DOMAIN ASSESSMENT

Plants

This Domain Assessment evaluates each student's knowledge relative to Core Content and Language Arts Objectives addressed in the Plants domain. Portfolio Collection and Assessment Opportunities can occur throughout the domain; the Task Assessment is designed to be administered to each student at the end of the domain (i.e., during Pausing Point 2 and the Domain Assessment, Day 21). In order to conduct individual Task Assessments, teachers may find it convenient to pull individual students into a quiet corner of the classroom, perhaps during Learning Center or snack time. Because skills and vocabulary are meant to develop across the entire year, teachers may readminister certain assessments from the *All About Me, Families and Communities,* and *Animals* domains if students scored poorly at the end of the previous domains.

Portfolio Collection

Work Samples

Note: *Be sure to date each piece of student work as it is added to the portfolio.*

In this domain, students' work from the following activities may be included in their portfolios:

- Farm Stand Learning Center: Students' emergent writing samples, such as their efforts to make signs and flyers

- Days 1–3: Plant a Seed Observations

- Days 4–7: Make Your Own Sunflower

- Days 15–17: Fruit Prints

- Day 4: Draw the Sound Picture for /a/

- Day 5: Activity Page 5-1: Circle the Sound Picture

- Day 12: Draw the Sound Picture for /t/

- Day 14: Activity Page 14-2: Circle the Sound Picture for /t/

- Day 15: Draw the Sound Picture for /d/

- Day 17: Activity Page 17-2: Writing Sound Pictures

- Days 2, 4, 6, and 7: Writing Strokes Activity Pages and students' attempts at writing their names

Assessment Opportunities

Observing Learning Centers

Language Arts Objectives Assessed

- Describe an event or task that one is in the process of completing (SL.P.4)

- Describe an event or task that one has just experienced in the immediate past (SL.P.4)

- Use future verb tense (L.P.1b)

Materials

Various colored sticky notes

Pen

Farm Stand Learning Center

As you observe the Farm Stand Learning Center, keep the above Language Arts Objectives with you. When you see a student demonstrating a behavior or using language that is related to an objective, write that student's name and a brief description of what occurred on a sticky note. You might use different colored notes for each objective. At the end of the day, reflect on these notes and distribute them to student's portfolios, sticking them inside the manila folder or on a separate piece of paper. At the end of the domain, review notes collected in each student's portfolio, perhaps writing a sentence or two reflecting on each student's progress across the domain and current performance relative to the Language Arts Objectives.

Assessment Tasks

Skills Assessments

Materials

Blank paper cut in half

Primary crayons

Stapler

Pen

Zigzag

Dot

Bridge

Cross

X

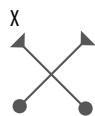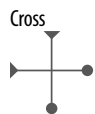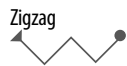Bowl

Moon

Wave

Cane

Hook

Handwriting Strokes

Individually assess students' progress in mastering the writing strokes taught in the *Animals* domain. These strokes include: zigzag, dot, bridge, cross, X, bowl, moon, wave, cane and hook. Place a blank piece of paper in front of the student. Tell the student that you will show them one of the writing strokes and you want them to copy exactly what you draw. Demonstrate how to draw the first writing stroke and have the student copy you. Give the student a clean piece of paper and demonstrate the next stroke. Staple all of the pieces together and have the student write his/her name on the back. Label the front of the packet with the student's first and last name. Score students' writing strokes according to the **Writing Strokes Scoring Guide**.

Identifying Initial Sounds

Explain that you are going to say four words and you want students to tell you what sound is at the beginning of all the words. Say the following lists of words, pausing after each list for students to say the initial sound.

- /m/: *mouse, mess, muffin, mister*
- /z/: *zebra, xylophone, zoo, zipper*
- /l/: *laugh, lettuce, lace, listen*
- /s/: *sandwich, silly, say, soap*
- /r/: *rabbit, race, radio, raccoon*
- /n/: *no, nice, nail, near*

Listening & Learning Task Assessments

Core Content Objectives Assessed

- Name the four parts of a plant (i.e., roots, stem, leaves, flower)

- Describe how a sunflower grows (i.e., seed in ground, small root grows down, seedling comes up out of the ground, flower grows)

Materials

Plants Flip Book

Image Cards 6-2–6-5: Sunflower Lifecycle

Plant Parts

Show Flip Book Page 2-2: Sunflower

Point to each part of the sunflower and ask students to name it. Point to the roots, stem, leaves, and flower.

How Do Plants Grow?

Place **Image Cards 6-2–6-5: Sunflower Lifecycle** face-up on the table in random order.
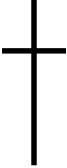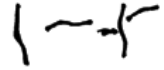
Ask student to put the cards in order to show how a plant grows. (seed, seed with root, sprout, sunflower)

Key to Domain Assessment Record Form

Skills: Handwriting Strokes

✕	NY : P : R :
	NY : P : R :
	NY : P : R :
	NY : P : R :
	NY : P : R :
	NY : P : R :

Skills: Identifying Initial Sounds

Not Yet (NY)

Student does not yet demonstrate this skill, knowledge or behavior.

• Does not identify any initial sounds

Progressing (P)

Student sometimes demonstrates this skill, knowledge or behavior, but not on a consistent basis.

• Identifies one to four initial sounds

Ready (R)

Student consistently and independently demonstrates this skill, knowledge or behavior.

• Identifies five to six initial sounds

Listening & Learning: Plant Parts

Not Yet (NY)

Student does not yet demonstrate this skill, knowledge or behavior.

• Does not label any plant parts

Progressing (P)

Student sometimes demonstrates this skill, knowledge or behavior, but not on a consistent basis.

• Correctly labels one to three plant parts

Ready (R)

Student consistently and independently demonstrates this skill, knowledge or behavior.

• Correctly labels all four plant parts

Listening & Learning: How Do Plants Grow?

Not Yet (NY)

Student does not yet demonstrate this skill, knowledge or behavior.

• Does not put any cards in order showing how plants grow or puts only two cards in correct order

Progressing (P)

Student sometimes demonstrates this skill, knowledge or behavior, but not on a consistent basis.

• Puts three cards in correct order showing how plants grow

Ready (R)

Student consistently and independently demonstrates this skill, knowledge or behavior.

• Puts all four cards in correct order showing how plants grow

Date	Student	Handwriting Strokes			Identifying Initial Sounds		
		Not Yet	Progressing	Ready	Not Yet	Progressing	Ready

Date	Student	Plant Parts			How Do Plants Grow?		
		Not Yet	Progressing	Ready	Not Yet	Progressing	Ready

Plant Characteristics, Needs, and Growth

Often, young children don't recognize plants as living things. Effective teachers help children make connections between plants and other living things. Like animals, plants need food and water. Like animals, plants grow. They start small and get bigger as they age. Unlike animals, plants do not walk, swim, or fly. Plants may grow to take up more space, but they stay in the same place where they were planted.

Plants Are Living Things

Plants are living things. They don't move around like other living things, but they need food and water. Like animals, plants start small and grow bigger. Eventually, plants make more little plants.

There Are Many Different Kinds of Plants

Just as there are many different kinds of animals, there are many different kinds of plants, such as trees, bushes, vines, weeds, flowers, and grasses. Plants grow all around the world. Just like animals, plants thrive in different habitats. Some plants live in the rainforest. These plants like a warm, moist environment. Plants that like a hot, dry environment may live in the desert. There are even plants that live in the oceans and ponds of the world.

Plants Have Different Parts

Just like animals, plants have different parts. Green plants like trees, bushes, and grasses are called vascular plants. Vascular plants have five basic parts. The roots of most plants grow underground. They anchor the plant so the plant doesn't fall over. The roots absorb water and nutrients from the soil to help the plant make food. The stem of a plant grows up from the roots. The stem brings water and nutrients from the roots to the leaves and flowers of the plant. The stem stands up tall toward the light or sun. The leaves of a plant grow out from the stem. The green leaves of a plant use water, nutrients, light, and air to make food for the plant. Flowers grow on plants. They come in many different shapes and sizes. Some flowers smell sweet. Some flowers are brightly colored. Seeds are created after a plant blooms, or flowers. New plants can grow from the

seeds. Sometimes, seeds fall to the ground and begin to grow on their own. Other times, people collect seeds to plant in places where they want plants to grow.

Plants Grow From Seeds

The seeds from different plants look different and grow in different ways. Some seeds, like sunflower seeds, grow on the outside part of the flower. Other seeds grow inside fruit. Apples and oranges are fruits that have seeds in them. Some seeds grow inside cones like the pinecone. Nuts are also seeds. They usually grow inside a hard shell or husk. Peanuts, walnuts, and almonds are all seeds that are nuts. All of these seeds can grow into new plants.

Plants Need Certain Conditions to Grow

In order for seeds to grow into plants, they need to have certain things. Plants need water, sunlight, air, and other nutrients, usually found in soil, to grow. Plants use these things to make their food.

Plants Go Through Stages as They Grow

Plants go through different stages as they grow. A seed begins to grow under the soil. A sprout grows up from the seed, and roots grow down from the seed. As the sprout gets bigger, leaves and a stem begin to grow. Once the stem and leaves are strong, the plant grows flowers. Sometimes, fruits, vegetables, or nuts containing more seeds grow from the flower. Other times, the flower contains the seeds. These seeds can grow and sprout, repeating the cycle.

Plants Are Important

Plants are important to people and animals. Many plants are food for people and animals. People eat the leaves of some plants, like spinach and lettuce. People eat the fruits of other plants, like grapes and bananas. People also eat the seeds of some plants, like corn, peanuts, and peas. Plants are also very important to people and animals because they make oxygen. Oxygen is an important part of the air we breathe. Animals, including humans, need plants to live and stay healthy.

APPENDIX B
What Teachers Need to Know the Scientific Reasoning Cycle

The Scientific Reasoning Cycle

Reflect and Ask → Plan and Predict → Act and Observe → Report and Reflect

Students learn about the world around them through their own observations. As they observe the world, students form tentative theories or explanations about the way the world works. To refine their understanding of the world, students need multiple opportunities for hands-on exploration in different situations. The content of and activities in CKLA-Preschool promote understanding of scientific concepts and a systematic approach to investigation. This systematic approach may be summarized as (1) reflect and ask; (2) plan and predict; (3) act and observe; and (4) report and reflect. The approach is cyclical because "reporting and reflecting" may generate new questions to be asked, acted upon, and observed.

Reflect and Ask

The goal of reflecting and asking is to activate students' relevant prior knowledge by helping them to consider what they already know about a topic. We learn or comprehend new information by relating it to what we already know. It is important to help young students explicitly make connections between their existing knowledge and new information. Through the reflecting and asking process, students will begin to make connections between science topics and their own worlds. Strategies to generate reflection and discussion about a topic include reading a book about the topic or showing students objects related to the topic. When sufficient time is spent addressing the same broad topic, students build their knowledge base and generate a variety of questions related to the scientific topic of study. When a domain is carried out over several weeks, students can ask questions one day and participate in some activities to address these questions on subsequent days. It is important that students' questions be the starting point for investigations; however, students won't always have questions or their questions may be poorly formed. Effective teachers scaffold and clarify students' expression of their ideas. When teachers pose questions inspired by students' questions or attempts at questions, other students are likely to pose similar questions. Activities do not have to be planned for every question

generated by every student; however, it is very important that students feel their questions are taken seriously and become the source of investigations. When students ask questions about the world, teachers do not always have the answer. Rather than guessing or making up an answer, effective teachers encourage research and investigation to reinforce the idea that theories can be made and tested.

Plan and Predict

The purpose of joint planning is to allow students to see the adult thought process at work and to learn how to plan for themselves. Deciding which science activities to conduct with students and how to carry out these activities involves planning. During the planning and predicting portion of the scientific reasoning cycle, activities are planned to address the questions generated in the reflecting and asking portion of the scientific reasoning cycle. Most adults plan frequently, but their planning efforts are invisible to students. Planning often takes place in our minds. Sometimes, we combine steps in our plan to save time or because we know what will happen and therefore don't need to complete each step. In order for students to learn to plan, adults must slow down and make their planning visible. Each step in the plan needs to be apparent to students. With exposure to other people's planning processes, and with opportunities to participate jointly in the planning process, students will begin to make plans of their own. Initially, Preschool students may have difficulty generating questions and predictions. Effective teachers scaffold students' completion of these tasks by providing cues and models. During the planning process, effective teachers model their thoughts out loud for students as they are making a plan. Effective teachers also model how to make predictions. An effective teacher may make a comment that provides a model of a good prediction, followed by a yes/no question or "raise your hand if…" response to encourage students to make similar predictions. For example, "I don't think we'll be able to blow bubbles with the block. It doesn't have any holes in it. How about this magnifying glass? Raise your hand if you think we'll be able to blow bubbles with the magnifying glass."

Act and Observe

An investigation involves carrying out the planned action and observing the results. Students will have a heightened interest in the activity if sufficient reflecting, questioning, and planning have preceded the activity. Students are eager to see what happens, eager to see which prediction

is correct. As a plan is carried out, students are engaged in the acting portion of the scientific reasoning cycle. Occasionally, the teacher will carry out the plan as students observe. However, it is important that students have multiple and meaningful opportunities to carry out, on their own, the plans that they have made. Science activities should be structured in a manner that provides students with the opportunity to act. The teacher's primary goal is to help students to make observations that deal with the key transformations of the experience. Teachers can help students observe by making comments and asking questions. Talking about what is happening, as it happens, draws students' attention to the activity and helps them focus on the key aspects of the experience. Additionally, the use of rich, descriptive language that includes the language of instruction supports students' growing oral language skills.

Report and Reflect

Once students have acted and observed the results of their activity, it is time to report their results. Reporting confirms students' observations and findings provides students with the opportunity to represent the results in another format. In doing so, they identify and "capture" what was learned in the activity. They create a work product that can be referenced in the future, as well as a means of communicating their findings to others. Creating reports also offers students an opportunity to practice symbolic representation (one thing standing for something else). Symbolic representation is the key to spoken and written language, and an important intellectual skill needed for later academic success. Some activities lend themselves to creating charts and graphs. Others are well suited to photographs, and others may require a verbal explanation (effective teachers model the writing of this explanation). Keep in mind that, at the Preschool level, a "picture is worth a thousand words." Reporting observations may often be more readily accomplished through drawings completed by students, or selection and display of objects or photographs, in addition to verbal explanations. This representational step will also enhance young students' appreciation of science as "telling the story about how nature works." It is important to note that during the reporting and reflecting step, reflection may generate new questions that can be addressed using the cycle again with new activities and more questions.

How are Sounds Represented in CKLA-Preschool?

In the *Plants* domain, in addition to giving the spelling of words students will be blending and segmenting, the Teacher Guide also uses a standard convention for representing the phonemes in words. The reason for using this convention is that spellings do not always correspond to pronunciation (e.g., *tough, bough, cough, dough*), and the number of letters in a word does not always correspond to the number of sounds (consider the same list). In order to be clear regarding how words are to be segmented, the following conventions are used to represent sounds in words in this domain.

What is a Phoneme?

Linguists refer to single sounds in words as phonemes. Phonemes are the smallest sound parts into which a word can be broken. This is a term we use occasionally in the instructional materials. With students, however, you may prefer to use the word *sound* to refer to sounds in words.

The Core Knowledge Language Arts program uses a forty-four-phoneme classification scheme. In these materials, phonemes are written with two slash marks as follows: /a/. /a/ stands for the sound at the beginning of the word *apple.* English phonemes are divided into two categories, vowel sounds and consonant sounds. The /a/ sound in *at* is a vowel sound; the /t/ sound is a consonant sound. Vowel sounds are made with an open mouth and an unobstructed flow of air. By contrast, consonant sounds are made by closing parts of the mouth together, which causes either a partial or a complete blockage of the air flow. Some consonant sounds can be stretched out, but many others are quick sounds that last only a split second and cannot be stretched out.

The charts that follow list all forty-four phonemes used in the Core Knowledge Language Arts classification scheme. In the left hand column, the phoneme is shown as it is written in the Teacher Guide. Beside the phoneme (in the middle column) is the basic spelling of that sound (i.e., the letter or letters that represent the sound in a given word). In the furthest right column is an example word that contains the phoneme. The chart reads: "The /a/ sound is spelled 'a' as in the word *at.*"

These charts are provided for teacher reference only. The example words are simply that; they should not be used as "key words" for students.

Consonant Sounds		
Phoneme	**Basic Spelling**	**Example Word**
/b/	'b'	**b**i**b**
/ch/	'ch'	**ch**ip
/d/	'd'	**d**a**d**
/f/	'f'	**f**ish
/g/	'g'	**g**i**g**
/h/	'h'	**h**ip
/j/	'j'	**j**am
/k/	'c' 'k' (can be spelled both ways)	**c**ab,**k**it
/l/	'l'	**l**ip
/m/	'm'	**m**o**m**
/n/	'n'	**n**u**n**
/ng/	'ng'	si**ng**
/p/	'p'	**p**o**p**
/qu/	'qu'	**qu**it
/r/	'r'	**r**ed
/s/	's'	**s**i**s**
/sh/	'sh'	**sh**u**sh**
/t/	't'	**t**o**t**
/th/	'th'	**th**in
/th/	'th'	**th**em
/v/	'v'	**v**et
/w/	'w'	**w**in
/x/	'x'	bo**x**
/y/	'y'	**y**es
/z/	'z'	**z**ip
/zh/	varies	trea**s**ure

Vowel Sounds		
Phoneme	**Basic Spelling**	**Example Word**
/a/	'a'	**a**t
/ae/	'a_e'	**a**t**e**
/ar/	'ar'	c**ar**
/aw/	'aw'	p**aw**
/e/	'e'	b**e**t
/ee/	'ee'	t**ee**n
/er/	'er'	h**er**
/i/	'i'	b**i**g
/ie/	'i_e'	t**i**m**e**
/o/	'o'	c**o**t
/oe/	'o_e'	n**o**t**e**
/oi/	'oi'	c**oi**n
/oo/	'oo'	b**oo**k
/oo/	'oo'	s**oo**n
/or/	'or'	f**or**
/ou/	'ou'	**ou**t
/u/	'u'	b**u**n
/ue/	'u_e'	c**u**t**e**

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EXPERT REVIEWER

Joyce Latimer

Plants
Teacher Guide

PRESCHOOL