Topic: Apple Life Cycle & Physical Characteristics **Subject Area:** Science **Grade Level:** 2

Rationale: It is important for students to learn about life cycles and the anatomies of different living things because all life is interconnected. Humans have an impact on other life cycles and are responsible for progress of other cycles around them. Students can connect with life cycles because they are growing and changing themselves. Studying the similarities between the anatomies of different fruits helps students to draw connections between living things based on physical characteristics.

Complementary Standards:

Science

Primary:

2.2L.1 Describe life cycles of living things.

2.3S.2 Make predictions about living and non-living things and events in the environment based on observed patterns.

2.3S.3 Make, describe, and compare observations, and organize recorded data.

Secondary:

2.1L.1 Compare and contrast characteristics and behaviors of plants and animals and the environments where they live.

2.3S.1 Observe, measure, and record properties of objects and substances using simple tools to gather data and extend the senses.

Unit Focus:

COGNITIVE – Knowledge & Reasoning	PSYCHOMOTOR – Skills & Processes	AFFECTIVE – Attitudes & Dispositions
• Compose a venn diagram of similarities and differences between apple and pumpkins. (compare & contrast) • Recall the stages of the apple life cycle with visuals (sketch) and labels to describe each stage. • Students will predict what will happen to a decomposing control/variable apple.	• Students can observe a decomposing apple. • Keeping and using a apple science observation journal. • Create an artistic representation of the apple tree throughout all four seasons.	• Students will respond to the changes they see with the decomposing apple. • Students will examine their own predictions. • Students will assess their attitudes toward the subject of life cycles • Collaboration in small groups • Active daily participation

Performance Goals:

1. Given the apple life cycle video and input chart, students will be able to correctly sequence and label the apple life cycle, including a scientific sketch representing each stage within the life cycle.
2. Given *Amazing Apples* and the 'Blossom to Fruit' input chart, students will be able to identify and label the different parts of an apple both inside and out using newly learned vocabulary.
3. Given student's experience studying both apples and pumpkins through various mediums, students will be able to compare and contrast pumpkins and apples based on physical characteristics and their life cycles.
4. Given the observation of a decomposing apple slice, students will work independently to complete an "I notice…" journal entry along with a prediction for their following entry.

Overarching Essential Question(s):	**Formative Assessments:**	**Summative Assessments:**
How does life on Earth exist? How is life interconnected among all living things? What is the function of a plant? **Topical Foci:** The Apple Life Cycle Anatomy of an Apple Seasons of an Apple Tree	• BK & L (before knowledge and learned) • Regular Observation Journal checks • Exit cards • Apples "can, have, are" • Parts of an Apple • Involvement in whole and small group discussion • Pre-assessment: apple tree life cycle	• Post-assessment: sequence the apple life cycle • "3 things I learned…"

Nov. 7	**Nov. 12**	**Nov. 13**	**Nov. 14**	**Nov. 15**
Day 1	Day 2	Day 3	Day 4	Day 5
Pre-test (life cycle) Apple tree animated	Read Amazing Apples "Can, Have, Are" chart	Text to text connections between Amaze. Apples	BK & L for apples Read Apples, Apples	Parts of an apple Read A Day at the Apple

video Life cycle input chart *Apple Questions	(whole group) *apple slice journal	and The Apple Pie Tree (read) Seasons of an apple tree drawing *exit card (connections)	Everywhere! Students do individual "Can, Have, Are" graphic organizer *apple slice journal	Orchard and look at a cross section of a slice as the apple grows *3-2-1 exit card
Nov. 18	**Nov. 19**	**Nov. 20**	**Nov. 21**	**Nov. 22**
Day 6	Day 7	Day 8	Day 9	Day 10
Life Cycle of an Apple tree & scientific sketch of life cycle *apple slice journal	Apple Inspection Packet *Acrostic & *Our Tree* poem	Golden Delicious: A Cinderella Apple Story (Finish) Seasons of an apple tree	Read Picking Apples and Pumpkins Venn diagram of pumpkins and apples Students do a compare and contrast graphic organizer	Review Jeopardy Game Post test (life cycle) *exit card

Prerequisites:

Knowledge of pumpkin life cycles and physical pumpkin characteristics is essential in order to participate in this apple unit. Students will be making connections between apples and pumpkins throughout this unit of study.

Materials:

- Books: *Amazing Apples, The Apple Pie Tree, Apples, Apples, Everywhere, Golden Delicious: A Cinderella Apple Story, Picking Pumpkins and Apples*
- Technology: SMARTboard, document camera
- Student journals: Apple Inspection (packet), apple slice observation
- Graphic organizers (pre-made): Venn diagram, compare and contrast, "can, have, are"
- Apple word-web
- Apple portfolio: Where student work will be kept throughout the unit

  Jeopardy (review game) – http://www.superteachertools.com/jeopardy/usergames/Nov201347/game1385003785.php
- *The Apple Life Cycle Animation* (video) - http://www.youtube.com/watch?v=chNwmpqSa78
- *Life Cycle of an Apple Tree* (video) - http://www.youtube.com/watch?v=0DDDBwk_-bM

Introducing the Apple Life Cycle Nov. 7th

_x_ Cognitive ___Affective _x_Psychomotor

Instructional Objectives:

The learner will demonstrate the ability to…

- Identify each stage in the apple tree life cycle.
- Describe the physical changes that occur throughout the life cycle of an apple tree.
- Connect similarities between the life cycle of an apple tree and pumpkin.

Learning Targets:

I can…

- Explain the life cycle of an apple tree.
- Describe the physical changes that an apple goes through.
- See connections between apple tree and pumpkin life cycles

Standards/Benchmarks:

2.1L.1 Compare and contrast characteristics and behaviors of plants and animals and the environments where they live.
2.2L.1 Describe life cycles of living things.

Time	Teacher	Student
15 minutes	Explain to students that they are going to be taking a pre-test. This test is to show any prior knowledge that they may have going into this unit. This test is used to frame the unit based on the results of the pre-test. Hand out 'The Life Cycle of an Apple' worksheet. Allow students to think about what they know about life cycles or apples in general. They may draw pictures, write words, or both. Encourage students to try their best, this won't be graded it is simply to find out prior knowledge.	Students will fill out the worksheet as best as they can use sketches, words, or a combination of both.

Instructional Input: Checking for understanding, teacher questions, input chart

Time	Teacher	Student
15 minutes	Bring students together on the carpet. Create	Students will listen as the

	an input chart (Figure 1) for the students laying out all the stages of the apple life cycle. After drawing out each stage describe what is happening as the apple tree grows and what sort of changes can be seen. List these next to the corresponding stage.	stages of the apple life cycle are laid out on the input chart.
10 minutes	Watch the video *Apple Tree Life Cycle Animation* as a whole class. Watch it fully once. Ask students to be thinking about the stages (that were just discussed) that they can now see happening as the apple tree grows. Replay the video but this time stop at each stage of the life cycle (6 stages total). Each time refer back to the input chart; add the name of each phase with the students and underline new key vocabulary to be added to the apple unit word-web. Underline: *decompose*, *germinate, seedling, blossom, pollinate,* and *wilt*.	Students will watch the video and think about how they are recognizing individual stage that the apple tree goes through. Students will describe the changes they see happening in the video throughout each growth stage.

Closure:

Time	Teacher	Student
10 minutes	Revisit the 'Life Cycle of a Pumpkin' poster that was made at the beginning of their last science unit. Discuss as a whole group some of the similarities between the two life cycles. (text-to-text connections) *This discussion will be important because throughout the unit students will be making connections between pumpkin and apples.	As a group come up with some similarities between the life cycles of pumpkins and apples.
	Send the students back to their desks with a note card. Prompt: Have students write a question that they have about the apple tree life cycle or apples in general. Explain to them that we will revisit these questions throughout the unit.	On the provided note card students will write one question that they have about their upcoming apple unit.

Literacy Connection:

- Students will use words and pictures in order to describe the different stages of the apple life cycle on the pre-test. Students are learning to understand that pictures can tell stories just as well as words. They use strategies that involve using pictures to help tell a story during their literacy block.
- Working through the definition of new vocabulary based on the context of the discussion. This is a reading strategy that readers of all levels work with, it is necessary to be able to define a word based on its specific context
- Students will come up with a question that has to do with the apple unit that they are about to start. They should think of a related question that has to do with the specific topic being presented.

Assessment/Learning Evidence:

- Each student will display any prior knowledge that they have regarding the six stages of the apple tree life cycle.
- Students will be able to understand and retell the changes that occur during the life cycle of an apple tree on the post-test.

Materials, Resources, Technology:

- 'The Life Cycle of an Apple' pre-test (attached)
- Exit card - notecards
- Apple Life Cycle input chart
- SMARTboard
- *The Apple Life Cycle Animation* - http://www.youtube.com/watch?v=chNwmpqSa78

Modifications/Adaptations/Accommodations:

By allowing all students the opportunity to either draw, write words, or both on their pre-test it takes the pressure off students who may see pictures as being more helpful because they may lack the specific vocabulary. But this option also allows students to not be confined only to pictures or only using words to show their knowledge. (TAG, IEP)

When I create the input life cycle chart with the students we will be using visuals, writing descriptions, and watching a video describing the life cycle of an apple tree. This also allows all types of learners to connect with the material I am presenting. (IEP)

Classroom Layout, Logistics, Grouping and Management of Students:

Students will complete the pre-assessment at their desks. This is an independent assessment, no peer or teacher assistance will occur during the test time. Students may use "blinders", like they use for other tests, this is to ensure their answers are their own thinking. I do not want this to be collaborative because I need to know what each individual knows or doesn't already know about the apple life cycle.

During the remainder of the lesson (video, input chart, and wrap-up) students will gather at the rug in order to see the SMARTboard and life cycle poster better. Having students at a closer proximity will help allow me to manage students during the video and making of the input chart, ensuring participation.

For behavior issues I will refer back to our "target & goals" expectation chart so that students know what behaviors I am expecting during our learning time (collaborating during discussion, independent jobs…).

Describing an Apple (Part 1) Nov. 12th

_x_Cognitive ___ Affective _x_Psychomotor

Instructional Objectives:

The learner will demonstrate the ability to…

- organize characteristics of what apples and apple trees can, have, and are using a graphic organizer.
- express observations about the apple slice and draw an accompanying scientific sketch.
- predict changes for the next observation entry.

Learning Targets:

I can…

- organize thoughts to describe what apples can, have, are.
- describe physical observations about the apple slice.
- draw a scientific sketch of the apple slice.
- predict what I will see for the next journal entry.

Standards/Benchmarks:

2.2L.1 Describe life cycles of living things.
2.3S.2 Make predictions about living and non-living things and events in the environment based on observed patterns.
2.3S.3 Make, describe, and compare observations, and organize recorded data.

Time	Teacher	Student
10 minutes	Read Amazing Apples. Allow students the chance to explain any connections they may make during the book. *This practice of reading strategies is encouraged everyday within my clinical classroom After reading the book ask students if there are any important words that we may need to add/define up on the word-web.	Listen to book; students should be making connections from previous books and learning (text-to-text, text-to-self, text-to-media, and text-to-world). Use non-verbal signals.

Instructional Input: Modeling, guided practice, teacher questioning, table group discussions

Time	Teacher	Student

15 minutes	As a whole group work to fill out the "can, have, are" chart from what we have learned so far about apples and the apple tree life cycle. (Figure 1) *This is similar to the chart they completed regarding pumpkins. Have students come up with information that fits into each category based on what they have learned about apples so far during this unit. Let students know they will be creating their own graphic organizer of Apples "Can, Have, Are" later this week with their new knowledge.	Actively participate in starting this chart using new information gained from today's book and the life cycle discussion from the previous lesson.
5 minutes	After completing the "can, have, are" chart students will propose possible questions they are curious about and would like to explore during this lesson. I will record these questions on the chart paper next to our chart. We will revisit these questions throughout the unit and then record the answers we find (figure 2).	Students will think of questions that they may be interested in exploring during this unit through books, videos, and discussion.

Closure:

Time	Teacher	Student
15 minutes	Cut the apple slice in front of the group. Place it underneath the document camera so that the entire class can see. Label the apple so that students will know what kind of apple they are watching decompose. Explain that as a class we will be observing and recording physical changes that we see happening to this *decomposing* apple slice. Model & complete the journal entry template with the students (cover and entry #1). Remind students what a scientific sketch means (drawing only what you see, used to remind you what it looked like, quick important details). Leave this example on the document camera. *allow students to use the modeled entry as a reference for their first observation journal	Watch as the apple is cut. Notice physical details about this particular apple slice. Fill in journal cover (name & color in apple) and complete daily journal entry in science observation notebook including a scientific sketch to accompany their description. Prompt: *"What I notice today…"* *"My prediction for next time*

	entry.	*is…"* *Sketch a quick picture of the apple slice today.* Thinking about physical changes: *Has the color changed? Is anything growing (mold)? What do you infer it feels like if you could take it out and touch it?*

Literacy Connection:

- Journal entries allow for students to practice writing and describing their personal observations. Students are expected to write a description and then draw a picture that reciprocates the written description.
- Discussion of connections made while reading a book, text-to-text/self/world/media, show that students are comprehending and thinking about how new information relates to other experiences.
- Students will come up with questions that have to do with the apple unit that they are starting to delve into. They should think of a related question that have to do with the specific topic being presented.

Assessment/Learning Evidence:

- In student journals they are expected to use descriptive words and phrases based on their observations for that day. By doing this, students will show that they are attentively observing the apple from entry to entry. Their pictures, entries, and predictions should reflect what they are seeing that particular day.
- The "can, have are" chart lets me know that students are grasping some different ways to describe apples (this is done through whole group discussion so only partial participation is occurring).

Materials, Resources, Technology:

- Document camera
- "Can, have, are" class chart
- Amazing Apples by: Jeff Bauer
- Apple portfolios
- Science observation journals
- Fresh Organic Apple
- Plastic bag (to store apple)
- Knife
- Cutting board

Modifications/Adaptations/Accommodations:

The student journal prompt includes a sentence frame to begin their entry. This is helpful for students who may need more structure in order to begin their writing. They may copy this sentence starter for each of their sentences. As the teacher, I will also be modeling for the students how to complete their first journal entries. (IEP)

Classroom Layout, Logistics, Grouping and Management of Students:

The whole class will gather at the rug for the reading of Amazing Apples and the introduction to the class "can, have, are" chart. By having students at close proximity on the rug I can easily manage student behavior and move students around if disruptions occur. It also fosters better discussion because students can simply turn to their neighbor when discussion questions are asked.

To complete their journal observation for the day students will remain at their seats or on the carpet (if using a clipboard). The apple will be displayed using the document camera. This is an independent writing assignment but table group discussion is encouraged. Science journals are always kept in student portfolios. If a journal has been misplaced students will be supplied with a blank sheet of lined paper in order to complete their journal prompt that day.

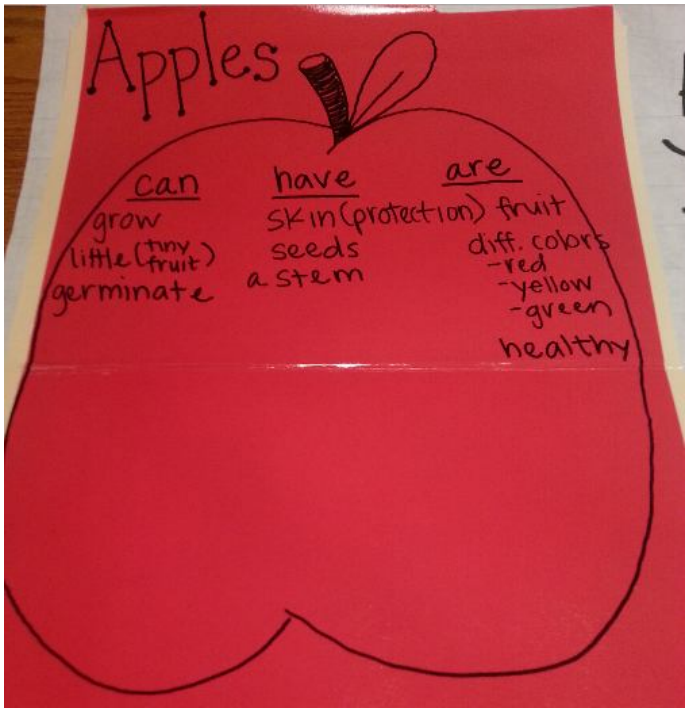


Figure 1 – "Can, Have, Are" Chart

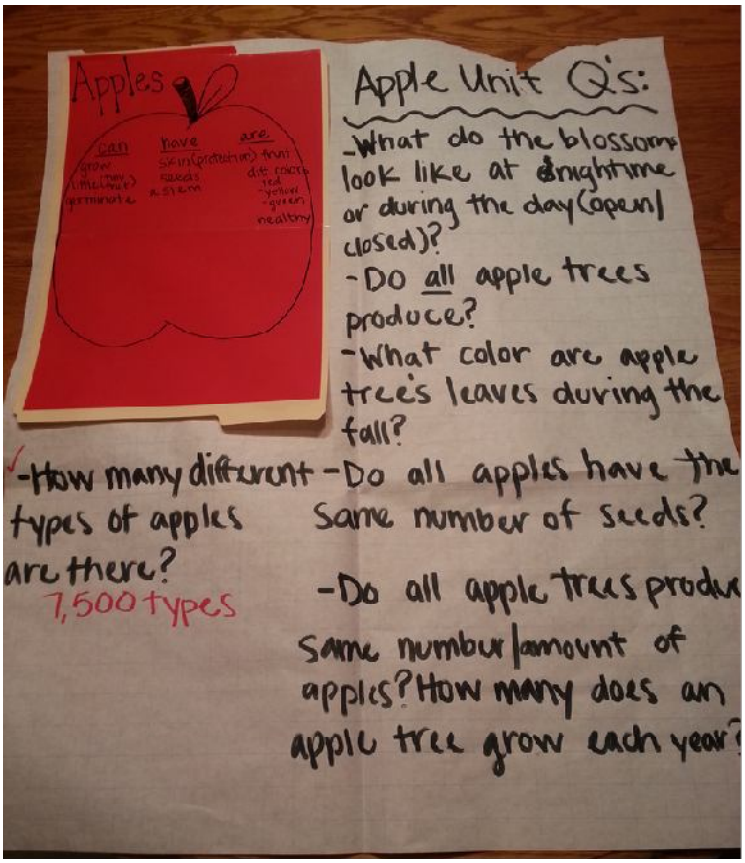


Figure 2 – Student Apple Questions

Seasons of the Apple Tree

Nov. 13th

_x_ Cognitive _x_ Affective ___ Psychomotor

Instructional Objectives:

The learner will demonstrate the ability to…

- arrange and detail, with illustrations, the changes that an apple tree goes through during the different seasons of the year.
- relate and discuss text-to-text connections based on Amazing Apples and The Apple Pie Tree.

Learning Targets:

I can…

- draw with details the changes that the apple tree goes through throughout the year.
- make text-to-text connections about apples and apple trees.

Standards/Benchmarks:

2.2L.1 Describe life cycles of living things.
2.3S.2 Make predictions about living and non-living things and events in the environment based on observed patterns.

Time	Teacher	Student
15 minutes	Read The Apple Pie Tree. Ask students to think about specific text-to-text connections with Amazing Apples. After reading have students think-pair-share their text-to-text connections. As a group talk about how apple trees can live for many years. But throughout the seasons their appearance changes (reference life cycle video). Discuss what sort of physical changes students have seen happen to trees during the different seasons (personal experience, books, and new knowledge). Ask: "Look out at the window, what have you noticed happening to the leaves on the trees	Think-pair-share with a neighbor and talk about text-to-text connections. Share with the class. As a whole group come up with ideas and words to describe how an apple tree looks during all seasons.

	outside now? What about during the winter? Spring? Summer?" Create a list with the class about how trees look during those seasons. Refer back to the book's illustrations of how an apple tree looks during the seasons. Do this in order to receive more details from students. Record student descriptions on the SMARTboard "seasons chart". Explain to students that we will be creating a picture of apple trees during different seasons throughout the year. This will be the decoration on the outside of their apple unit portfolios.	

Instructional Input: modeling, guided practice ("I do…you do…"), teacher questioning, think-pair-share

Time	Teacher	Student
5 minutes	Students will return to their table groups where their apple portfolios will be waiting. Ask students to wait for you to model exactly what we are doing. Using the document camera model how to draw 4 tree trunks.	Students will watch as the teacher models how to set up their picture.
10 minutes	Students will then have time to draw their four tree trunks, make sure they do not go any further because they don't know the order that the seasons are going to go in. Bring the students' attention back to the document camera and write the labels under each tree trunk. Then, draw how the tree will look during winter. Refer back to the list of characteristics for winter and reiterate what happens to trees during this time. Add snow to the ground so that it is explicitly known that the season is winter, weather is an important indicator for seasons.	Follow the steps that were just modeled in order to put together their tree's transformation from season to season. Students will use crayons and colored pencils to create their drawings.
15 minutes	Allow students to start labeling their seasons and drawing the winter apple tree. Repeat the steps ("I do… you do…") with spring, summer, and autumn using the different characteristics for each season	

	change as well as weather.	

Closure:

Time	Teacher	Student
5 minutes	Give each student a note card as an exit card. Prompt (displayed on the SMARTboard): What is a connection that you made today (text-to-text/self/media/world). Describe and label your connection.	On the provided note card write about one or more connections that you made during todays lesson (text-to-text/self/media/world). Describe and label.

Literacy Connection:

- Making text-to-text connections will show that students are able to comprehend one particular book and relate it to new information from another. This is being practiced daily throughout a variety of subject discussions.
- Students will be creating a collaborative list of apple tree characteristics during different parts of the year based on texts they have read as well as personal experience. They will then be drawing their own illustration to describe the changes that occur during different seasons.

Assessment/Learning Evidence:

- Students will be able to draw and detail an apple tree accurately using colors, leaves, apples, and weather in order to describe which season the apple tree is in.

Materials, Resources, Technology:

- The Apple Pie Tree by: Zoe Hall
- Amazing Apples by: Jeff Bauer
- Apple portfolios
- Document camera
- Colored pencils/crayons
- SMARTboard
- Exit card - note card

Modifications/Adaptations/Accommodations:

If more advanced students finish their drawing early they may label descriptions of what is happening to the apple tree throughout different seasons (example: blossoms, apples…). (TAG)

Modeling piece by piece exactly how to go through the process of this drawing will help students who have a harder time staying with the group. Also leaving my drawing under the document camera will help students to see where the group is at. My cooperating teacher and I will be available to assist students who may be struggling. (IEP)

The list we created on the SMARTboard will be available for reference during the drawing. I will switch back and forth between the document camera and season description list. This is helpful for students may not remember the exact descriptions for each season. Modeling the drawing will be a helpful support for these students as well. (IEP)

Classroom Layout, Logistics, Grouping and Management of Students:

During the read aloud students will all be gathered at the carpet. This is a better environment for group discussion. Students are at close proximity for both behavior management and ensuring participation. It also makes it easier for students to see the illustrations from their desks.

To complete their season drawings students will be completing work at their table groups. If this becomes an issue for any students, due to behavior or lack of visibility, they may use their clipboard and come down on the rug where they are closer to the document camera.

Describing an Apple (Part 2) Nov. 14th

_x_ Cognitive ___ Affective _x_ Psychomotor

Instructional Objectives:

The learner will demonstrate the ability to…

- organize characteristics of what apples and apple trees can, have, and are using a graphic organizer.
- express observations about the apple slice and draw an accompanying scientific sketch.
- predict changes for the next observation entry.

Learning Targets:

I can…

- organize thoughts to describe what apples can, have, are.
- describe physical observations about the apple slice.
- draw a scientific sketch of the apple slice.
- predict what I will see for the next journal entry.

Standards/Benchmarks:

2.2L.1 Describe life cycles of living things.
2.3S.2 Make predictions about living and non-living things and events in the environment based on observed patterns.
2.3S.3 Make, describe, and compare observations, and organize recorded data.

Time	Teacher	Student
5 minutes	Discuss how we are going to make a "Before Knowledge & New Learning" chart (similar to what was done with pumpkins). (Figure 1) Ask students to take 30 seconds to think about information that they have learned about apples or the apple life cycle so far during the unit. Call on different students (volunteers), record their answers (and their names – ensuring participation and used as formative assessment).	Students will think to themselves about things they knew before the unit then volunteer that information.

Instructional Input: popsicle stick questioning, teacher questioning, independent practice, guided practice

Time	Teacher	Student
15 minutes	Read Apples, Apples Everywhere. Have students gather at the carpet. Stop throughout the book to talk about the specifics of harvesting apples. Allow time for text connections. Ask (during reading): "What are the characters telling us about the time of year that apples are harvested? Why do you think apples need to be stored in a cool place? Do apple colors tell us how they may taste? Then allow students another 30 seconds to think about some new knowledge that they have gained during these first few days of our apple unit. For this portion ask for students who haven't yet shared also call on students at random because everyone should have learned one thing. Record names and answers in "new learning" column. (Students may say the same things as other, tally names if learning is repeated)	Students will listen to read aloud and participate in discussions. Students will then think to themselves about new knowledge learned from this book that has been gained throughout unit thus far and share.
5 minutes	While still at the carpet, revisit the "can, have, are" chart that was made a few days before. Explain that students will be creating their own chart similar to the one we made as a group.	
15 minutes	Dismiss students back to their tables to complete their own graphic organizer with descriptive details of what apples can, have, and are. Remind students to use the sentence starter of: "apples can…, apples have…, apples are…" in order to decipher where each description belongs on the chart. Write these sentence stems on the SMARTboard.	Students will create their own version of this chart. This will be done independently but table group discussion is encouraged to spark new ideas.
5 minutes	Bring attention back to the class "can, have, are" chart (display under the document camera). Using popsicle stick questioning ask students at random for things that they added to their chart, add these new	Students will offer ideas from their individual "can, have, are" chart to add to the class's chart.

5 minutes	descriptions to class copy. Create a word-web using important words that the students have learned about apples (ex: parts of an apple). This will be displayed for students and referred to daily when we find words we may need to add and remember (figure 2).	Students will offer their ideas about important words that need to be added to the word-web.

Closure:

Time	Teacher	Student
10 minutes	Students will complete their apple observation journal entry for today. Use questioning to provoke student thought and further descriptions. Place the apple underneath the document camera for student viewing and display sentence fames on the board. "What colors are you seeing? What does the flesh look like? What do you think it feels like?... *Reference the word-web and life cycle chart in order to further support students who need particular scientific language.	Complete journal entry in science observation notebook. Prompt: *"What I notice today…"* *"My prediction for next time is…"* *Sketch a quick picture of the apple slice.* Students should be thinking about physical changes: *Has the color changed? Is anything growing (mold)? What do you infer it feels like if you could take it out and touch it?*

Literacy Connection:

- Students will be practicing how to categorize descriptors based on the given *verb*. Students must use the provided sentence frame or their own way of thinking to fit the characteristic in the correct column on their individual graphic organizer. Students will be filling in adjectives to describe apples and the apple tree life cycle. The use of adjectives is utilized and being practiced during their literacy block as well.
- Journal entries allow for students to practice writing and describing their personal observations. Students are expected to write a description and then draw a picture that reciprocates the written description.

Assessment/Learning Evidence:

- The student "can, have, are" graphic organizer will show that students are both grasping various ways to describe apples and the apple tree life cycles as well as learning how to organize different characteristics. Students will have to really think about which category each descriptor will go into so it makes sense.

- In student journals they are expected to use descriptive words and phrases based on their observations for that day. By doing this, students will show that they are attentively observing the apple from entry to entry. Their pictures, entries, and predictions should reflect what they are seeing that particular day.

Materials, Resources, Technology:

- BK & L chart
- Student popsicle sticks
- Science observation journals
- Decomposing apple slice
- Apple portfolio
- Document camera
- Apples, Apples Everywhere by: Robin Koontz
- Word-web
- "can, have, are" graphic organizer
- Class "can, have, are" chart

Modifications/Adaptations/Accommodations:

I will provide sentence frames for students who need them. By writing these frames on the board students can easily refer to the resource and remember how to think about organizing each descriptor. (IEP)

By allowing students to collaborate in quiet table discussions while they complete their graphic organizers students who may be confused or have questions will be able to ask a table mate for assistance. Collaboration between students allows for students to utilize each other's strengths. More advanced students may help others who may need help. (IEP, TAG)

Classroom Layout, Logistics, Grouping and Management of Students:

During the read aloud and BK & L chart students will gather on the carpet. This will keep students at close proximity for partner and group discussion as well as an effort to keep behavior issues at a minimum. Because I will be so close I can easily ask students to find a new spot if there seems to be distractions.

Students will then move to their seats and remain there for the entirety of the lesson. While students are completing their individual "can, have, are" chart they will be encouraged to talk amongst one another in order to spark new ideas however, each student is responsible for completing their own graphic organizer. The class "can, have, are" chart will be visible under the document camera so students can see it from their seats. But it is always an option to have students use their clipboards and sit at the carpet in order to see better or relocate due to disruptive behavior.

My cooperative teacher and I will be available to help students complete their graphic organizers and probe students to think of descriptions to fit the sentence frames. While the students add to the "can, have, are" class chart I will utilize popsicle stick questioning in order to hear from students at random.

To complete their journal observation for the day students will remain at their seats or carpet (if using a clipboard). The apple will be displayed using the document camera. This is an

independent writing assignment but table group discussion is encouraged. Science journals are always kept in student portfolios. If a journal has been misplaced students will be supplied with a blank sheet of lined paper in order to complete their journal prompt that day.

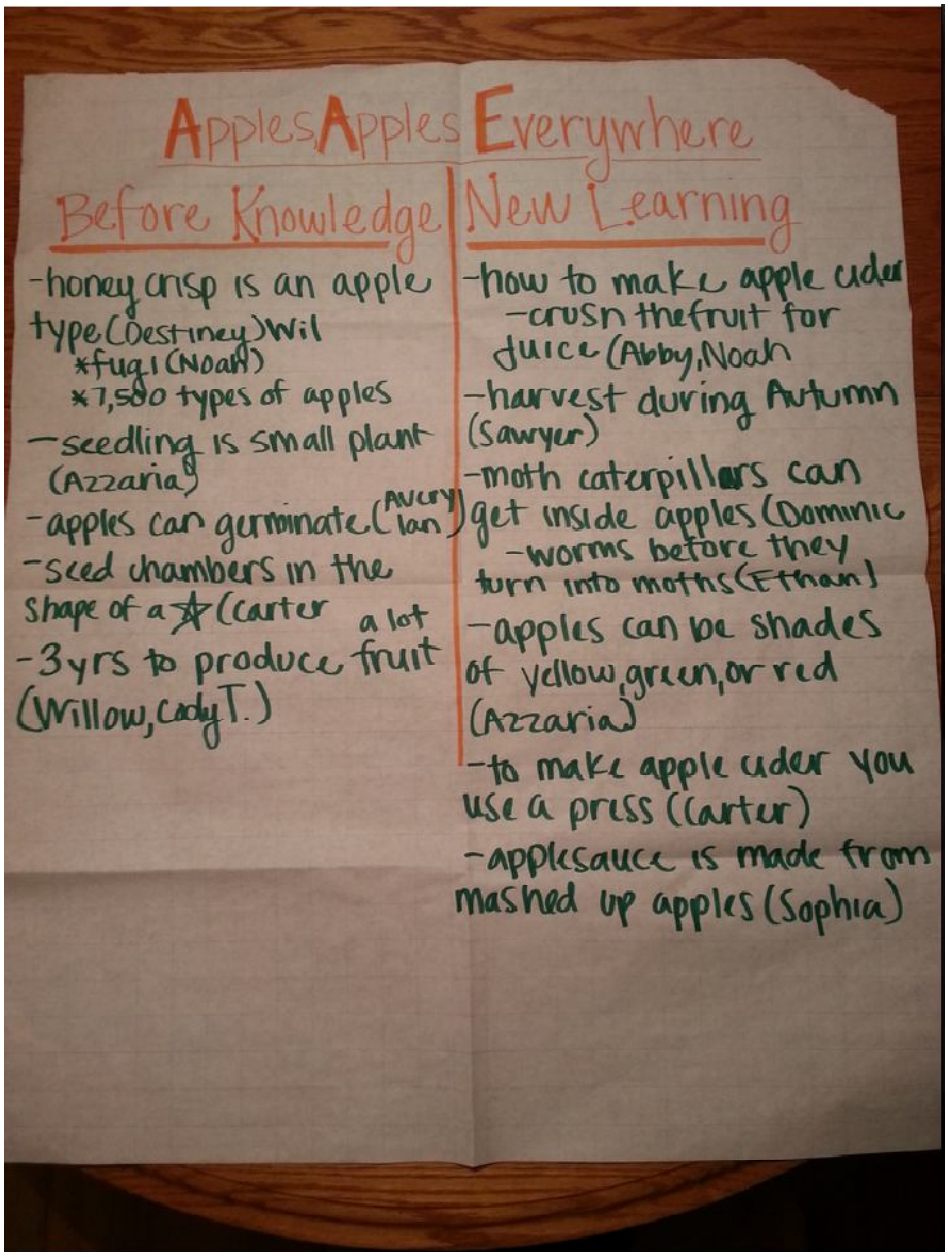

Apples Apples Everywhere
Before Knowledge
-honey crisp is an apple type (Destiney) Wil
*fuji (Noah)
*7,500 types of apples
-seedling is small plant (Azzaria)
-apples can germinate (Avery Ian)
-seed chambers in the shape of a ☆ (Carter
-3 yrs to produce a lot fruit (Willow, Cody T.)
New Learning
-how to make apple cider
-crush the fruit for juice (Abby, Noah
-harvest during Autumn (Sawyer)
-moth caterpillars can get inside apples (Dominic
-worms before they turn into moths (Ethan)
-apples can be shades of yellow, green, or red (Azzaria)
-to make apple cider you use a press (Carter)
-applesauce is made from mashed up apples (Sophia)

Figure 1 – BK & L

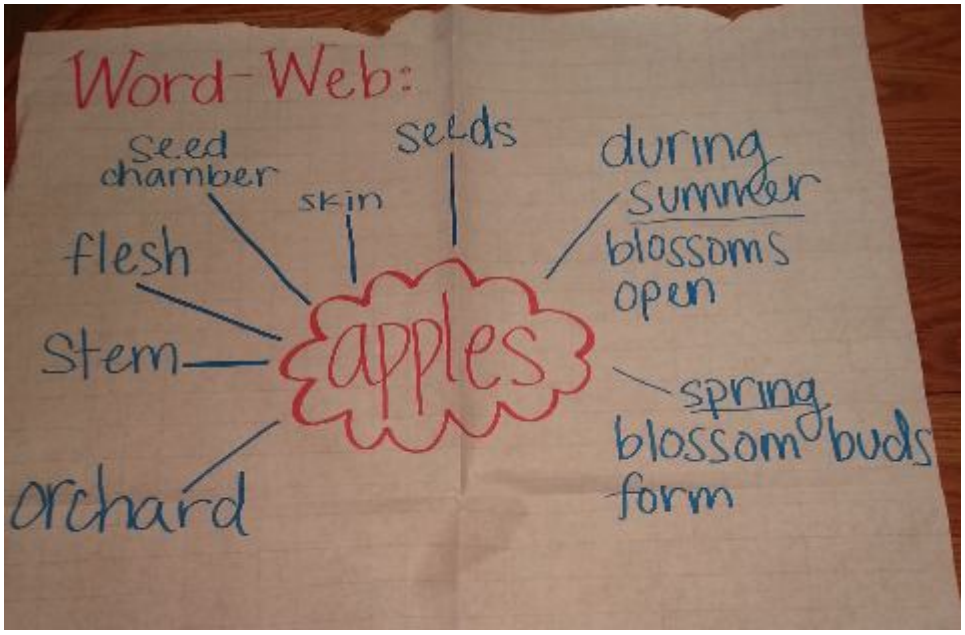
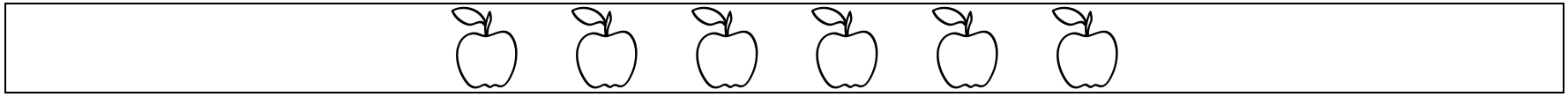


Figure 2 – Apple Word-Web

Name: _____



Apples **can**...	Apples **have**...	Apples **are**...

Anatomy of an Apple Nov 15th

_x_ Cognitive _x_ Affective ___ Psychomotor

Instructional Objectives:

The learner will demonstrate the ability to…

- Notice and describe the changes that occur inside the apple as it develops by looking at the cross-section.
- identify and label the different physical characteristics of a mature apple.

Learning Targets:

I can…

- notice and describe physical changes as an apple develops.
- identify and label parts of an apple.

Standards/Benchmarks:

2.1L.1 Compare and contrast characteristics and behaviors of plants and animals and the environments where they live.
2.2L.1 Describe life cycles of living things.

Time	Teacher	Student
15 minutes	Read A Day at the Apple Orchard as a whole group on the carpet. Tell students to be listening for key words that are necessary for the story. Have students think-pair-share about these questions: "This book is about apple harvesting, similar to the Apples, Apples Everywhere. Can we make any text-to-text connections?" "Do you recognize similarities between The Apple Pie Tree and the photographs of apple trees during different seasons in this book? From the video? Our life cycle poster?"	Students will listen to the book providing any text-to-text/self/media/world connections (using non-verbal signal).

Instructional Input: teacher questioning, think-pair, share, input chart, guided practice ("we do"), independent practice ("you do")

Time	Teacher	Student
10 minutes	With the students create an input chart on the anatomy of an apple using a cross-section development diagram. First, draw the picture and then write about physical changes that occur during each stage. Explain both interior and exterior changes. Use the original life cycle input chart for students to relate new information to. Explain that the apple doesn't start to form until the blossom dies. On the final stage's drawing have the students help to name each part of the apple: skin, flesh, core, stem, seed/pip, and core. (reference Amazing Apples) (Figure 1) "What are some similarities they see between the physical characteristics of apples and pumpkins?"	Students will listen as the development of an apple input chart is made. Students may offer descriptions of changes that they see through the sketches provided by the teacher. Based on books read thus far students should be able to help label the different parts of an apple (interior and exterior) Students will participate in think-pair-share about similarities between apples and pumpkins. (Text-to-self & text-to-text connection)
15 minutes	Introduce the worksheet that students will be working on independently. Read the directions to the students and have them paraphrase back what the expectations are. Students will be labeling a cross-section apple figure and also coloring the apple to look *realistic*. If students finish early they will complete the 3-2-1 exit ticket. Before excusing students, do two labels as "we do", under the document camera, to show students the process of the worksheet. (ex: seed chamber & core because those are difficult to differentiate between) Then dismiss students back to their tables to complete the worksheet.	Independently students will work on labeling the parts of the apple and exit ticket. Each student will complete their own copy of the worksheet however; table conversation is acceptable as long students are engaging in topic-related discussion.

Closure:

Time	Teacher	Student
10 minutes	Revisit the word-web. Ask students if there	Students will offer any input

	are any important words that should be added. Ask: "Why are these words important? What do they mean to apples? What does this word mean?"	for words that may need to be added to the unit word-web. Help to define and explain why these words are necessary to our study.

Literacy Connection:

- Students will need to organize words from a provided word-bank in order to label their apple parts worksheet. This sorting of words will help students to identify where specific physical parts of an apple are located.
- Reading and discussing A Day at the Apple Orchard as a whole group will show student comprehension during a read aloud. (text-to-self/text connections, picking out key terms)

Assessment/Learning Evidence:

- Students will be organizing and identifying the correct label and location for the different parts of an apple. This will show how students if students can recall where and what different parts of an apple really look like (through the realistic coloring of their worksheet).
- On the 3-2-1 exit ticket students will need to display accurate learning that has occurred during the unit. Students may choose to list things learned about the life cycle, anatomy, or seasons. This is a check-in that students don't have misconceptions with material presented thus far.

Materials, Resources, Technology:

- Apple development input chart
- Parts of an Apple worksheet (attached)
- 3-2-1 worksheet (exit ticket)
- A Day at the Apple Orchard by: Megan Faulkner photos by: Adam Krawesky
- Word-web
- Amazing Apples by: Jeff Braun
- Document camera
- Apple portfolios

Modifications/Adaptations/Accommodations:

The worksheet includes a word bank. This word bank will help students who may need extra support with spelling or remembering the labels. (IEP)

Classroom Layout, Logistics, Grouping and Management of Students:

During the read aloud and input chart students will gather on the carpet. This will keep students at close proximity for partner and group discussion as well as an effort to keep behavior issues at a minimum. Because I will be so close I can easily ask students to find a new spot if there seems to be distractions around.

To complete the parts of an apple worksheet students will work at their seats. Students may discuss and talk about the worksheet with their table mates however they are all responsible for finishing their own worksheet. If students would like to work somewhere else due to distractions they may use a clipboard and work at another location around the room.

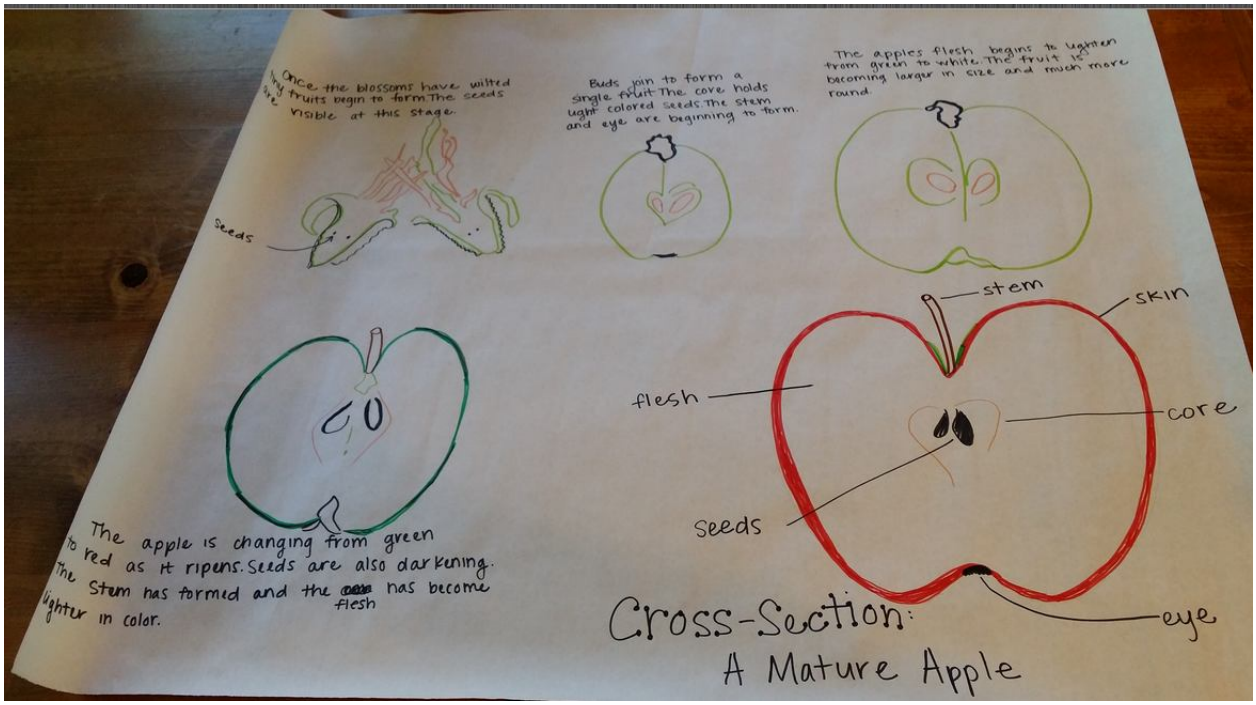
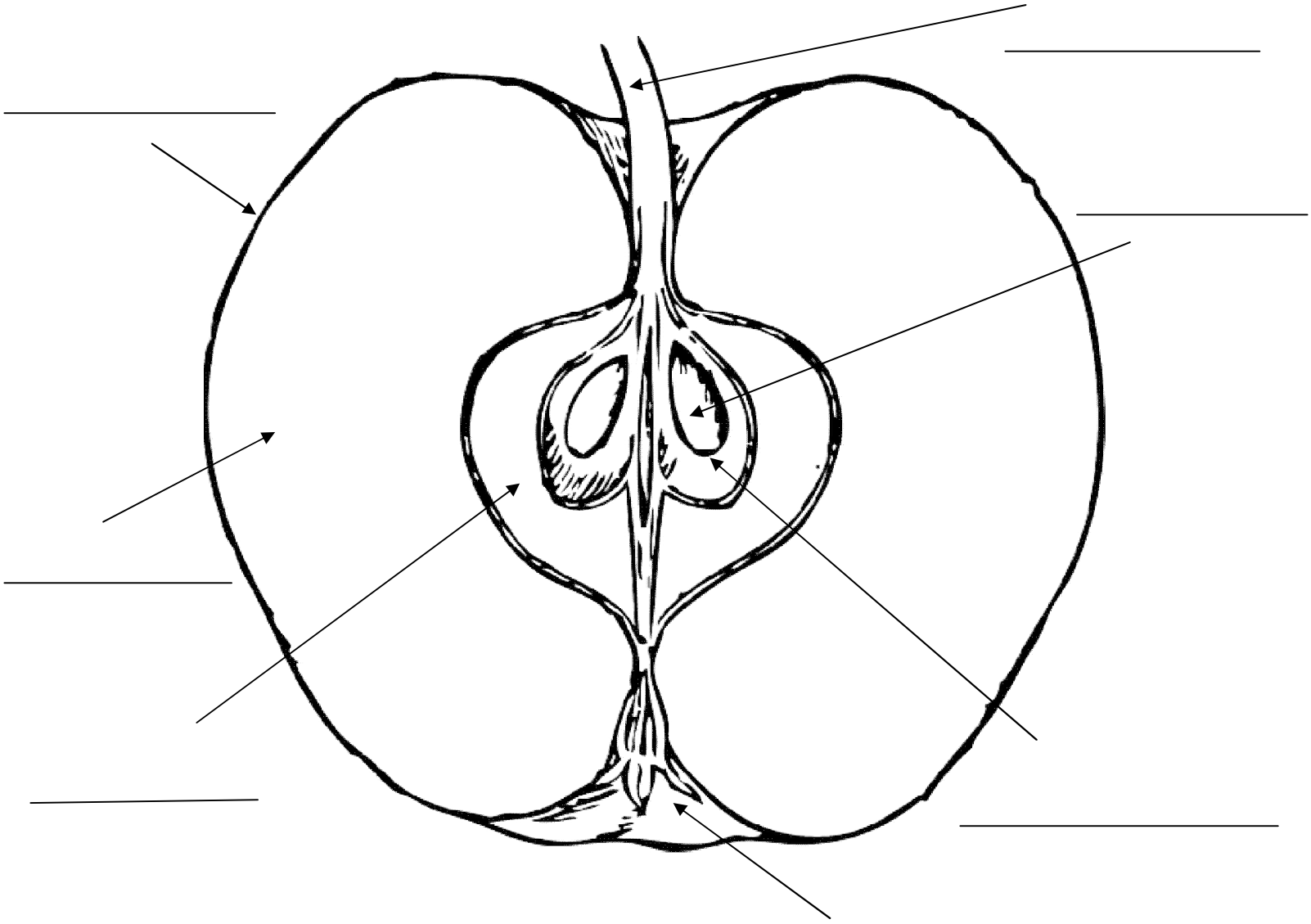


Figure 1 – Cross-Section Input Chart

Name: _____ Date:_____

Parts of an Apple

Label the different parts of the apple then color the apple using real apple colors:



Word Bank:

Core	Skin
Eye	Stem
Flesh	Seed Chamber
Seed/Pip	

Growing an Apple Tree

Nov. 18th

Instructional Objectives:

The learner will demonstrate the ability to…

- identify each stage in the apple tree life cycle.
- sketch and describe each stage of the life cycle.
- express observations about the apple slice and draw an accompanying scientific sketch.
- predict changes for the next observation entry.

Learning Targets:

I can…

- sketch and describe the stages of the apple tree life cycle.
- describe observations about the apple slice
- predict what I will see for the next journal entry

Standards/Benchmarks:

2.2L.1 Describe life cycles of living things.
2.3S.2 Make predictions about living and non-living things and events in the environment based on observed patterns.
2.3S.3 Make, describe, and compare observations, and organize recorded data.

Time	Teacher	Student
10 minutes	Have students bring their clipboards and a pencil to the carpet. *They will not need these until they watch the video. Revisit the input chart of the apple tree life cycle. Read through stage descriptions "I read…you read…". Then ask students to look back at the pumpkin life cycle poster. Have a discussion (utilizing think-pair-share) about some similarities and differences that they see between the two life cycles. *Explain that we will be doing some assignments later in the week comparing the two life cycles.	Bring a clipboard and pencil to the carpet. Students will follow along with "I read…you read…" in order to revisit the apple tree life cycle stages. Participate in discussion of similarities between apple and pumpkin life cycles.

Instructional Input: "I read…you read…", teacher questioning, modeling, think-pair-share

Time	Teacher	Student
5 minutes	Watch the video one time completely through. Do not try to discuss or point anything out. Just allow students to watch and listen to the song's lyrics. Have the students turn to a partner and recite each stage that they saw during the video. Could they pick all six out?	Students will watch the life cycle video once through listening to the song lyrics and following along with the still photographs. Think-pair-share with a partner and recite the stages (1-6) using the assigned label we have discussed during prior classes.
15 minutes	Watch the video for a second time and pause during the different stages of the life cycle. Take time to sketch each stage as a whole group. Using the document camera sketch on the worksheet to model for the students. Then, provide a short description as it pertains to the stage. Continue throughout the six stages. When all stages have been sketched and described replay the video for the students to watch one more time through and have students hold up a finger as the photographs go through the stages (1-6) to check for understanding. Leave the modeled copy up for the students as a reference. Students may be excused back to their seats to finish their descriptions and add color to their sketches.	Watch the video for the second time through. Stopping to sketch the life cycle stages and write a short description. Students will watch the video for a third time using their fingers to hold up (1-6) which stage number they are seeing.

Closure:

Time	Teacher	Student
15 minutes	Students will complete their apple observation journal entry for today. Use questioning to provoke student thought and further descriptions. Place the apple underneath the document camera for student viewing and display sentence fames on the board. "What colors are you seeing? What does the flesh look like? What do you think it feels	Complete daily journal entry in science observation notebook. Prompt: *"What I notice today…"* *"My prediction for next time is…"* *Sketch a quick picture of the apple slice today.*

	like?... *Reference the word-web and life cycle chart in order to further support students who need particular scientific language.	Students should be thinking about physical changes: *Has the color changed? Is anything growing (mold)? What do you infer it feels like if you could take it out and touch it?*

Literacy Connection:

- Students will be writing descriptive sentences to accompany their scientific sketches fo the apple tree life cycles. This is yet another practice with adjectives in order to describe and match their drawing. This has been practiced through student observation journals as well.
- Journal entries allow for students to practice writing and describing their personal observations. Students are expected to write a description and then draw a picture that reciprocates the written description.

Assessment/Learning Evidence:

- Students will be able to construct their own sketches and descriptions of the apple tree life cycle. Students will be able to sequence and identify stages based on the information provided from the video.
- In student journals they are expected to use descriptive words and phrases based on their observations for that day. By doing this, students will show that they are attentively observing the apple from entry to entry. Their pictures, entries, and predictions should reflect what they are seeing that particular day.

Materials, Resources, Technology:

- Video: http://www.youtube.com/watch?v=0DDDBwk_-bM
- Clipboards (1/student)
- Life cycle worksheet (attached)
- Science observation journals
- Decomposing apple slice
- Apple portfolios

Modifications/Adaptations/Accommodations:

I will model how to complete the life cycle stage drawing and written description in order to further support students who need sentence structure and a reference for scientific language that has been discussed. (IEP)

I will provide sentence frames for students who need them. By writing these frames on the board students can easily refer to the resource and remember how to think about organizing each descriptor. (IEP)

Classroom Layout, Logistics, Grouping and Management of Students:

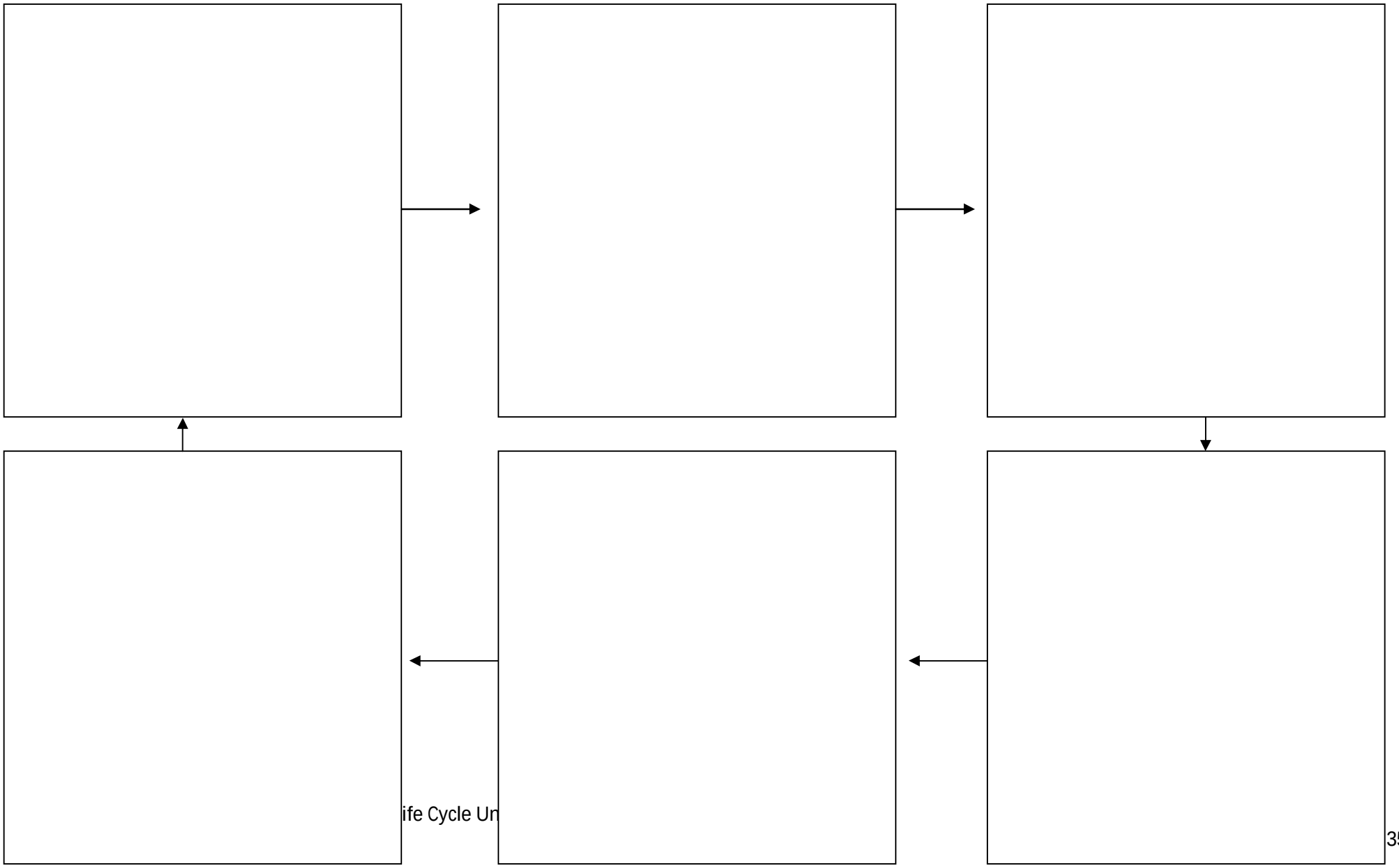
This entire lesson will mainly be completed at the carpet in a whole group setting. In order to see the video best students will want to use a clipboard at the carpet to complete their sketches. In between stages I will model how to draw each stage and write a short description. After all stages are drawn students are free to sit at their assigned seats to complete descriptions on their own but will not be required to leave the carpet as long as behavior disruptions are not occurring.

Brain breaks will be a necessity for this lesson. Students tend to get wiggly on the carpet so I will need to gauge when to take a short brain break in between the video.

For behavior issues I will refer back to our "target & goals" expectation chart so that students know what behaviors I am expecting during our learning time (collaborating during discussion, independent jobs…).

Name: _____ Date: _____

Growing an Apple Tree



Apple Discovery Nov. 19th

_x_ Cognitive _x_ Affective _x_ Psychomotor

Instructional Objectives:

The learner will demonstrate the ability to…

- measure and record accurate data
- scientifically sketch an apple's interior and exterior parts.
- collaboratively work as a group to compare observations between two apples.
- formulate conclusions about a provided graph.

Learning Targets:

I can…

- measure and record data.
- scientifically sketch my apple including all major physical characteristics.
- discuss and draw conclusions based on the graph of groups' data.

Standards/Benchmarks:

2.3S.1 Observe, measure, and record properties of objects and substances using simple tools to gather data and extend the senses.
2.3S.2 Make predictions about living and non-living things and events in the environment based on observed patterns.
2.3S.3 Make, describe, and compare observations, and organize recorded data.

Time	Teacher	Student
10 minutes	Revisit the labeling of the cross-section development chart (made in previous class). Talk about the different labels that they discovered and have learned so far. Explain to students that today they are going to be working in groups to analyze and record data (physically characteristics, smell, touch, weight…) from their own apples. During the apple exploration students must act as true scientists and follow to the acceptable processes. "Remember when we went up to the wet	Students will follow along with the teacher and talk about the details that were added to the *Blossom to Fruit* input cross-section chart.

	lab and cut open our pumpkins, counted seeds, and measured circumference/height…"	

Instructional Input: modeling ("I do – you do"), scaffolding questions to dig into deeper thinking, cooperative group work

Time	Teacher	Student
15 minutes	Pass out each table group's apple and individual student's "Apple Discovery" packets. Next, pass out each groups allotted amount of string and unifix cubes. Ask students to leave materials until you have modeled the measuring process. First, take the string and ask a student to assist you in holding the string in place to get an *accurate* measurement of the *circumference* (students should remember this from measuring pumpkins!). Once the string goes all the way around mark the string at the length that was measured around the apple with a marker. Then, lay the string down and place unifix cubes directly underneath in order to see how long the string was according to cube units. Next, fill in the measurement on worksheet. (complete this whole process under doc. camera) Explain that this same procedure is done with measuring the height. Then, model how the balances are used to weigh the apple in comparison to cubes (there is 1 scale per table – 1 per 2-3 groups). Students will need to really watch how to do this accurately.	Students will pair up with person/people across from them. Groups should be about 2-3 people. The whole class will watch as the teacher models how to complete the measuring of the apple (circumference, height, weight).
15 minutes	Have students measure their apples as a group. As they are measuring, come around to each table group with the digital scale. Students will need to record the digital weight as well. Allow students to move through the next page of the packet: color in an apple pattern (of their choice), drawing the outside/inside of the apple, count the	Then, as a group they will complete the first two pages of the packet. Each group is responsible for measuring height, circumference, weight (in cubes), and the weight in pounds. Students can talk about different descriptive words as they smell, feel, and taste their apple as they

	seeds, and apple descriptors. As the teacher, you will come to groups that are ready to draw the inside of their apple and cut it down the middle for them to sketch. Cut one half into slices and distribute one to each child to try.	get to it.
10 minutes	Bring the group's attention back together after all measuring and sketching is done. Introduce the graph that is located on the board (title and where to put sticky note to show group results).	Students will write their table color and apple type on their sticky note.
	Call one representative from each group to place and pick their apple color and place it on the corresponding graph (on SMARTboard) and location. Allow students a few minutes to examine the graph individually. Ask students: "How many red apples are there? Yellow? Green? Which apple type/color has the most? Least?" By discussing these questions students will be able to fill in the final page of packet. Finally, ask students, as a table group, to come up with an answer to the last question on the packet: "what is out graph telling us?"	One student from each table will come up to place their colored square (on SMARTboard) on the corresponding spot of the graph (yellow, red, green). Individually examine and analyze the graph. Discuss the data from the graph as a whole group. Complete last page of the packet using the information from the class apple graph. As a table group collaboratively come up with a conclusion for the apple color data. Fill this answer in on the final packet question.
	Students will put apple packets into their apple portfolios. Have students bring up their seeds and place them in a specified bag (red, green, yellow seeds). This will be used as a visual to compare the amounts of seeds collect from each color variety.	Students will bring up their found seeds and place them in the corresponding color bag after their packet is finished.

Closure:

Time	Teacher	Student
5 minutes	Give each student a note card as an exit card. Prompt: Create an alliteration using the word "apple". *Provide an example on the board of how	On the provided note card create an acrostic using the word "apple"

	to create an acrostic.	

Literacy Connection:

- In the Apple Inspection packet students are asked to use adjectives to describe how their apple smells, feels, and tastes. Using descriptive words have been a large focus during this unit and this way of writing is integrated into other subjects.
- On their exit card, students will be creating their own acrostic using the word "apple". They will have to think of words related to "apple" that fit with the given letters. Students will have to be creative and think back on books they have read or other lessons presented.

Assessment/Learning Evidence:

- Conclusions that students draw based on the information from the graph and class discussion will show that they can interpret what a graph is telling us.
- Students will be asked to use descriptive words in order to explain how their apple smells, feels, and tastes (Apple Inspection packet).
- Accurately following the procedure of measuring and counting cubes/seeds in order to record data for their apple. As the students are measuring the circumference I will be observing and recording how well they are following the procedures that were modeled in order to get the most accurate measurement.
- Students will be expected to create an acrostic using words that are related to the apple unit. These words may be descriptive of the fruit or explain pieces of the apple life cycle.

Materials, Resources, Technology:

- Apple Discovery packet (attached)
- Cross-section development input chart
- Our Tree by: Marchette Chute
- Pre-made graph on SMARTboard
- Cutting board
- Knife
- String
- Unifix cubes
- Digital scale
- 6 Balances
- Apple portfolio
- 12 Apples (3 types – yellow, green, red) with type labels
- Plastic bags (3)

Modifications/Adaptations/Accommodations:

The word-web and "can, have, are" chart will allow for some extra help for students to find descriptive words. This will be a helpful resource for students to add details using scientific language that has been learned throughout the unit thus far. (IEP)

Having the input chart with labels (from a previous class) displayed for referencing after this book is read remind students of the connections they can make with a chart they already completed. (IEP)

Provide an example of how to create an acrostic on the board for students who may need a visual example. (IEP)

Students may want to add labels their apple sketches and include the parts of the apple. (TAG)

Classroom Layout, Logistics, Grouping and Management of Students:

Start with students at the rug where everyone can easily see the cross-section development input chart. Prior to starting the packet the students and I will review our goal behaviors in order to remind them of expectations during science. We will discuss that in science we must be accurate and safe during these procedures in order to learn new things and participate in fun activities.

Students will be seated at their table color groups to begin the Apple Discovery. Table groups are well integrated based on student needs (IEP and advanced TAG students). This is helpful because students are able to utilize each other's strengths in order to help to complete the assigned tasks. Supply boxes will be taken off during the apple observation

Students will be seated with their normal table groups. My cooperative teacher and I will be available for assistance with the packet or with behavior issues.

Name_____

Apple Discovery

My apple is _____ cubes long.

My apple is _____ cubes tall.

My apple weighs _____ cubes.

My apple weighs _____.

Here's my apple pattern:

Name_____

Apple Inspection

Draw the outside of the apple:

My apple is _____.

My apple is _____.

Draw the inside of the apple:

My apple has _____ seeds.

How does the apple smell?_____

How does the apple feel?_____

How does the apple taste?_____

Name_____

Apple Graph

1. How many red ? _____
2. How many yellow ? _____
3. How many green ? _____
4. Which one has the **most**?

red green yellow

5. Which one has the **least**?

red green yellow

If our graph could talk, what would it tell us?

_____

_____

_____

Seasons (continued) Nov. 20th

_x_ Cognitive _x_ Affective ___ Psychomotor

Instructional Objectives:

The learner will demonstrate the ability to…

- arrange and detail, with illustrations, the changes that an apple tree goes through during the different season of the year.
- express observations about the apple slice and draw an accompanying scientific sketch.
- predict changes for the next observation entry.

Learning Targets:

I can…

- draw with details the changes that the apple tree goes through throughout different seasons of the year.
- describe physical observations about the apple slice.
- draw a scientific sketch of the apple slice.
- predict what I will see for the next journal entry.

Standards/Benchmarks:

2.1L.1 Compare and contrast characteristics and behaviors of plants and animals and the environments where they live.
2.2L.1 Describe life cycles of living things.

Time	Teacher	Student
15 minutes	Read Golden Delicious: A Cinderella Apple Story. Note to students that this book is realistic and based on true events about how this type of apple was first founded Have students look for connections in this story. *many students from the previous day's lesson worked with the golden delicious apple variety. "What does the book mean when it says a *Cinderella* apple story? Do you see connections between this book and the story	Students will listen to the read aloud engaging in active listening and participating in teacher questioning/pair-share discussions.

	of Cinderella? What is *grafting*?"	

Instructional Input: Modeling, teacher questioning, think-pair-share, sentence frames

Time	Teacher	Student
5 minutes	Revisit the SMART document chart that was made during the previous week. Discuss as a whole group more characteristics of apple trees during the different seasons of the year. "What do our trees look like during Winter? Spring…? What is growing during Spring?" If necessary, bring out The Apple Pie Tree to reference details about the tree and written descriptions.	Students will discuss as a whole group descriptions from last week about the tree's appearance during different times of the year.
15 minutes	Pass out student apple portfolios. Students should all have their bare trunks drawn and colored in with season labels underneath. Talk about what should be added to the winter tree (Weather? Snow? Rain?). Under the document camera add details on teacher copy to show that it is winter with the students. Move on to spring. Ask students what sort of physical changes are occurring. Buds? Blossoms? Leaves? Sun/rain? Allow time for students to detail winter and spring tree trunks. Bring students attention to the document camera and finish detailing and discussing what is seen during summer and autumn (when the fruits grow and are harvested). Leave teacher drawing under the document camera for students to use as a guide and allow them to finish detailing their season trees.	Students will already have 4 tree trunks drawn with a corresponding label of a season. Watch as the teacher models the drawing with the correct details that are discussed for both winter and spring. Then students will illustrate on their own portfolio using similar details. Watch the teacher model for summer and autumn then continue finishing own copy.

Closure:

Time	Teacher	Student
10 minutes	Students will complete their apple observation journal entry for today. Use questioning to provoke student thought	Complete daily journal entry in science observation notebook.

	and further descriptions. Place the apple underneath the document camera for student viewing and display sentence fames on the board. "What colors are you seeing? What does the flesh look like? What do you think it feels like?... *Reference the word-web and life cycle chart in order to further support students who need particular scientific language.	Prompt: *"What I notice today…"* *"My prediction for next time is…"* *Sketch a quick picture of the apple slice today.* Students should be thinking about physical changes: *Has the color changed? Is anything growing (mold)? What do you infer it feels like if you could take it out and touch it?*

Literacy Connection:

- Journal entries allow for students to practice writing and describing their personal observations. Students are expected to write a description and then draw a picture that reciprocates the written description.
- During and after the read aloud there will be particular questions to check for comprehension and understanding from the students. Giving them a pre-reading question or subject will present them with structure and a purpose for listening to the story.

Assessment/Learning Evidence:

- Students will be able to draw and detail an apple tree accurately using colors, leaves, apples, and weather in order to describe which season the apple tree is in.
- In student journals they are expected to use descriptive words and phrases based on their observations for that day. By doing this, students will show that they are attentively observing the apple from entry to entry. Their pictures, entries, and predictions should reflect what they are seeing that particular day.

Materials, Resources, Technology:

- Document camera
- SMARTboard
- Golden Delicious: A Cinderella Apple Story by: Anna Egan Smucker illustrated by: Kathleen Kemly
- Apple portfolios
- Crayons/colored pencils
- Science observation journals
- Decomposing apple slice

Modifications/Adaptations/Accommodations:

If students finish their drawing early they may label descriptions of what is happening to the apple tree throughout different seasons (example: blossoms, apples…). (TAG)

Modeling piece by piece exactly how to go through the process of this drawing will help students who have a harder time staying with the group. Also leaving my drawing under the document camera will help students to see where the group is at. My cooperating teacher and I will be available to assist students who may be struggling. (IEP)

The list we create about characteristics of apple trees during the different seasons will be turned toward the students' desks so that they can see and be reminded of what it looks like. (IEP)

Classroom Layout, Logistics, Grouping and Management of Students:

Students will be gathered at the SMARTboard carpet for the read aloud. This will allow students easy access to partner conversations as well as whole group discussion. Students will also be able to see the illustrations and hear the story better by being at close proximity on the carpet.

After the read aloud students will be dismissed to their desks and will finish their drawings at their seats. The document camera and SMART board will be used simultaneously to go back and look at the previously made seasons chart. Students will easily be able to see the document camera from their seats. By using the document camera students will all be able to follow along with the drawing.

In student journals they are expected to use descriptive words and phrases based on their observations for that day. By doing this, students will show that they are attentively observing the apple from entry to entry. Their pictures, entries, and predictions should reflect what they are seeing that particular day.

Figure 1 – Student Example of Apple Tree Seasons drawing

Comparing Apples & Pumpkins Nov. 21st

_x_ Cognitive ___ Affective _x_ Psychomotor

Instructional Objectives:

The learner will demonstrate the ability to…

- connect similarities between apples and pumpkins (life cycle, physical characteristics…)
- identify each stage in the apple life cycle
- identify physical characteristics of an apple

Learning Targets:

I can…

- make connections between apples and pumpkins
- identify each stage in the apple life cycle
- identify physical characteristics of an apple

Standards/Benchmarks:

2.1L.1 Compare and contrast characteristics and behaviors of plants and animals and the environments where they live.
2.2L.1 Describe life cycles of living things.

Time	Teacher	Student
10 minutes	Read Picking Pumpkins and Apples. Ask students to be thinking about the relationships between pumpkins and apples that they hear about during the read aloud.	Students will be actively listening to the read aloud for similarities and differences between apples and pumpkins.

Instructional Input: think-pair-share, teacher questioning, venn diagram, modeling, guided practice, independent practice, "I read…you read…"

Time	Teacher	Student
5 minutes	Bring students' attention over to the wall where all the pumpkin and apple charts are located. Review the stages of the pumpkin life cycle for students and then have students recite the apple tree life cycle stages as a back as a whole group.	Students will follow along as the pumpkin life cycle is revisited. As a class recite, with the teacher's assistance, the life cycle of an apple tree.

10 minutes	Show students the venn diagram. Explain to students that this is a tool we will use to organize our class comparisons between pumpkins and apples. Also that the students will be competing their own graphic organizer using some of these ideas about similarities and differences. (Figure 1) Ask students to talk to a partner about some comparisons they have noticed or made during this apple unit thus far. Have the students share out and record on the venn diagram. Ask students to clarify if what they share is a *difference* or *similarity* and where exactly it belongs on the diagram (right, left, or middle)	Discuss with a partner or small group comparisons between apples and pumpkins that have been discussed or discovered so far this unit. Share out partner discussions and categorize responses correctly on the venn diagram.
15 minutes	Introduce the graphic organizer that students will be completing as independent practice. Model, under the document camera, how to complete the worksheet. Write and model sentence frames as well. Dismiss students to their seats to complete the assignment independently.	Watch as the graphic organizer is explained and modeled under the document camera. Complete the comparing graphic organizer at seat.

Closure:

Time	Teacher	Student
5 minutes	Bring the students' attention back to the front of the class. Bring out the class question chart. Revisit and discuss as a whole group some of the questions that have been covered thus far and talk about some questions that haven't been discussed yet.	Students will participate in helping to recall answers to certain questions covered so far during this apple unit.

Literacy Connection:

- By competing the venn diagram students are picking out specific similarities and differences that they have discovered between two different plants. This shows comprehension throughout the current unit as well as the past unit. Also students will have to organize their responses on the venn diagram based on where it correctly belongs.

- The graphic organizer will be done with students' own writing and ideas. Each student may write about different comparisons. Students must again organize their thoughts into complete sentences and explain how pumpkins and apples are alike or differ in various ways.

Assessment/Learning Evidence:

- By completing the graphic organizer students will show me how much information is being retained and applied to prior learning. Based on student comparisons I will be able to see what kinds of connections students have been making between the two related life cycle units so far.

Materials, Resources, Technology:

- Picking Pumpkins and Apples by:
- SMARTboard venn diagram
- Document camera
- Comparison graphic organizer (attached)
- Apple tree life cycle input chart
- Pumpkin life cycle input chart

Modifications/Adaptations/Accommodations:

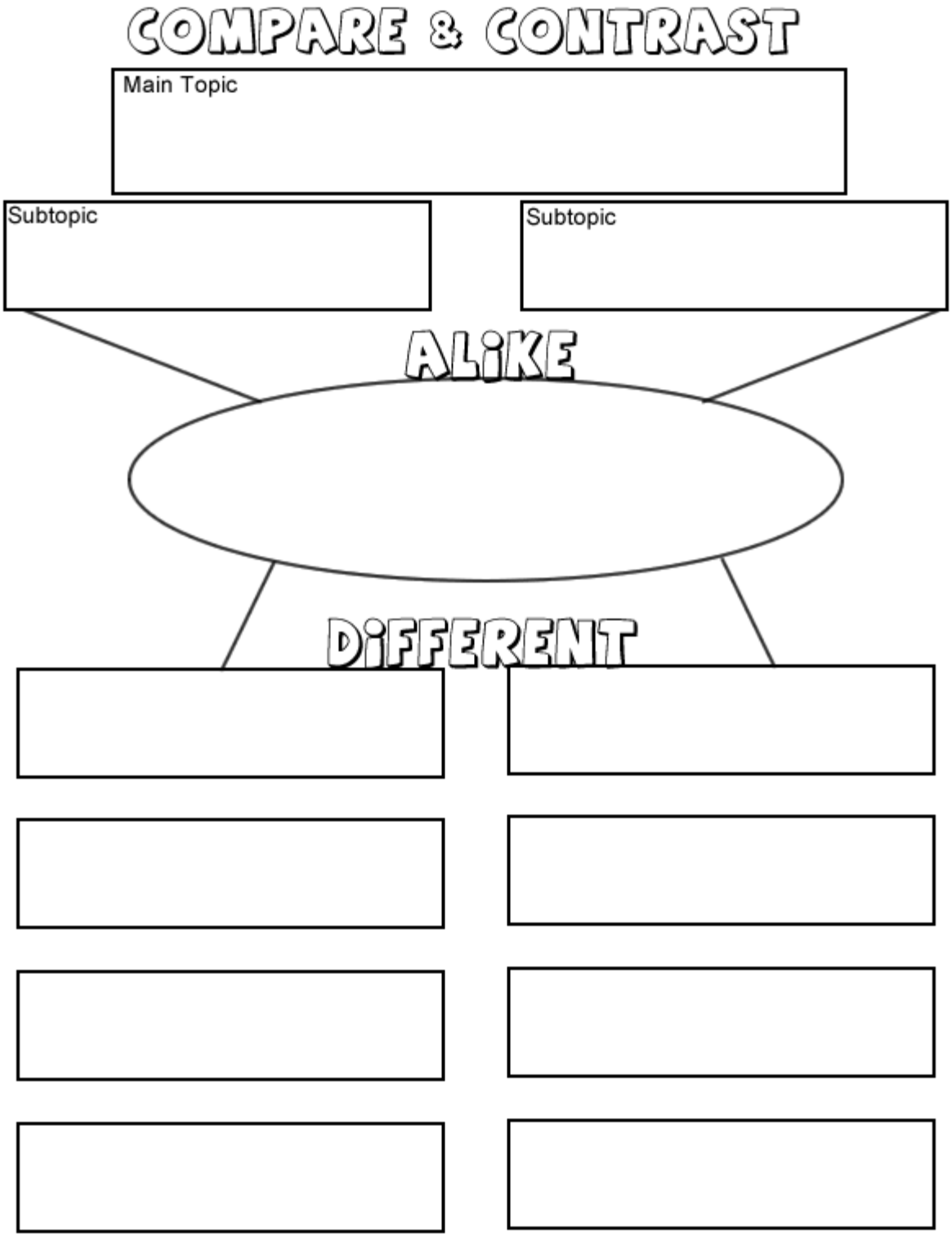
I will model how to complete the graphic organizer in order to further support students who need a reference after instructions have already been discussed. (IEP)

I will provide sentence frames for students who need them. By writing these frames on the board students can easily refer to the resource and remember how to think about organizing each similarity or difference. (IEP)

Classroom Layout, Logistics, Grouping and Management of Students:

During the read aloud students will gather on the carpet. This will keep students at close proximity for partner and group discussion as well as an effort to keep behavior issues at a minimum. Because I will be so close I can easily ask students to find a new spot if there seems to be distractions around.

To complete the comparison graphic organizer students will work at their seats. Students are responsible for displaying their own connections and comparisons. This is an independent assignment and I expect students to be writing their own ideas. However, the venn diagram will be displayed because that will be created as a whole collective group. If students would like to work somewhere else due to distractions they may use a clipboard and work at another location around the room. Students may also want to move around the room to better see input charts and books that have been used so far during this unit.


COMPARE & CONTRAST
Main Topic
Subtopic
Subtopic
ALIKE
DIFFERENT

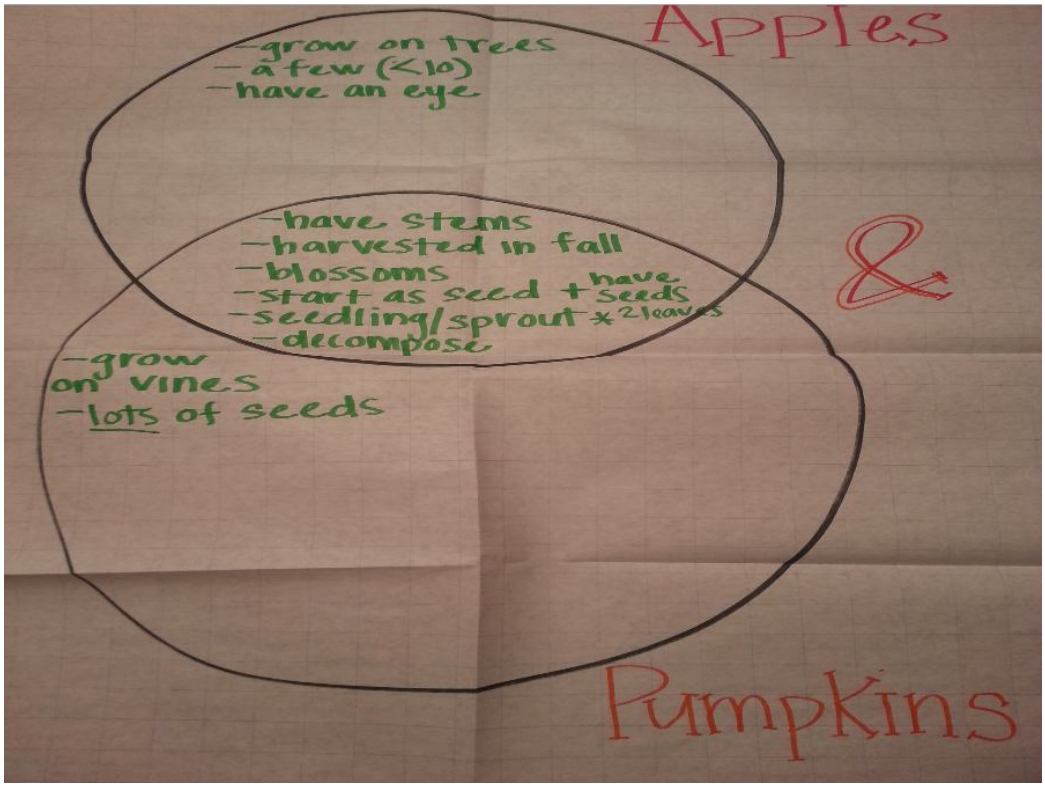


Figure 1 – Apple & Pumpkin Venn Diagram

Apple Review & Assessment Nov. 22nd

_x_ Cognitive ___Affective _x_Psychomotor

Instructional Objectives:

The learner will demonstrate the ability to…

- Identify each stage in the apple tree life cycle.
- Describe the physical changes that occur throughout the life cycle of an apple tree.

Learning Targets:

I can…

- Explain the life cycle of an apple tree.
- Describe the physical changes that an apple goes through.

Standards/Benchmarks:

2.1L.1 Compare and contrast characteristics and behaviors of plants and animals and the environments where they live.
2.2L.1 Describe life cycles of living things.

Time	Teacher	Student
10 minutes	As a whole group students will gather at the rug to revisit the 2 apple life cycle videos we have watched during the unit. During the first animated video I will ask students to silently watch the video and simply use their fingers to distinguish which stage is happening as the video progresses (ex: hold up 1 finger when the apple germinates itself into the soil…) *Students have already practiced this process with a different video. After the video allow students to turn to a partner and recite what each stage is (1-6). Next, play the still photograph life cycle video. This time ask students to say the stages as the words appear on the screen while also using their fingers to show what stage number they are on.	Watch the life cycle videos. Hold up a finger (1-6) to represent each life cycle stage that is happening. Turn and talk with a partner to recite what each stage of the life cycle is called. During the second video students will read aloud as a whole the words that label each life cycle stage while also using the fingers to number

	This is a good visual review for students to see what each stage looks like in two different formats (still photos & animation).	each stage as they repeat the name.

Instructional Input: turn-and-talk, teacher questioning, popsicle stick questioning

Time	Teacher	Student
15 minutes	Open the jeopardy review game on the SMARTboard. Explain to students that as a whole class we will complete this short review of the life cycle, seasons, and important vocabulary. Our class will work as team to answer each question together. Pull popsicle sticks to call on students at random. If students want to pass or ask for help from someone else that is ok. Students will raise their hand if they can be assistance to their classmate. Work through each question to review with the class important information that has been covered during the unit.	Students will participate in the jeopardy game as a collaborative group.
5 minutes	Ask students if they have any more questions about the life cycle and unit that were not talked about during the jeopardy game. Go through the stages of the life cycle using the main descriptions (ex: seed, seedling, tree…).	Students will be allowed to ask any further questions about the life cycle. Recite the main stages of the apple tree life cycle holding up numbers 1-6 for the corresponding stage.

Closure:

Time	Teacher	Student
15 minutes	Students will now complete their individual post-test. This is the exact same assessment that was given for the pre-test. Explain to students that they should now be using both pictures and words to describe the life cycle. (Pictures or words will be acceptable because scoring will need to equate to the pre-test. However I want to encourage students to use both visuals and words/vocabulary/sentences.) On the back of the post-test students will write about at least one of their favorite parts of the unit and study of apples.	Complete the post-test using both pictures and words to describe each stage. Students will share (through writing) some of their favorite parts of the unit on apples. What is the most interesting thing they learned? Which activity was their favorite? Why?...

	Sentence frames will be provided to guide students through this feedback process. *This feedback will help with the next time these lessons/unit is implemented another year or with another class.	

Literacy Connection:

- Students will use words and pictures in order to describe the different stages of the apple life cycle on the post-test. Students are learning to understand that pictures can tell stories just as well as words. They use strategies that involve using pictures to help tell a story during their literacy block. I will be asking for the assistance of words along with their sketches.
- Vocabulary words that have been used throughout the unit should appear on the writing portion of the assessment. Students may use their best-guess spelling but I would like to see some vocabulary used to accompany the stages of the life cycle.

Assessment/Learning Evidence:

- Students will be able to recall and describe the changes that occur during the life cycle of an apple tree on the post-test. This can be done through the use of pictures and words.

Materials, Resources, Technology:

- SMARTboard
- Jeopardy review game http://www.superteachertools.com/jeopardy/usergames/Nov201347/game1385003785.php
- *Life Cycle of an Apple Tree* - http://www.youtube.com/watch?v=0DDDBwk_-bM
- *The Apple Life Cycle Animation* - http://www.youtube.com/watch?v=chNwmpqSa78
- Student popsicle sticks
- 'Life Cycle of an Apple Tree' post-test (attached)
- 'Favorite Part' exit card (attached)

Modifications/Adaptations/Accommodations:

In order to complete the exit card I will provide sentence frames for students who need them. By writing these frames on the board students can easily refer to the resource and remember how to think about organizing their thoughts and feedback on the apple unit. (IEP)

By allowing all students the opportunity to either draw, write words, or both on their pre-test it takes the pressure off students who may see pictures as being more helpful because they may lack the specific vocabulary. But this option also allows students to not be confined only to pictures or only using words to show their knowledge. (TAG, IEP)

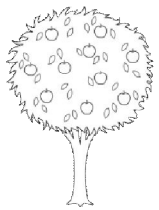
Classroom Layout, Logistics, Grouping and Management of Students:

During the review portion (video and jeopardy game) I will have students gather at the rug as a whole group. This will be easiest to complete the jeopardy game with the participation of the whole class. I will use popsicle stick questioning to call on students.

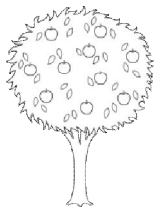
Students will complete the pre-assessment at their desks. This is an independent assessment, no peer or teacher assistance will occur during the test time. Students may use "blinders", like they use for other tests, this is to ensure their answers are their own thinking. I do not want this to be collaborative because I need to know what each individual knows or doesn't already know about the apple life cycle.

For behavior issues I will refer back to our "target & goals" expectation chart so that students know what behaviors I am expecting during out learning time (collaborating during discussion, test taking, independent jobs, etc.).

Name: _____ Date: _____



The Life Cycle of an Apple Tree



Apple Study Wrap-Up

1. My favorite activity from this unit was:

    a) Apple Inspection Packet

    b) Observation Journal

    c) Apple tree season drawing

    d) Other: _____

2. List three things that you have learned about apples:
   I learned….