion seeds, reminding them that they are helping the seeds to travel. Also give them each several maple seeds (helicopters) and show them how they can make them “fly.”

**Evaluation**
Students will be evaluated on completion of the assignment (finding ways that seeds travel), which may be done with or without assistance. Teacher will evaluate for understanding by questioning students as they are working, and by observing the process of how they search for information.

**Preparation for next lesson**
After returning from the playground, tell students that tomorrow we will be looking inside one type of seed, a bean. We will be using beans that have been soaking in water overnight. To prepare, give each student a small plastic cup with their name written on it, and two beans to place in the cup. Ask students to carefully bring their beans to the learning table for tomorrow’s lesson.

**Lesson #4- What’s inside a seed? & Sprouting seeds**

**Goals**
1. Students observe that beans contain a “baby plant” and leaves- the beginnings of a new bean plant
2. Students learn meaning of “sprout,” and set up an experiment for sprouting a bean

**Materials**
1. *Jack and the Beanstalk* book; any version
2. Posters of beans
3. Examples of different varieties of beans
4. Soaked beans from previous lesson
5. magnifying lens- 1 for each student
6. Computer to view video - "Paper Towel Plants"
7. plate, paper towel, several beans, plastic bag for each student
8. chart showing pictures of each of the items in #7.

**Introduction**
Read *Jack and the Beanstalk* to the class, on the carpet. After the story ask students to pretend they are a seed (curl up in a ball) then grow into a plant (slowly stand up and stretch as high as you can). Tell students that today we will be learning about how bean plants really grow. Show students a handful of beans to show them an example of the many types of beans available. Also refer students to posters on bulletin board about beans.

**Procedure**
1. Review what we have learned so far about seeds- what seeds are, types of seeds, characteristics of seeds, and how and why seeds travel. Remind students that yesterday we placed some seeds (beans) in water.
2. Show students a soaked bean and demonstrate how to split it open carefully using their fingernails. Tell them that they will open their beans and observe what is inside using their magnifying lens.
3. Students get their beans from the learning table and bring them to their desks. Teacher observes as students open and examine their seeds. (They have two in case one doesn’t work, but teacher should also have extras just in case).
4. Return to carpet and ask students to either explain what they found or draw a picture of it on the whiteboard. We will not yet be learning the term, embryo. Students should just understand that what they see is a “baby plant” and leaves which will grow into a new bean plant.
5. Ask students to guess what they think would happen if they kept their beans in water for a longer time. Watch the video, "Paper Towel Plants" (video length- 1 ½ minutes) Discuss what happened in the video. Ask students questions and encourage discussion. Tell students that we will also be doing the experiment that the children in the video did.
6. Introduce the term “sprouting” which students heard in the video. Ask if anyone can explain what sprout means. After students offer meanings, teacher explains what a sprout is and draws a picture on whiteboard. Students can also look at a picture of a sprouting bean on the bean poster.
7. Review how the experiment was done in the video. Tell students what materials they will need to set up their experiment, and display a chart showing each of the necessary items. Ask students to get their materials from the learning table and bring them to their desks to set up the experiment. After students have correctly placed their beans on the paper towel and plate inside of the plastic bag, teacher gives them a small cup of water to pour over the beans. When finished, students place their beans on the windowsill.
8. As students complete their projects, they may move to the art table to complete their choice of seed activities.
   a. Make a “seed” picture by gluing seeds onto colored paper
   b. Color pictures of seed packets using markers, crayons, or colored pencils
(students may choose to write a sentence describing their picture or to label their seed packets, if they wish)

**Closure**
When all students have finished setting up their experiment and have had time to complete a project at the art center, return to the carpet, and discuss what they think will happen with their seeds. Review the meaning of “sprout.” Remind students that the “baby plant” is already inside of the bean waiting to come out. Tell students that tomorrow we will learn all of the things the seed needs in order to grow into a plant.

**Evaluation**
Students will be evaluated for understanding through teacher observation as they are examining their beans and as they set up their bean experiment. Evaluation is also done through questioning students during independent work and whole class discussion times.

**This experiment will continue over the next couple of weeks, with students regularly checking and watering their bean seeds.**

**Lesson #5- What does a seed need to grow into a plant?**

**Goals**
1. Student can identify 3 things which seeds need to grow into plants
2. Review of all material covered during week, relating to today’s lesson
3. Students plant seeds

**Materials**
1. Computer to view video- From Seed to Flower
2. Chart paper
3. Book- One Bean by Anne Rockwell
4. “Pumpkin Seed”- written on paper strips for pocket chart, with pictures
5. small pot and 3 beans for each student
6. potting soil
7. Chart with pictures describing materials needed and steps to follow.

**Introduction**
Show the video, From Seed to Flower. This 1 minute video shows plant growth in time-lapse format, giving a beautiful image of plants growing in just a few seconds time. Tell students that today we are going to learn what seeds need in order to grow into plants, as we saw in the video.

**Procedure**
1. Ask students to recall the two experiments we set up in the classroom (Is it a seed, and Sprouting Beans). What kinds of things did we give these seeds to help them
grow? Remind students of our seed walk and ask them what kind of things the seeds had outside which they needed to grow into plants. Also, review our lesson about seeds traveling, and ask if that tells us anything about what seeds need. Write and draw pictures of students’ responses on chart paper titled “What does a seed need to grow into a plant?” Students may give responses orally or draw them on whiteboard.

2. Read *One Bean* to the class, stopping to review information we have already covered and discussing new information. Encourage student response throughout book.

3. Review the responses students gave before reading the book by looking at the chart we made, and ask if they have any new things to add after hearing the story.

4. Read “Pumpkin Seed” to students.
   “-I am a pumpkin seed
   - tiny and oval
   - plant me in the soil,
   - put me in the sun,
   - water me,
   - and watch me grow!”
   Each line is written on a separate piece of paper and placed in pocket chart. (Students can mix them up and try to put them in order during free choice time later). There are also pictures that go with each line, and a real pumpkin seed taped to the first line. Teach students actions to go with each line and practice a couple of times.

5. Tell students that they are each going to plant their own beans. Remind them that beans are a type of seed. (Explain that we would need to put our beans from the previous lesson into soil after they have sprouted if we wanted them to grow into plants.) Tell students what materials they need to gather, and explain the order in which they should complete the planting- Place soil in pot, place seeds on top, spread them out, push down slightly, cover with a little more soil, place on windowsill, and water (not too much!). If necessary, students can refer to chart which shows the materials they need, and the steps they need to follow.

6. Teacher helps students as they work, making sure they put the beans in the right spot and that they don’t use too much water. If possible, ask a parent to come in this day to help students with the planting and to make sure that students stay on task.

7. After potting, tell students that they have 3 choices to show what they have learned today. They must choose one of these methods in order to demonstrate what plants need to grow. Carefully explain each of the choices, show students where they should go to complete it, and what materials they would need.
   a. Draw a picture- pictures must be detailed and show at least 3 things which plants need
   b. Write a story about a seed who wants to grow into a plant- must include 3 things the seed needs to grow.
   c. Complete a Kidspiration concept map- teacher prepares map with a picture of a plant in the middle, 3 circles connecting to it, and choices of pictures on the sides. Students must choose correct options to complete the map.
They can click on each picture to hear the name of the object. Students will also fill in a label box for each picture. Some can sound out the words on their own, and some can copy from a picture-word list after showing the teacher that they have chosen the correct pictures. Students can hear the words by clicking on them.

**Closure**

Return to the carpet. Students share the projects that they completed. Tell students that we will continue to monitor and record the growth of our beans twice a week for several weeks, using bean journals which we will create in the next lesson.

Review and complete the KWL chart we began in the first lesson. Read through the “What we Know” section, and ask students if the things they wrote were accurate. Read the “What we Want to know” section and decide if those things were covered during the week. If not, highlight them for further study. Ask students how they think we might find the information. Then complete the last section, “What we Learned.” Students are encouraged to remember things they learned from all five lessons. Teacher can guide the discussion by reminding students of activities that we did, and asking what they learned by them. Students may share orally, draw pictures on white board, or point to completed projects or posters on the science bulletin board.

**Evaluation**

Students complete one of the three project choices to show that they know three things plants need to grow. As with all assignments, projects may be completed individually, or with help from teacher or classmates, but students should be challenged to work to the best of their ability, and complete as much of the assignment as they can on their own.

**DESIGN** - how my lessons are designed so that they are accessible to a majority of students

**Universal Design**

*Multiple means of...*

**Presentation (Content)**

Lesson #1- hands-on experience with seeds, story, KWL chart, discussion
Lesson #2- review using posters, pictures, and actual seeds; watch video- “sock seeds”
Lesson #3- blowing of dandelion seeds, poster, questions and discussion, active participation- being dandelion seeds.
Lesson #4- story, video, teacher explanations, posters, beans to examine
Lesson #5- video, discussion, story, pumpkin seed activity

**Engagement (Process)**

Lesson #1- group work, students may work individually within the group of they prefer
Lesson #2- collect seeds on nature walk, choose bags or socks as collection method, opportunity for personal differences as seeds are chosen and collected.
Lesson #3- Students have several choices of where to search for information- books,
listening center, computer (digital versions of books), or by observing seeds. They can choose to work individually or in partners.

Lesson #4- All are doing same activities in this lesson- examining inside of beans, setting up bean experiment. However, they are hands-on activities which should hold interest of all students, and allow for success of each student.

Lesson #5- all plant seeds, varying levels of assistance

*Expression (Products)*

Lesson #1- discussion, drawing on board

Lesson #2- All students complete “My seed,” but then they have 3 choices of activity tables to participate in.

Lesson #3- students can write, draw, or tell teacher information to complete assignment. They can share information orally with the class or by showing pictures.

Lesson #4- students can explain or draw to show what they observed inside of beans, choice of activity at art center.

Lesson #5- Three choices of project assignments with varying levels of difficulty and which allow students to each express themselves in a way which they can be successful, multiple ways of sharing information at closing.

*Differentiated Instruction*

Lesson #1- many visuals are provided, students move from carpet-tables-carpet and are actively involved in lesson, which helps all students, particularly student with ADHD to stay engaged. KWL chart helps to organize information and prepare for unit. Directions are simple, and activity is straight forward. Teacher’s involvement in group activity helps to keep students focused, groups are chosen with needs of ESL learners and Jack, student with ADHD in mind.

Lesson #2- Extra assistance is given to students as needed for completion of “my seed.” Minimal time is spent doing seatwork: students are active during walk, then move to seatwork for completion of worksheet, then move again to activity tables, then to carpet for closure. Choice of independent, partner, or group work at activity tables. Expectations for activity are clearly explained. Understanding for ESL students is aided by use of the video.

Lesson #3- Many visuals are provided for ESL students. Assistance is given as needed for completion of assignment. Students may work in partners. Students may choose methods of research and recording of information that best suits their abilities. Assistive technologies (books on tape, digital books) are provided as options for research. Expectations for assignment are clearly explained and reviewed. Also, opportunities for movement are provided (important for Jack (ADHD), particularly)- moving like a dandelion seed, moving around classroom to research information, and going outside to help spread seeds. Jack may need extra help during this lesson to stay focused as he moves between the research stations.

Lesson #4- Visuals provided for ESL students, physical activity (grow like a bean), chart is provided showing necessary materials for experiment, story and video to generate interest and for understanding, art activity is provided so that students who quickly set up experiment do not have to wait for others.
Lesson #5 - Visuals, video, engaging story, 3 project options, assistance provided during project work as needed, poster provided showing materials needed and steps to follow, extra help from a parent, activity during lesson (“Pumpkin seed” - students are able to move bodies), movement between various activities during lesson.

**DELIVER** - how my lessons will be implemented to be accessible to a majority of students (Principles of Effective Instruction)

Lesson #1 - Students are actively engaged in lesson through hands-on activity, all are able to achieve success at their own level, teacher carefully monitors students during group work and provides necessary assistance, lesson ends with review of what was done that day, and preparation for next day’s lesson. Students are held accountable through frequent questioning and discussion of topics.

Lesson #2 - Teacher monitors students participation during walk, very little independent seatwork time, students are actively engaged throughout lesson. Lesson begins with review of previous day, and ends with a connection of how the lesson relates to what we will be learning tomorrow. Real life activity - students are finding seeds in nature which allows them to see a direct connection between seeds and the plants which grow from them. This also helps to enhance transfer of knowledge - students are applying what we have learned in the classroom to a new setting. There is continuous dialogue about what students are observing, and opportunity for many mini-lessons as students are walking outside and collecting seeds. Students have the opportunity to work in small groups or pairs at the activity tables.

Lesson #3 - High level of academic learning time; students are required to sit for only short periods, and have many opportunities for active participation in lesson and hands-on activities. Lesson begins and ends with review, and preparations are made for next day’s lesson. Teacher carefully monitors students as they are working, helping as needed. Students are encouraged to research independently or in pairs, but are offered assistance if needed so that all can succeed in completion of assignment. Related to real life by going outside and blowing dandelion seeds, helping them to travel. Level of task difficulty is moderated to meet the needs of each student.

Lesson #4 - Students involved in hands-on activities, short periods of independent work, teacher observes students as they work and asks them questions about what they see or questions related to the purpose of the experiment, lesson begins with review of what we have learned all week, and ends with review of day and preparation for next lesson, frequent dialogue about what we are learning.

Lesson #5 - Review is done of previous lessons in a way that ties all of the lessons together into what we are covering in the final lesson. Hands-on project (planting seeds), teacher is actively involved as students work on one of the three project choices, each student is able to complete the task successfully by choosing the best method for them and through any necessary assistance from teacher, frequent questions and discussions, students actively involved in all parts of lesson. Relates to real life - students are planting their own seeds and watching them grow.

Lesson ends with review of day, and cumulative review of what we have learned all week through completion of KWL chart.
Uses of **Assistive Technology** in my lessons

*Lesson #3*- In order to complete their research assignment, students may use 2 forms of assistive technology; books on tape, or digital books on the computer which have been prepared using text-speech software.

*Lesson #5*- Kidspiration software is used as one of the choices for demonstrating understanding. This allows students to complete the assignment in another format, and to review hearing the words read aloud in English.

*Also, short videos from Teacher’s Domain are used throughout the unit*

**Multiculturalism**

This is not a unit which easily provides opportunities for multiculturalism. However, it can be included by asking students to bring in photos of plants which are native to their home countries, books in their native language about plants or seeds, or seeds of fruits or vegetables from their countries. I send home a letter to parents at the beginning of this unit asking them to send in any of these things which they have available and inviting them to share any holidays they have in their culture related to plants. For example, one year I had a student from Israel, and his father taught our class about Tu B’Shevat, which they celebrate by eating fruit and planting trees. He brought in a small plant to give to every child to represent this. Anything students bring from home is placed on our learning table (with their permission), and visits from parents are scheduled anytime during the month long unit about plants and seeds.

**Unit Assessment**

Students are evaluated during each lesson through formal (projects) and informal (questions, discussions) methods. Grades are not given in Kindergarten, so students will not receive a score for the unit, but teacher must monitor that all students understand the concepts being taught, and if not, review or re-teach them in another way. Evaluation of understanding can also be done during the closing section of lesson five, when we complete the KWL chart. This is a good opportunity to see if students have learned the concepts covered during the week. All students should have the opportunity to feel successful at each lesson, and to demonstrate their knowledge in a way most appropriate for them.

**Internet Resources used for completion of my unit**

*CAST*- model lesson on plants and seeds  
http://www.cast.org/teachingeverystudent/toolkits/tk_modellesson.cfm?tk_id=21&tkl_id =141

*Paso Partners*- English language learners-  http://www.sedl.org/scimath/pasopartners/
Teacher's Domain- videos- http://www.teachersdomain.org/

Also used several course readings and information found in course modules to guide my lessons.