



COVER PAGE

Student Teacher Vanessa Adkins Supervisor \_\_\_\_\_

Cooperating Teacher \_\_\_\_\_ School District \_\_\_\_\_

Program (Please Circle) ART AYA (ECE) MCE MUSIC SPECIAL EDUCATION  
PHYSICAL EDUCATION HEALTH OTHER \_\_\_\_\_

Major (Please circle if applicable) MATH LANGUAGE ARTS SOCIAL STUDIES  
SCIENCE FOREIGN LANGUAGE

Subject Science Grade 2

Unit of study Trees / Leaves

Section 1: Lesson Foundation (3-9 points)

Section 2: Assessment Plan (6-18 points)

Rubric Rating	Points (3-9)
1.	1. <u>3</u> /3
2.	2. <u>3</u> /3
3.	3. <u>3</u> /3

Total 9 /9

Rubric Rating	Points (6-18)
1.	1. <u>6</u> /6
2.	2. <u>6</u> /6
3.	3. <u>6</u> /6

Total 18 /18

Section 3: Research Knowledge Base (2-6 points)

Section 4: Student Learning Evidence (4-12)

Rubric Rating	Points (2-6)
1.	1. <u>3</u> /3
2.	2. <u>3</u> /3

Total 6 /6

Rubric Rating	Points (4-12)
1.	1. <u>6</u> /6
2.	2. <u>6</u> /6

Total 12 /12

Overall Score (15-45): 45 /45

(Must have a score of 34 or higher to receive maximum points for Project Learning Curve)

*What a fun lesson! I loved all of your activities! Excellent Project!!*

## Section 1: Lesson Foundation

1. In the school district I am currently student teaching, we integrate much of our curriculum. We study our content subjects (social studies/science) in each area of our curriculum. In other words, science content is taught in reading, writing, math, and science. Usually, the focus for our units changes weekly. This week I planned a unit on trees. My lessons for this unit are going to be used to prepare students for the next unit of study. For example, last week we studied seasons. This unit prepared students to learn about trees because they can now understand that deciduous trees change with the seasons and coniferous trees do not. After my trees unit has been completed, we will move on to making our own family trees for social studies. The standard used for this lesson is: life sciences standard. The benchmark is: diversity and interdependence of life. The first indicator is: (6) investigate the different structures of plants and animals that help them live in different environments (e.g., lungs, gills, leaves and roots). The second indicator is: (9) compare Ohio plants during the different seasons by describing changes in their appearance.

2. As I mentioned before, we connect all subject areas with our science curriculum. By doing so, the students benefit in both reading the new vocabulary words that are being taught in science, as well as by being exposed to the content and vocabulary words in a variety of ways in other subject areas, which helps all learners. The pre-assessments were both given at the beginning of class (before the lesson). Given that, I was able to analyze what difficulties the class would have. Also, I was able to modify any instruction to address these difficulties. I made certain that I could walk around the classroom and observe or assist during my lesson as well. I did this to ensure student performance, as well as to answer any questions that may have risen. I have four children in my class who are on an IEP. Two are hearing impaired, therefore, I will be wearing an FM system as well as a microphone to a sound field system in my room at all times. One child is autistic, although, he is very high functioning and is rarely pulled out to the resource room, and another child has Cerebral Palsy. These children all sit at the same table. I did this so that I can assure that both hearing disabled children understand what is going on and can hear me, the autistic child is on task, and the child with CP is aware. There is also an aide that works with these children, so it makes her job easier if they are all close to one another.

3. There are several different instructional strategies that were used in teaching this lesson. First, teacher directed. I first introduced the parts of a tree and talked about why trees are important. I related the information to the previous unit of study (seasons/weather) so that the students could understand that trees change in

each season, as the weather changes. I also supplied the students with photos of Ohio trees in each season so that children who are visual learners could better understand. Another strategy I used was, student centered instruction. I took the class outside on a "Tree Walk." We tallied how many deciduous and coniferous trees were around our school, and talked about the leaves beginning to change color, and why we thought the color changed and why the leaves eventually fall off of deciduous trees. We then went back inside and made a graph of our trees. In addition, I also used the cooperative learning instructional strategy. I had the students do a "Think-Pair-Share." This involves a three step cooperative structure. During the first step individuals think silently about a question posed by the instructor. The questions were; why do we need trees? Why do leaves change colors? And what special food do trees need to grow? Individuals pair up during the second step and exchange thoughts. In the third step, the pairs share their responses with other pairs, other teams, or the entire group.

## Instructional Plan:

### Second Grade

1. Subject: Science  
Topic: Trees  
Time allowed: 30 minutes for two days
2. Objective: The students will be able to recognize deciduous and coniferous trees, understand why the leaves change colors and how to construct a graph.
3. Ohio Standard:
  - a. Grade level: Second
  - b. Standard: Life Sciences standard
    - i. Benchmark: Diversity and Interdependence of Life
      1. Indicator: (6) Investigate the different structures of plants and animals that help them live in different environments (e.g., lungs, gills, leaves and roots).
      2. Indicator: (9) Compare Ohio plants during the different seasons by describing changes in their appearance.
4. Materials/Resources Needed:
  - Pencil, clipboards, Fall Leaves Change Color book, crayons, collecting tree data sheet, fact and opinion graphic organizer.
5. Procedure:

Beginning:

  - Read the book, Fall Leaves Change Color. First, I will read the book to the class. Then, I will have the students partner read the books with their reading buddies. We will then meet back at large group to discuss the book. We will discuss why some trees lose their leaves and some don't. I will introduce the words deciduous and coniferous to the class.

Middle:

  - We will review what a fact is, and what an opinion is. We will fill out a chart with our reading buddies with facts and opinions on trees in the fall. We will then share a few of each.
  - On the reverse side of the sheet there are questions to challenge students' comprehension of the book. They will answer these questions on their own. When they are finished I will ask them to draw and color a deciduous tree in autumn.

End:

  - Come back to large group and discuss/recap what we have learned about trees. Answer/ask any lingering questions, etc.

Follow up activity:

- I will take the children on a “Tree Walk” outside of our school building. We will walk around and tally how many deciduous and coniferous trees we can find in our community.
  - When we are finished with our walk, we will come back to the classroom and make a bar graph to demonstrate our findings.
6. Accommodations and Modifications: I will be wearing two different microphones during instruction. One is to an FM system; the other is for an environmental sound field. When I am finished giving directions, etc, I will give the microphones to the hearing impaired student’s reading buddies so that they can hear their partners. There will be an aide in the room to sit with the other two children (Cerebral Palsy, Autistic) and read in a small group setting. For the students who finish early, I will provide them with a Useful Trees word search (this activity will demonstrate the importance of trees and that they provide many useful items for humans, and animals).
7. Assessment: The students will be assessed through two pre-assessments and two post assessments. The first test is a multiple choice test where students will have to choose an answer from a list. The second assessment is a KWL chart that we will complete at large group. The two assessments are used in both the pre-assessment as well as the post assessment. I will also make sure I am available to walk around and informally observe the students, as well as to make sure the aide does not need anything, or does not have any questions.

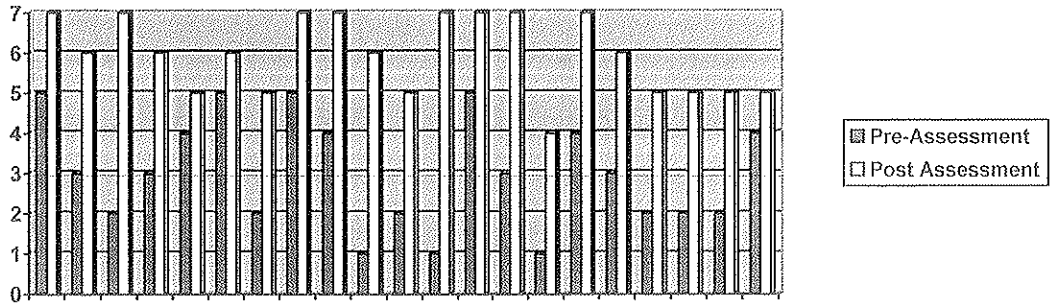
## Section 2: Assessment Plan

1. I thought it best to use the same assessments for both my pre-assessment and post assessment. I chose to do this because I thought I would be able to see more growth on an individual level. In addition, I wanted to see what the children knew before the material was introduced compared to after the lesson was complete. The first assessment I used was a multiple choice test. The test was used to see if the students knew the parts of a tree, as well as the way in which trees benefit people and animals, and what a tree needs to grow. This particular test was worth seven points (one point per question). I read the questions and multiple choice answers aloud and the students filled in the bubbles together. I did this to ensure the vocabulary words would not confuse or frustrate the students. The second assessment I used was a KWL chart. I had the class come to our large group meeting area and we made a poster together. I asked them what they already knew about trees first, we filled in the "K" section of the chart. Then I asked them if there were any questions they had about trees that they did not have answers to. I told them to tell me what they wanted to learn about trees and wrote those questions in the "W" section of the chart. After completing the lesson I had prepared, the students took the multiple choice test over, and we filled in the "L" section of the KWL chart. These assessments are useful because they both gave me a glimpse of what the class already knew (so that I did not review the material too much), and also what they had learned from the lesson once it was completed.

2. The unit took about a week to teach. I gave both pre-assessments on the first day before any material had been introduced. It took roughly 20 minutes to do the KWL chart and 15 minutes to complete the multiple choice test. I then graded the tests, looked over the chart, and compared the two. After the unit had been taught, I gave the children the multiple choice test. I did this first to make sure I received a good look at what each individual had learned. I did not want the students to get information from the KWL chart. After the test had been administered, the class came to the large group meeting area and we finished the "L" section of the KWL chart together. When looking through the data I collected, I found that every student made some progress when comparing the pre and post assessments.

3. When analyzing the data that I collected, I found that there was a definite increase in students' knowledge from one week to the next. However, some students did not get perfect scores, and did not progress as much as others. Nevertheless, every student did have some knowledge growth from this unit. The first test was the multiple choice test. There were seven questions; I scored them one point per question. On the pre-assessment, the class average was a three. On the post assessment the average was a 6.

Pre-Assessment (multiple choice out of 7)	Post Assessment (multiple choice out of 7)
5	7
3	6
2	7
3	6
4	5
5	6
2	5
5	7
4	7
1	6
2	5
1	7
5	7
3	7
1	4
4	7
3	6
2	5
2	5
2	5
4	5



The second assessment used was a KWL chart. The chart looks like this:

what I KNOW	what I WANT to know	what I LEARNED
<ul style="list-style-type: none"> <li>• They grow</li> <li>• How to plant them</li> <li>• They are wood</li> <li>• Live a long time</li> </ul>	<ul style="list-style-type: none"> <li>• How tall do they grow?</li> <li>• How do they grow?</li> <li>• Why do they</li> </ul>	<ul style="list-style-type: none"> <li>• Roots soak up water so the tree can grow</li> <li>• Deciduous/Coniferous</li> <li>• Different trees are different sizes and</li> </ul>

<ul style="list-style-type: none"> <li>• Need water</li> <li>• Have roots, leaves and branches</li> <li>• Leaves change</li> </ul>	<p>need roots?</p> <ul style="list-style-type: none"> <li>• How long does it take to grow?</li> <li>• Why/how do leaves change color?</li> <li>• How do trees get holes in them?</li> <li>• Why do some flower?</li> <li>• Why can't we see them grow?</li> </ul>	<p>shapes</p> <ul style="list-style-type: none"> <li>• Chlorophyll and sugar cause the leaves to turn colors</li> <li>• Water, light and air to live</li> <li>• Make their own food</li> <li>• Some make fruit (deciduous)</li> <li>• Have compound, simple, and needle leaves</li> <li>• Leaves make food</li> <li>• Chlorophyll makes the leaves green</li> <li>• Trees give us oxygen</li> <li>• Have roots, stems, leaves, bark, branches, and a trunk</li> <li>• People and animals put holes in trees</li> </ul>
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Although this chart makes it hard to see individual progress, no students stayed the same, nor did any student regress.

### **Section 3: Research Knowledge Base**

1. When researching the instructional strategies I used, I found that through teacher directed instruction, students are given the opportunity to listen and ask questions. According to Jeff Lindsay, direct instruction is, “an educational technique that challenges the mantras of modern bureaucrats and shows that even the most disadvantaged children can excel, if only schools will teach them. And the evidence for the success of Direct Instruction is much more than anecdotal: major long-term studies provide powerful evidence of its success, and disturbing evidence for the futility of the more popular techniques that dominate our schools.” Also, according to the study, Project Follow Through, “students receiving direct instruction did better than those in all other programs when tested in reading, arithmetic, spelling, and language. Contrary to common assumptions, direct instruction improved cognitive skills dramatically relative to the control groups and also showed the highest improvement in self-esteem scores compared to control groups.”

The next strategy I used was, student centered instruction. Student-centered teaching focuses on the student. Decision-making, organization, and content are largely determined by the student’s needs. Even assessment may be influenced or determined by the student. The instructor acts as coach and facilitator. In many respects, the goal of this type of teaching is the development of the student’s cognitive abilities.

According to Ashley Montagu, “how students perceive each other and interact with one another is a neglected aspect of instruction. Much training time is devoted to helping teachers arrange appropriate interactions between students and materials (i.e., textbooks, curriculum programs) and some time is spent on how teachers should interact with students, but how students should interact with one another is relatively ignored. It should not be. How teachers structure student-student interaction patterns has a lot to say about how well students learn, how they feel about school and the teacher, how they feel about each other, and how much self-esteem they have.” This is why I feel that cooperative learning is a useful and important instructional strategy. I feel that it is important for students to learn to work as a team, in partners, as well as independently. Cooperative learning allows students to perceive a positive interdependence, have face-to-face interaction, individual accountability and responsibility, and to develop small group skills. Working together to get the job done can have profound effects on students and staff members.

2. The first assessment I used was a multiple choice test. This was used for both my pre-assessment as well as my post assessment. There are several advantages to multiple choice tests. "Multiple choice tests often require less time to administer for a given amount of material than would tests requiring written responses. This results in a more comprehensive evaluation of the candidate's extent of knowledge. Because this style of test does not require a teacher to interpret answers, test-takers are graded purely on their selections, creating a lower likelihood of teacher bias in the results. Factors irrelevant to the assessed material (such as handwriting and clarity of presentation) do not come into play in a multiple choice assessment, and so the candidate is graded purely on their knowledge of the topic." *sample?*

The KWL chart was very effective because everyone was included. This was important to me because not all of the students in my class can read and write at grade level. Therefore, it was a better judgment to have the class do this chart at our large group meeting so that I could script for them. I wanted to get information and ideas from every student, and in using this chart, I was successful. Each child has seen a tree before; as a result, they each already had some prior knowledge of trees. In addition, they all had a question about trees that they wanted to investigate and learn about. "Teachers use this method to get a feel of where their students are at (or how much they know about a certain topic). It gives the teacher a starting point, they become aware of what their students already "know" about a certain topic" (Jen). Also, I like using KWL charts because if displayed in the classroom, it can also provide a visual map for students of how much they have learned.

#### **Section 4: Student Learning Evidence**

1. When analyzing the data from both the pre-assessment and the post assessment, I found that every student made significant progress. The difference was about three points (pre-assessment average was a 3, post assessment average was a 6). Although some students only progressed by one point, others made five and six point increases. This is a huge increase when you consider the test was only worth seven point total. When examining the multiple choice test, as well as the KWL chart, it is obvious that the students made progress throughout the week, and my teaching strategies and lessons combined made a positive impact. I'm not sure what I should have done to better improve some of the scores, however. I looked back at my data, and only four students scored a 71% or below. Coincidentally, those four students are the same four that are on an IEP. Those four students still made significant progress. I feel that if I, or an aide, would have sat with those students longer and spent more one-on-one time reading with them or answering questions, they may have shown more progress. Still, I think this was a good thing because now I know who is struggling and who is succeeding. I can work on test taking skills and reading comprehension more with those students who are struggling and hopefully I will see even more improvement.

2. I have learned a tremendous amount of information while working on this project. I learned that it is imperative to administer a pre-assessment before teaching a new lesson or unit. This is important because you, as a teacher, need to know where those students are academically before you start teaching. If all the students would have known everything I had planned prior to teaching, it would have all been a review, and that may not have been necessary. Therefore, finding out what your students already know, can greatly influence your future lessons and adaptations. I have also learned that evaluating pre and post assessments is very important. This can tell you a great deal about the lessons you taught, the strategies you used, what is working and what may not be working. Not only will it show me student progress, it will also let me know that I am doing my job as an educator. I can honestly say, from now on I will always give pre-assessments before I introduce new material. Usually, every unit has a post assessment of some kind, and I will continue to use those. However, I will definitely make certain that I use a variety of instructional strategies, and make use of at least one pre-assessment. This project was very important to me and I took it very seriously. I have learned a lot about myself, being an educator and my students.

## **Resources:**

From Wikipedia, the free encyclopedia. (June, 2008). *Multiple Choice*.  
[http://en.wikipedia.org/wiki/Multiple\\_choice](http://en.wikipedia.org/wiki/Multiple_choice)

Roger T. and David W. Johnson. (1994). *An Overview of Cooperative Learning*.  
<http://www.co-operation.org/pages/overviewpaper.html>

Dr. Spencer Kagan. (2001). Cooperative Learning.  
<http://edtech.kennesaw.edu/intech/cooperativelarning.htm#activities>

Jeff Lindsay. (July, 2004). *What the Data Really Show: Direct Instruction Really Works! The dirty little secret from the biggest education study ever*. <http://www.jefflindsay.com/EducData.shtml>

Donna Ogle. (1986). *Strategies for Reading Comprehension*.  
<http://www.readingquest.org/strat/kw1.html>