

How Plants Grow

Dona Herweck Rice

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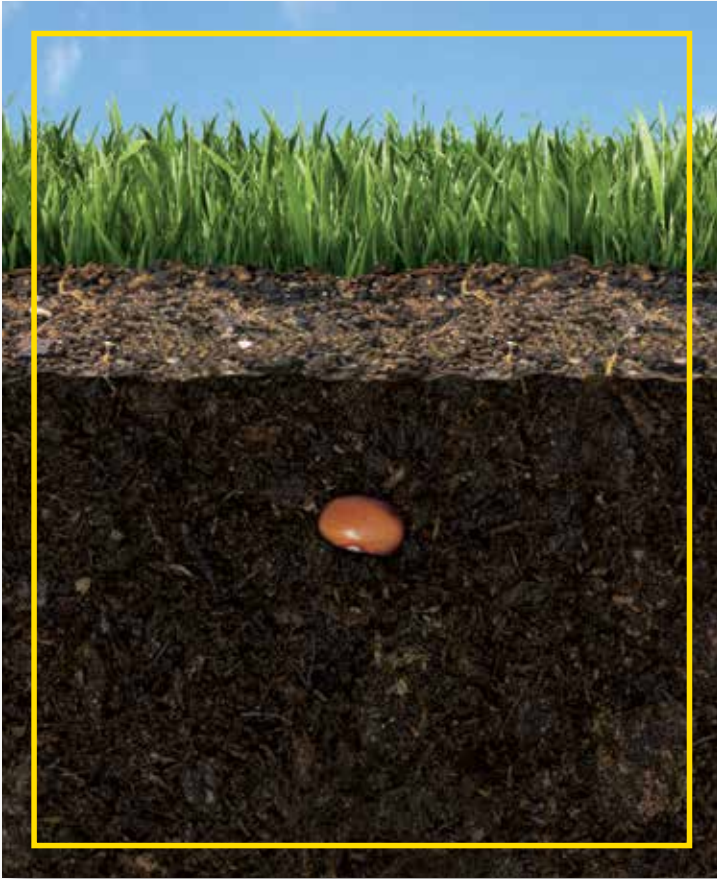
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**Do you know
how plants grow?**



**First, there is a seed.
It is under the
ground.**



**Next, roots grow
down into the soil.**

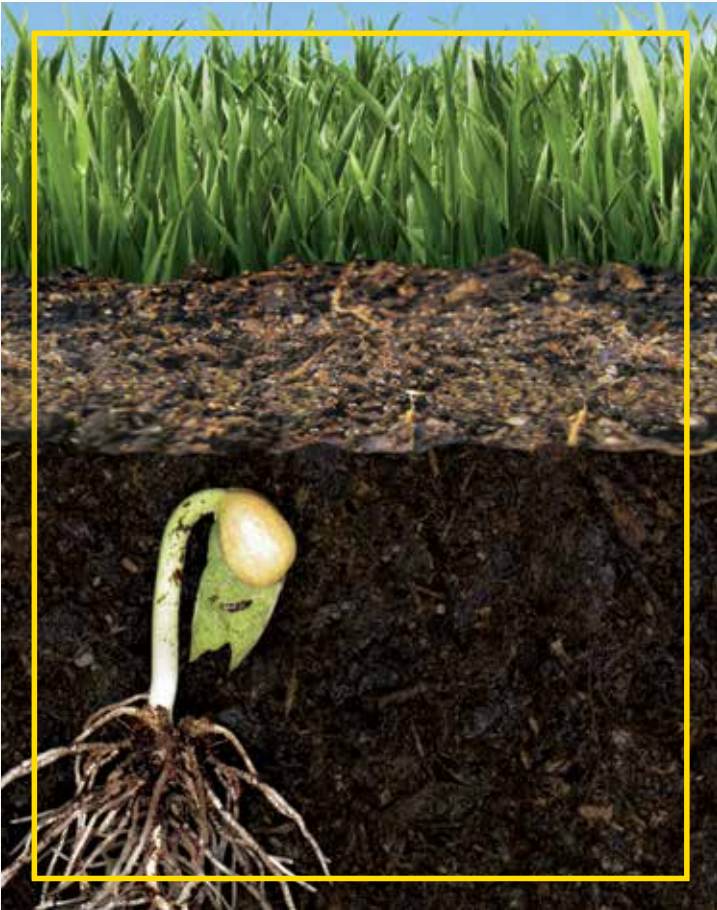


The roots get food and water for the plant.



**Then, leaves begin
to grow.**

The leaves go up.



**Soon the plant is
above the ground.**



**Then, there is a
plant growing in the
sun.**



The plant may grow flowers.



**We can watch
plants grow.**

**We can watch
plants grow tall.**

Words to Know

a	growing	soon
above	how	sun
and	in	tall
begin	into	the
can	is	then
do	it	there
down	know	to
first	leaves	under
flowers	may	up
food	next	watch
for	plant	water
get	plants	we
go	roots	you
ground	seed	
grow	soil	



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“Thank you for helping us
create a world in which
children love to learn!”



How Plants Grow

Focus Objectives

Students will be able to:

- use mental images based on pictures and print to aid in comprehension of text
- summarize information found in texts

TESOL Objective

Students will use English to obtain, process, construct, and provide subject matter information in spoken and written form.

Word Work

- **High-Frequency Words:** *above, how, into, know, soon, then*
- **Word Study:** word chunk patterns
–*un* and –*ound*
- *Know Your Words* activity sheet

Academic Vocabulary

- *gound*
- *grow*
- *leaves*
- *roots*
- *seeds*
- *soil*

Comprehension Skills

- Using Mental Images
- Summarizing
- *Know How They Grow* activity sheet

Writing

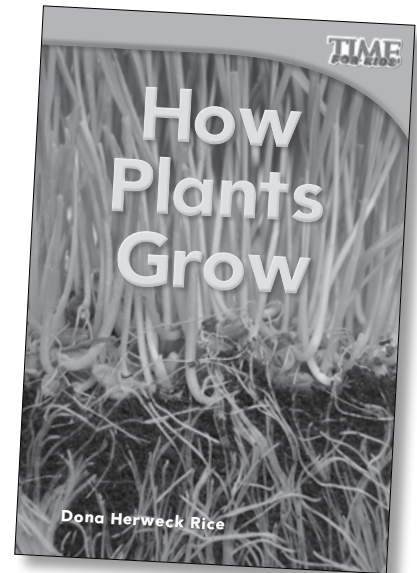
Trace and practice high-frequency and vocabulary words

Cross-curricular Connections

- **Math:** Students make quantitative estimates of familiar linear dimensions and check them against measurements.
- **Science:** Students know the basic needs of plants and animals.

Building Fluency

- **Reading the book:** repeated readings
- **Reading the poem:** poetry folder; repeated readings
- “Growing a Plant” poem



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How Plants Grow (cont.)

Word Work

- 1. High-Frequency Words**—Write the words *above*, *how*, *into*, *know*, *soon*, and *then* on the board. Read each word aloud. Depending on students' abilities, you may wish to introduce the high-frequency words one at a time.
 - Read each word with students. Ask students to repeat and write the words in a five-column chart. Give each student a photocopied page from an upper-level book. Have them find the words in the text. Instruct students not to read each word on the page, but rather scan it and look for only the words *above*, *how*, *into*, *know*, *soon*, and *then*. Every time they find the word, have them circle and say the word aloud.
 - If you have a classroom word wall, have students add the high-frequency words to it. As time permits, read the word wall together to reinforce mastery of high-frequency words.
- 2. Word Study**—Write the *-un* word chunk on a sheet of chart paper using a red marker.
 - Have students brainstorm other words that end with *-un*. Write these words on the chart paper. The list of words may include *bun*, *gun*, *fun*, and *run*.
 - Repeat the process above for the *-ound* word chunk.
 - For additional practice with the words in this lesson, have students complete the *Know Your Words* activity sheet.

Tip: After students complete the high-frequency activity, look again at the pages. Point out to students how often these words are found in reading. Remind them they are called *high-frequency words*, which means they are used a lot in reading and writing.

Academic Vocabulary

- 1.** Develop students' vocabulary by naming plants they know. Write the words on the board or a chart paper labeled *Plants*. Your chart may look similar to the chart on the right.
- 2.** Instruct students to add the academic vocabulary words to their dictionaries. Encourage them to write a word, phrase, or sentence for each word and to include a picture.

Plants	
grass	pine tree
palm tree	rose bush
daffodils	fern
tomato vine	banana tree

Comprehension

Before Reading

- 1. Introducing the Book**—Show students the front of the book.
 - Ask students to tell you what the book will probably be about. Ask if they have ever seen other books about this same topic.
 - Ask students to tell you what they think might be around the plants.
 - Read the title of the book to students. Ask them to predict what kinds of things they might find in the book. Ask them if they think the story will be real or make-believe (nonfiction or fiction).
 - Take a text walk through the book and discuss the features. Ask, “What types of things do you notice about the pictures? What do you notice about how the text is organized, or put together?”
- 2. Using Mental Images**—Show students page 11 of the book. Invite students to describe what they see in the picture.
 - Read the sentence “We can watch plants grow tall” to students. Ask them to look at the picture and share what they see.
 - Then ask students to visualize taking care of plants. Ask students to close their eyes and imagine a plant. Have them try and “see” the plant and its surroundings. Allow students time to share.

English Language Support

Introduce key vocabulary words prior to previewing the text, such as *seed*, *soil*, and *growing*. Provide students with a visual, a drawing, or picture of a plant and have them label the key parts.

During Reading

- 1. Developing Fluency and Expression**—Read the title of the book, pointing to each word. Read the author’s name. Have students repeat the title and author’s name with you.
 - Read each page of the text while students track the text. Have students repeat the text with you, tracking the text while you read.
 - Reread the cover and text aloud together. Repeat for each page while tracking the text.
 - Allow each student to reread the book with a partner, once again tracking the text.
 - Now have students read the book independently. Monitor and check for understanding.
- 2. Using Mental Images**—Read the book aloud together once more. Ask students to pantomime doing what the plant in the book does. For example, when the book reads, “Next, roots grow down into the soil,” students should pretend they have roots reaching down into the ground. Read pages 3–5 of the book aloud to students, pausing to have them think about the appropriate pantomime for what the plant does.



Assessment Opportunity—Monitor students as they participate in the vocabulary activity to ensure they read the high-frequency words accurately.

How Plants Grow (cont.)

Comprehension (cont.)

After Reading

1. **Summarizing**—Explain to students that a summary is when you tell about the book and its main ideas in as few words as possible. Ask students to give you a summary of the text. Ideas might be, “a plant grows” or “plants growing.” Then explain that when you paraphrase, you can use more words and details than a summary, but you put it in your own words. Ask students to paraphrase this book, tell you how a plant grows.
2. **Using Mental images**—Make a copy of pages 3–7. Cover up the page numbers. Ask students to close their eyes and think about the order in which a plant grows. Then give students a copy of the pages and instruct them to put them in the correct order, or have students glue the pages on a large sheet of paper. For additional practice with the comprehension skill in this lesson, have students complete the *Know How They Grow* activity sheet.

English Language Support

Let students take turns dictating directions for how to do something simple such as making a sandwich or putting on a sock. Be sure they use sequence words such as *first*, *next*, and *then*. Then, go over the directions as a class, doing exactly what the directions say. Students will have fun discovering the missing directions.

Writing

Challenge students to create a “how to” using *first*, *next* and *then* to order the steps. Some examples of a simple “how to” include: how children jump, how to brush teeth, or how to draw a circle.

- Have below-grade-level students draw a series of pictures and then label the pictures.
- Have on-grade-level students write short phrases to describe the steps then draw matching pictures. Students will say the sounds in the words slowly and write each sound they hear in order to write the phrases.
- Encourage above-grade-level students to write more detailed sentences about the steps involved using high-frequency and vocabulary words (including sequence words).

Cross-curricular Connections



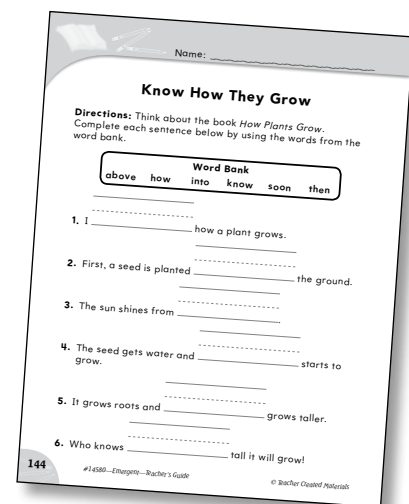
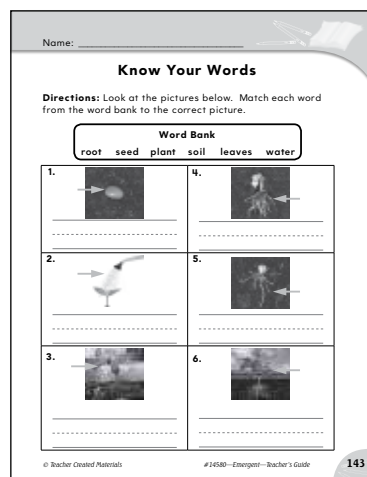
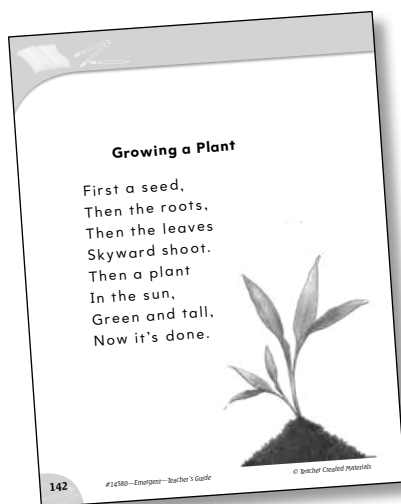
Math—Take a walk around the school to collect leaves, or ask students to bring in leaves from home. Point out the inch markers on a ruler, and then have students guess how long each leaf will be. Give students time to measure and record the lengths of the leaves.



Science—Grow a class plant. Plant seeds in nourishing soil, water them, and ensure that they get plenty of sun daily. Take class notes to monitor the changes. As the plant grows, discuss the things necessary for a plant to thrive (water, soil, and sun).

Building Fluency

- 1. Reading the Book**—Use the choral-reading strategy to read the book several times with students and allow students to practice reading the book silently and in pairs.
- 2. Reading the Poem**—Use one or all of the following methods for fluency practice:
 - Discuss the “Growing a Plant” poem. Compare and contrast the book and the poem by asking students questions, such as “How is the poem similar to or different from the book?” They should notice that both use sequence words.
 - Provide copies of the poem for students to keep in a poetry folder. They can practice reading the poems in this folder during free-choice time and independent or paired reading time.
 - Write the poem on a sheet of chart paper. Take time to reread it throughout the day. Choral and repeated readings are effective strategies for building fluency. Encourage students to create actions and gestures or a tune to go along with the poem.





Growing a Plant

First a seed,
Then the roots,
Then the leaves
Skyward shoot.
Then a plant
In the sun,
Green and tall,
Now it's done.



Name: _____



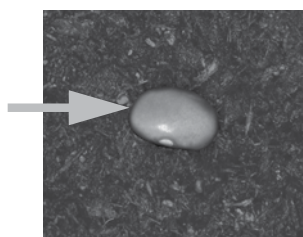
Know Your Words

Directions: Look at the pictures below. Match each word from the word bank to the correct picture.

Word Bank

root seed plant soil leaves water

1.



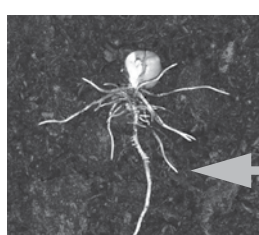
4.



2.



5.



3.



6.





Name: _____

Know How They Grow

Directions: Think about the book *How Plants Grow*. Complete each sentence below by using the words from the word bank.

Word Bank

above how into know soon then

1. I _____ how a plant grows.

2. First, a seed is planted _____ the ground.

3. The sun shines from _____.

4. The seed gets water and _____ starts to grow.

5. It grows roots and _____ grows taller.

6. Who knows _____ tall it will grow!

How Plants Grow

Multiple-Choice Test

Name _____ Date _____

Directions: Read each question. Choose the best answer. Fill in the bubble for the answer you have chosen.

1 Which one comes first?

- ☐ (A) A plant grows flowers.
- ☐ (B) A seed is under the ground.
- ☐ (C) The seed grows roots.
- ☐ (D) The leaves grow up.

3 Which one is above the ground?

- ☐ (A) roots
- ☐ (B) seed
- ☐ (C) leaves
- ☐ (D) soil

2 What gets food and water for the plant?

- ☐ (A) flowers
- ☐ (B) leaves
- ☐ (C) roots
- ☐ (D) grass

4 Plants grow from ____.

- ☐ (A) seeds
- ☐ (B) leaves
- ☐ (C) rocks
- ☐ (D) sticks



Answer Key

How Plants Grow

Know Your Words, p. 7

1. seed
2. water
3. leaves
4. root
5. soil
6. plant

Know How They Grow, p. 8

1. know
2. into
3. above
4. then
5. soon
6. how

Multiple-Choice Test, p. 9

1. B
2. C
3. C
4. A

How to Use the Oral Reading Record

Using an Oral Reading Record

When taking an oral reading record, it may be useful to employ some or all of the following tips:

- Position yourself next to the student in such a way that you can hear the student easily, see the text clearly, and watch the student's eye and finger movements while he or she is reading.
- As the student reads, mark the oral reading record form with the conventions on the included coding chart on the following page.
- Errors to be marked include substitutions, omissions, insertions, and having to be told a word by the teacher.
- Self-corrections occur when a student realizes an error on his or her own and corrects it.
- Note where the errors and self-corrections are made via meaning, structure, or visual cues (defined below).
- If the student begins to read too quickly for you to follow, simply ask him or her to pause for a moment while you catch up with the record.
- Interrupt and intervene as frequently as possible in order to create the truest record.
- Wait several seconds when a student gets stuck before reading a word aloud for the student.
- If a student misreads a word, be sure to write the word he or she said above the correct word on the record form.
- Time the student to test for fluency. The Reading First standard for first grade is 60 words per minute. (It is 90 to 100 words read correctly by the end of second grade and 114 by the end of third grade.)

Meaning, Structure, and Visual Cues

Meaning. When the reader uses background knowledge and the context to identify words, he or she is using meaning (or semantic cues). On the oral reading record, mark these cues with an *M*.

Structure. When the reader applies knowledge of language structure in order to identify words, he or she is using structure (or syntax) cues. On the oral reading record, mark these cues with an *S*.

Visual. When the reader applies knowledge of letter and sound correspondence, including the look of the letter, letters, and the word itself, he or she is using visual (or graphophonic) cues. On the oral reading record, mark these cues with a *V*.

How to Use the Oral Reading Record

Marking Conventions Chart

Behavior	Marking Convention	Example
Accurate reading	(checkmark) above each word read	✓ ✓ ✓ This is big.
Substitution	Word read above actual word	✓ ✓ -bag This is big.
Omission	— (long dash)	✓ — ✓ This is big.
Insertion	^ and the inserted word	very This is ^ big.
Repetition of word (no error)	R (one repetition) R2 (two repetitions)	R This is big.
Repetition of phrase (no error)	R with line and arrow at point where reader returned	→ R This is big.
Self-correction (no error)	SC after error	bag/SC This is big.
Appeal (Student appeals for help either verbally or nonverbally.)	A over word where appeal occurred	A This is big.
Told (Student is asked to try again but ultimately must be told the word.)	T over word student was told	T This is big.
Beginning sound read separately and then word read correctly.	Beginning sound above word followed by mark for correct	b/✓ This is big.

How to Use the Oral Reading Record

Scoring an Oral Reading Record

Teachers will use the information gathered while observing the student and marking the record in order to calculate rates of accuracy, error, and self-correction. The error and self-correction rates are written as ratios. The accuracy rate is a percentage. (**Note:** When the reader self-corrects, the original error is not scored as an error.)

After or while marking the oral reading record as you observe the student, tally errors and self-corrections in the columns to the right of the text. Then circle whether those errors and self-corrections are in the area of meaning (M), structure (S), or visual (V) cues.

Use any of the following data calculations as appropriate to monitor student progress and inform instruction.

- **Calculate the rate of error.** Add the total number of words read. Divide that number by the number of errors made.
For example, if the text has 96 words and 8 errors were made, the ratio is 1:12 (one error for every 12 words read).
- **Calculate the rate of self-correction.** Add both the number of errors and self-corrections. Then divide that number by the number of self-corrections.
For example, if there are 8 errors and 6 self-corrections, that makes 14 total. Divide 14 by the number of self-corrections (6). This gives a ratio of 1:2.3 or, rounded, 1:2. This is interpreted as one self-correction for every two errors.
- **Calculate a percentage for accuracy.** Convert the error rate to judge the difficulty of the text. Use the information in the chart below to inform text selections for students.
For example, in a 1:12 error rate, divide 1 by 12 to get 0.08 (round to the nearest hundredth) or 8%. Subtract 8% from 100% to get 92%. This is the accuracy percentage.
Use the information below to determine test difficulty.

Accuracy Percentage	Difficulty of Text for Student
96% or higher	Easy
91%–95%	Instructional level
90% or lower	Challenging

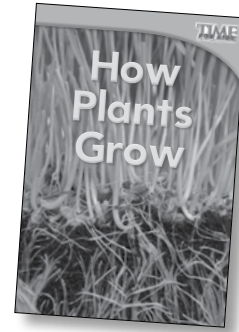
Note: If you do not wish to assess with this level of detail, simply calculate the percentage of words read correctly and the number of words read correctly per minute. Both of these measures give adequate indications of word recognition and fluency. However, keep in mind that these calculations provide one kind of data for students—teachers should examine students' reading and learning in context, as individuals and as members of the larger learning group.

How to Use the Oral Reading Record

Fluency Rubric

Score	Accuracy	Rate (Pace)	Expression	
			Structural phrasing, pausing, smoothness, pitch, volume	Interpretive mood, purpose, emotion, subtleties of meaning
4	Recognizes most words and reads them correctly without hesitation.	Consistently reads at a natural, conversational pace, or as appropriate for the text.	<p>Reads smoothly.</p> <p>Consistently uses meaningful phrasing and appropriate pausing.</p> <p>Adjusts pitch and volume to the circumstances (type of text or audience).</p>	<p>Recognizes different purposes for reading.</p> <p>Consistently conveys the appropriate mood and emotion.</p> <p>Distinguishes word meanings in context.</p>
3	<p>Recognizes pretaught and familiar words and reads them correctly.</p> <p>May hesitate, but can use context and apply word-attack skills.</p>	<p>Sometimes reads at a conversational pace, but is inconsistent.</p> <p>May speed up and slow down or generally read at a slightly slower pace.</p>	<p>Reads smoothly in general, but with some breaks or misuse of pausing.</p> <p>Is aware of pitch and volume.</p>	<p>Reads most text with emphasis appropriate for the purpose and mood of the text.</p> <p>May at times slip into concentrating on pronunciation, but will usually recover and resume once past the problematic area.</p>
2	<p>Recognizes and reads some words correctly, but hesitates.</p> <p>Has some difficulty using context clues and applying word-attack skills.</p>	<p>Reads somewhat slower than appropriate for text.</p> <p>May have stops and starts or have to go back and reread.</p>	<p>Reads unevenly.</p> <p>May miss punctuation clues, resulting in choppiness or run-on reading.</p> <p>Does not generally attend to pitch and volume.</p>	<p>May use natural-sounding language at times, but, in general, frequently resorts to focusing on word-by-word pronunciation without regard for the mood, purpose, or intended meaning.</p>
1	<p>Misreads words frequently.</p> <p>May not recognize words in different contexts.</p> <p>Is not adept at applying word-attack skills.</p>	<p>Reading is slow and laborious.</p> <p>Frequently hesitates, stops, or goes back to "start over."</p>	<p>Does not usually read in meaningful units, such as phrases or clauses.</p> <p>May read word by word with little attention to context or punctuation signals.</p>	<p>Reading is generally monotone and lacks a sense of awareness of mood, purpose, or emotion.</p> <p>May not recognize word meanings in context.</p>

How Plants Grow



Oral Reading Record

Name _____ Date _____

Assessor _____

Word Count	Codes				
73	E = errors	SC = self-corrections	M = meaning	S = structure	V = visual

Page	Text	E	SC	Cues Used	
				E	SC
3	Do you know how plants grow?			M S V	M S V
4	First, there is a seed. It is under the ground.			M S V	M S V
5	Next, roots grow down into the soil.			M S V	M S V
6	The roots get food and water for the plant.			M S V	M S V
7	Then, leaves begin to grow. The leaves go up.			M S V	M S V
8	Soon the plant is above the ground.			M S V	M S V
9	Then, there is a plant growing in the sun.			M S V	M S V
10	The plant may grow flowers.			M S V	M S V
11	We can watch plants grow. We can watch plants grow tall.			M S V	M S V
TOTALS					

Error Rate:

Self-Correction Rate:

Accuracy Percentage:

Time:



Notes