2013 Summer Curriculum Institutes for SCSU TAT Alumni

Week 2

Team Leader: Melissa Luqueño
Team Member: Susan Hansen
# Table of Contents

Introduction

____________________________________________________3

Unit Plan

____________________________________________________4-13

Pre-Test

____________________________________________________14-17

Performance Tasks______________________________________________18

Performance Task 1 (Here I’ll Show You)____________________19-22

Performance Task 2 (I’m the Reporter)____________________23-29

Performance Task 3 (What Do You Know About Plants?)______30-34

Science Worksheets _________________________________________33-58

Math Worksheets __________________________________________59-160

Chapter 5 (Bar Models) ____________________________________60-86

Chapter 6 (Multiplication) ________________________________87-136

Chapter 11 (Measurement) ________________________________137-160

Writing Task ____________________________________________161-173

Post-Test ________________________________________________174-179

Resources________________________________________________180
Introduction

In order to help ELLs improve their academic language and discourse, we are implementing a cross curricular thematic unit. The unit is based off of the Science curriculum of Plants, but includes Literacy, Writing, Math, and Social Studies as well. The theme for this thematic unit is Plants, animals, and humans grow, change, and adapt in order to survive. Throughout the unit, students will study this theme and how it applies to different subject areas.
# Plants - Unit Plan

## Unit Overview

### Unit Title
Grow with Me

### Unit Summary
This unit is based on the 3rd Grade Science unit on Plants. The unit will incorporate all content areas to help students understand how plants, animals, and humans change, grow, and adapt in order to survive. Multiple Intelligence approach will be used throughout the unit. The unit will include scaffolding of academic language in order to help ELLs with reading, writing, listening, and speaking skills across the disciplines.

### Essential Question
How do plants, animals, and humans change, grow, and adapt in order to survive.

### Grade Level
3rd Grade

### Approximate Time Needed
1 Marking Period

## Targeted Content Standards and Benchmarks

### Science:

3.2.a. Plants and animals have structures and behaviors that help them survive in different environments.

### Literacy:

CC.3.R.I.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the
text as the basis for the answers.

CC.3.R.I.2 Determine the main idea of a text; recount the key details and explain how they support the main idea.

CC.3.R.I.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

CC.3.R.I.4 Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.

Writing:

CC.3.W.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

CC.3.W.2.b Develop the topic with facts, definitions, and details.

CC.3.W.4 With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

Math:

CC.3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of object in 5 groups of 7 objects each.

CC.3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

CC.3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilogram (kg), and liters (l). (Excludes compound units such as cm³ and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Excludes multiplicative comparison problems [problems involving notions of “times as much”; see Glossary, Table 2]).

CC.3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

Social Studies:

1.5 – Interaction of humans and the environment.

Student Objectives/Learning Outcomes

Science:

Content Objective: Students will be able to identify the life cycle of plants and how plants and animals adapt to fit their surroundings. Students will be able to identify the parts of a plant and explain their function.

Language Objective: Students will be able to describe, in writing, the life cycle of a plant. Students will be able to describe how plants and animals adapt in order to survive.

Literacy:

Content Objective: Students will be able to evaluate texts and determine key ideas and information.

Language Objective: Students will be able to use information read to discuss or write about the theme of book read in class.

Writing:
Content Objective: Students will be able to use elaboration to describe a specific plant and write about important and interesting facts about that plant.

Language Objective: Students will be able to write in complete sentences following the conventions of English grammar.

Math:

Content Objective: Students will be able to apply mathematical concepts to real life situations.

Language Objective: Students will be able to describe the process used to solve math problems.

Social Studies:

Content Objective: Students will be able to compare and contrast plants in Connecticut and other parts of the United States.

Language Objective: Students will be able to explain how plants, animals, and humans interact in the environment.

Assessment Plan

Assessment Timeline

<table>
<thead>
<tr>
<th>Before project work begins</th>
<th>Students work on projects and complete tasks</th>
<th>After project work is completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Students will complete the Know and Want to know part of a KWL chart for their Pre-test on Plants.</td>
<td>• Student work sheets (observation sheets).</td>
<td>• Students will complete a summative assessment on plants. The summative assessment includes the different levels of Bloom’s Taxonomy.</td>
</tr>
<tr>
<td>• Student self assessment about what they know about plants and their interest level in learning about plants.</td>
<td>• Student work groups and teacher observations.</td>
<td></td>
</tr>
</tbody>
</table>

Assessment Summary

Assessments will include a variety of methods to assess student understanding and growth. Students will complete performance tasks that will show their understanding of the science content and the application of other content areas to demonstrate this knowledge. For some activities, students will work in cooperative groups to complete a task. Other activities will be done individually and will be handed in and graded based on a teacher created rubric. Teachers will also use anecdotal notes and conference with students individually to assess their needs and knowledge. Assessments for this thematic unit will include the different content areas (literacy, science, social studies, writing, and math). The assessments will vary to meet the needs of the ELL students and will focus on the
understanding and application of academic vocabulary.

## Unit Details

### Prerequisite Skills

**Science** - Students need to have observation skills in order to be able to complete the science observation activities.

**Literacy** - Students need to have basic reading skills in order to be able to read informational texts for information.

- Students need to have basic reading skills in order to analyze the informational texts read in class and to use the text features to help them understand what the book is teaching them.

**Math** - Students need to know how to add and subtract fluently.

- Students need to know how to measure and read a scale.
- Students need to know how to organize data and make a graph.

**Social Studies** – Students need to have an understanding of how plants, animals, and humans all interact within the environment.

## Instructional Procedures

### Literacy –

- First 4 weeks of the marking period will be spent reading the CORE Text (*Animal Heroes* by Sandra Markle) and teaching students the different strategies that good readers use when reading informational texts (visualizing, predicting, connections, vocabulary, text features, etc).

- Second 4 weeks of the marking period, students will work in cooperative groups (Power Strategy Groups) to apply the strategies they learned to a different book and work together to discuss and understand what they are reading.

- Mini Lessons will be used throughout the semester to teach students how to read for information (how to use the table of contents, note taking, asking questions, etc).

- Students will have 30 minutes of independent reading a day where they will choose a book to read that interests them.

### Math –

- Lessons will be taught using Math in Focus and additional resources to cover the CCSSs for this unit.

- Students will work in cooperative groups to organize data and measure the growth of their plants.

- Students will use hands on manipulatives and math centers to learn and apply math concepts.

### Writing –

- Expository writing lessons from the New Haven 3rd grade curriculum will be used to teach students the elements of expository writing.

- Teacher will confer with students about their writing to see where they need help and what they already understand.

- Students will evaluate themselves using a rubric and ensure that their writing has all the elements of expository writing by using a checklist to help guide them.

- Students will work in partners to help each other edit and revise their own writing.
Science –
- Science lessons will be taught using the STC (Science and Technology for Children) kit for Plants.
- Students will work independently and in groups to complete activities and observations.
- Students will have planted seeds and will work with them throughout the unit to observe and document the growth, changes, and adaptations made by the plant and will apply this knowledge to the other content areas.

Social Studies –
- Field trips to Edgerton Park and Pardee Rose Garden
- Read alouds that incorporate the theme of change in our world.

Technology –
- Use of computers to research information for their expository writing.
- Use of academic websites such as pebblego.com and Wikipedia.com to research their topics.

<table>
<thead>
<tr>
<th>Accommodations for Differentiated Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Special Needs Students</strong></td>
</tr>
<tr>
<td>• Answer Frames</td>
</tr>
<tr>
<td>• Graphic Organizers</td>
</tr>
<tr>
<td>• Highlighted text (key words)</td>
</tr>
<tr>
<td>• Additional time to complete tasks</td>
</tr>
<tr>
<td>• Support Staff (Special Education Teacher)</td>
</tr>
<tr>
<td>• Presentation of knowledge (written or oral)</td>
</tr>
<tr>
<td>• Modified assignments &amp; rubrics</td>
</tr>
<tr>
<td><strong>Nonnative Speakers</strong></td>
</tr>
<tr>
<td>• First Language Text (Spanish)</td>
</tr>
<tr>
<td>• Dual Language Dictionaries (English-Spanish)</td>
</tr>
<tr>
<td>• Use of native language to express knowledge and understanding</td>
</tr>
<tr>
<td>• Illustrated texts</td>
</tr>
<tr>
<td>• Answer Frames</td>
</tr>
<tr>
<td>• Graphic Organizers (with illustrations)</td>
</tr>
<tr>
<td>• Highlighted text (key words)</td>
</tr>
<tr>
<td>• Additional time to complete tasks</td>
</tr>
<tr>
<td>• Presentation of knowledge (written or oral)</td>
</tr>
<tr>
<td>• Modified assignments &amp; rubrics</td>
</tr>
</tbody>
</table>

| **Gifted/Talented Students**                  |
| • Independent Study                           |
| • Extra use of technology to create PowerPoints, Brochures, etc. |
| • Open ended project                          |
| • Independent research tasks and activities   |

<table>
<thead>
<tr>
<th>Materials and Resources Required For Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology – Hardware</td>
</tr>
<tr>
<td>Technology – Software</td>
</tr>
<tr>
<td>-----------------------</td>
</tr>
<tr>
<td>Camera</td>
</tr>
<tr>
<td>☑ Computer(s)</td>
</tr>
<tr>
<td>☑ Digital Camera</td>
</tr>
<tr>
<td>☑ DVD Player</td>
</tr>
<tr>
<td>☑ Internet Connection</td>
</tr>
<tr>
<td>☑ VCR</td>
</tr>
<tr>
<td>☑ Video Conferencing Equip.</td>
</tr>
<tr>
<td>☑ Other</td>
</tr>
</tbody>
</table>

| Printed Materials     | STC Plant Unit Kit    |
|                       | Animal Heroes by Sandra Markle |
|                       | Math in Focus text books, workbooks, and resources |
|                       | Worksheets            |

| Supplies              | Variety of seed specimens |
|                       | Magnifying Glasses      |
|                       | Soil                   |
|                       | Water                  |
|                       | Cups                   |
|                       | Trays or egg cartons   |
|                       | Gloves                 |

| Internet Resources    | www.pebblego.com       |
|                       | www.wikiforkids.ws     |
|                       | www.superteacherworksheets.com |
|                       | www.theworksheetplace.com |

<p>| Other Resources       | Field Trips: Edgerton Park &amp; Pardee Rose Garden |</p>
<table>
<thead>
<tr>
<th>GRADE</th>
<th>Common Core State Standard</th>
<th>GLE</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>CC.3.R.I.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. CC.3.R.I.2 Determine the main idea of a text; recount the key details and explain how they support the main idea. CC.3.R.I.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. CC.3.R.I.4 Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.</td>
<td></td>
<td>Relates to the curriculum being covered for the 2nd marking period in literacy. It also relates to the theme of the thematic unit of how plants, animals, and humans grow, change, and adapt in order to survive. CCSSs also cover the critical skills that students need in order to analyze text and read for information. These CCSSs will help students evaluate the texts they read and allow them to learn information about the science topic being studied during this unit (Plants).</td>
</tr>
<tr>
<td>3</td>
<td>CC.3.W.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CC.3.W.2.b Develop the topic with facts,</td>
<td></td>
<td>This CCSS will be covered during the 2nd marking period of the New Haven curriculum. It will be incorporated into the thematic unit by having students write an expository piece about any type of plant that interest them and they would like to learn</td>
</tr>
<tr>
<td>3</td>
<td>Math</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CC.3.OA.A.1** Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each.

**CC.3.OA.A.3** Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

**CC.3.MD.2** Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilogram (kg), and liters (l). (Excludes compound units such as cm$^3$ and finding the geometric volume of a container.)

Add, subtract, multiply, or divide to solve one-step word problems more about.

These CCSSs were chosen for the Math component of this unit because they are directly related to the science unit of plants. Students can use the observations done in the science lessons and apply them to math by organizing data and measuring. Students will also be able to apply important measurement skills throughout this unit by measuring length of various plants and chart their growth over the course of the unit. Students can also practice their addition and subtraction and the use of bar models with real world examples involving plants. Students will also practice multiplication using their plants to make arrays and help them multiply.
These CCSSs were chosen for the Math component of this unit because they are directly related to the science unit of plants. Students can use the observations done in the science lessons and apply them to math by organizing data and measuring. Students will also be able to apply important measurement skills throughout this unit by measuring length of various plants and chart their growth over the course of the unit. Students can also practice their addition and subtraction and the use of bar models with real world examples involving plants. Students will also practice multiplication using their plants to make arrays and help them multiply.
Pre- Test
<table>
<thead>
<tr>
<th>Know</th>
<th>Want to Know</th>
<th>Learned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ELL Modifications

Name ______________________

Want to Know

_________________________
_________________________
_________________________
_________________________

Learned

_________________________
_________________________
_________________________
_________________________

KWL Chart

Topic: ____________________

Know

_________________________
_________________________
_________________________
_________________________

Questions

_________________________
_________________________
_________________________
Performance Tasks

Students pick 2 out of the 3 to complete based on what interests them. Students can also choose to complete one project in English and one project in Spanish.
Here I’ll Show You

From Seed to Plant

Description:
You will create an illustrated and written flip book for a younger student to explain how to plant and care for a plant.

Directions:
Starting from the seed explain the process on how to plant a plant of your choice in a flip book storybook. Each page should explain one step in the process and include an illustration including labels and captions. Also include transitional words for each step. Use the teacher modeled example and the rubric as a guide. Your finished product should be neat and colorful with correct grammar and punctuation.

Transitional Order Words

First, next, then , last , finally
<table>
<thead>
<tr>
<th>Rubric</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fluency</strong></td>
<td>Most or all sentences are unclear and little use of correct grammar and conventions.</td>
<td>Some sentences are unclear and with some mistakes in grammar and conventions.</td>
<td>One or two sentences are unclear with little to no mistakes in grammar and conventions.</td>
<td>Creates clear and specific sentences in correct grammatical and use of conventions.</td>
</tr>
<tr>
<td><strong>Elaboration</strong></td>
<td>Sentences lack content specific language and many sentences are incorrect with many errors. Illustrations are unclear and do not match text and/or missing labels.</td>
<td>Several sentences contain content specific language and may have few errors in the description of process. Illustrations are simple with few labels of parts.</td>
<td>Most sentences contain content specific language with one less errors. Illustrations are fully elaborated and are labeled adequately.</td>
<td>All sentences contain content specific language and have no errors. Illustrations are fully elaborated and labeled.</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>Student presentation is sloppy and unorganized. No use of transitional words.</td>
<td>Some attempts at organization and neatness. Some use of transitional words.</td>
<td>Most of the presentation is organized and neat. Many examples of use transitional words.</td>
<td>Presentation is neat and organized. Full use of transitional words.</td>
</tr>
</tbody>
</table>
ELL Modification

Here I’ll Show You

From Seed to Plant

Description:
You will create an illustrated and written flip book for a younger student to explain how to plant and care for a plant.

Directions:
Starting from the seed explain the process on how to plant a plant of your choice in a flip book storybook. Each page should explain one step in the process and include an illustration including labels and captions. Also include transitional words for each step. Use the teacher modeled example and the rubric as a guide. Your finished product should be neat and colorful with correct grammar and punctuation.

Transitional Order Words
First, next, then, last, finally

Checklist:
_____ Each page has an illustration (drawing or picture)
_____ Each illustration has a label or caption
_____ Use transition words like first, next, then, last, finally
_____ Write in complete sentences
<table>
<thead>
<tr>
<th>Rubric</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluency</td>
<td>Most or all sentences are unclear and little use of correct grammar and conventions.</td>
<td>Some sentences are unclear and with some mistakes in grammar and conventions.</td>
<td>One or two sentences are unclear with little to no mistakes in grammar and conventions.</td>
<td>Creates clear and specific sentences in correct grammatical and use of conventions.</td>
</tr>
<tr>
<td>Elaboration</td>
<td>Sentences lack content specific language and many sentences are incorrect with many errors. Illustrations are unclear and do not match text and/or missing labels.</td>
<td>Several sentences contain content specific language and may have few errors in the description of process. Illustrations are simple with few labels of parts.</td>
<td>Most sentences contain content specific language with one less errors. Illustrations are fully elaborated and are labeled adequately.</td>
<td>All sentences contain content specific language and have no errors. Illustrations are fully elaborated and labeled.</td>
</tr>
<tr>
<td>Organization</td>
<td>Student presentation is sloppy and unorganized. Some use of transitional words.</td>
<td>Some attempts at organization and neatness. Some use of transitional words.</td>
<td>Most of the presentation is organized and neat. Many examples of use transitional words.</td>
<td>Presentation is neat and organized. Full use of transitional words.</td>
</tr>
</tbody>
</table>
I’m the Reporter!

Description:
You will prepare information about an animal who adapted to their situation to perform an out of ordinary act to save another person or overcome a big problem. You will use your information to create and perform a news broadcast for an audience to explain the amazing act by your chosen animal.

Directions:
Choose a specific animal that you have read about that has done an act out of the ordinary to perform an act to save a life. You may use stories from books read in class or a book you have read on your own. As a reporter you need to explain the situation using the 5 W’s. Be sure to explain how the animal used its instincts and environmental conditions to adapt to their situation. Include why you think this act occurred. Write out your whole report in sequential order as you will read it in your report. Be sure to include well elaborated sentences with correct grammar. Use the graphic organizer and rubric to guide your report.

TOPIC________________________

WHO?________________________________________________________

WHAT?_______________________________________________________

WHERE?______________________________________________________

WHEN?_______________________________________________________

HOW?_______________________________________________________

WHY?_______________________________________________________
<table>
<thead>
<tr>
<th>RUBRIC</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fluency</strong></td>
<td>Most or all sentences are unclear and little use of correct grammar and conventions.</td>
<td>Some sentences are unclear and with some mistakes in grammar and conventions.</td>
<td>One or two sentences are unclear with little to no mistakes in grammar and conventions.</td>
<td>Creates clear and specific sentences in correct grammatical and use of conventions.</td>
</tr>
<tr>
<td></td>
<td>Presentation is difficult to hear.</td>
<td>Parts of presentation is difficult to hear and lacks expression.</td>
<td>Presentation is clear with good expression.</td>
<td>Presentation is clear with excellent expression.</td>
</tr>
<tr>
<td><strong>Elaboration</strong></td>
<td>Sentences lack content specific language and many sentences are incorrect with many errors.</td>
<td>Several sentences contain content specific language and may have few errors in the description of process.</td>
<td>Most sentences contain content specific language with one less errors.</td>
<td>All sentences contain content specific language and have no errors.</td>
</tr>
<tr>
<td></td>
<td>Reports some of the story with no use of supporting details.</td>
<td>Reports most of the story with some use of supporting details.</td>
<td>Reports the full story with several examples of supporting details.</td>
<td>Reports the full story with many supporting details.</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>Student presentation is sloppy and unorganized.</td>
<td>Some attempts at organization and neatness.</td>
<td>Most of the presentation is organized and neat.</td>
<td>Presentation is neat and organized.</td>
</tr>
<tr>
<td></td>
<td>Some use of</td>
<td></td>
<td></td>
<td>Full use of</td>
</tr>
<tr>
<td>No use of transitional words.</td>
<td>transitional words.</td>
<td>Many examples of use transitional words.</td>
<td>transitional words.</td>
<td></td>
</tr>
</tbody>
</table>
ELL Modification

I’m the Reporter!

Description:
You will prepare information about an animal who adapted to their situation to perform an out of ordinary act to save another person or overcome a big problem.

You will use your information to create and perform a news broadcast for an audience to explain the amazing act by your chosen animal.

Directions:
Choose a specific animal that you have read about that has done an act out of the ordinary to perform an act to save a life. You may use stories from books read in class or a book you have read on your own. As a reporter you need to explain the situation using the 5 W’s (Who? What? When? Where? Why? How?). Be sure to explain how the animal used its instincts and environmental conditions to adapt to their situation. Include why you think this act occurred. Write out your whole report in sequential order as you will read it in your report. Be sure to include well elaborated sentences with correct grammar. Use the graphic organizer and rubric to guide your report.
TOPIC______________________

WHO?
Who???

WHAT?
What???

WHERE?
Where???

WHEN?
When???

HOW?
How???

WHY?
Why???
# RUBRIC

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluency</td>
<td>Most or all sentences are unclear and little use of correct grammar and conventions.</td>
<td>Some sentences are unclear and with some mistakes in grammar and conventions.</td>
<td>One or two sentences are unclear with little to no mistakes in grammar and conventions.</td>
<td>Creates clear and specific sentences in correct grammatical and use of conventions.</td>
</tr>
<tr>
<td></td>
<td>Presentation is difficult to hear.</td>
<td>Parts of presentation is difficult to hear and lacks expression.</td>
<td>Presentation is clear with good expression.</td>
<td>Presentation is clear with excellent expression.</td>
</tr>
<tr>
<td>Elaboration</td>
<td>Sentences lack content specific language and many sentences are incorrect with many errors.</td>
<td>Several sentences contain content specific language and may have few errors in the description of process.</td>
<td>Most sentences contain content specific language with one less errors.</td>
<td>All sentences contain content specific language and have no errors.</td>
</tr>
<tr>
<td></td>
<td>Reports some of the story with no use of supporting details.</td>
<td>Reports most of the story with some use of supporting details.</td>
<td>Reports the full story with several examples of supporting details.</td>
<td>Reports the full story with many supporting details.</td>
</tr>
<tr>
<td>Organization</td>
<td>Student presentation is sloppy and unorganized.</td>
<td>Some attempts at organization and neatness.</td>
<td>Most of the presentation is organized and neat.</td>
<td>Presentation is neat and organized.</td>
</tr>
<tr>
<td></td>
<td>Some use of</td>
<td></td>
<td></td>
<td>Full use of</td>
</tr>
<tr>
<td>Use of Transitional Words</td>
<td>Transitional Words</td>
<td>Many Examples of Use Transitional Words</td>
<td>Transitional Words</td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------</td>
<td>-----------------------------------------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>No use of transitional words.</td>
<td>transitional words.</td>
<td>Many examples of use transitional words.</td>
<td>transitional words.</td>
<td></td>
</tr>
</tbody>
</table>
WHAT DO YOU KNOW ABOUT PLANTS?
Interactive Poster

Description:

For this task you will create an informative and interactive poster based on the information you learned from a non-fiction text about plants. You will need to use the information you learned from your chosen text to create an interactive question and answer poster.

Directions:

Read a non-fiction text about plants. You may focus on a particular plant of interest or the life cycle of plants in general. While you read and research your topic take notes on main ideas and interesting facts. Use the main ideas and facts to create questions that can be answered as a result of your reading. Create a lift tab poster which states your questions along with your answers can be found by lifting the tab. You will need to have the book you are basing your questions available for participants to use to find answers. Your board should also include visuals and pictures of plants. You should include at least 10 questions which need to be written in correct grammatical form with correct punctuation. Use the rubric below to guide your project.
<table>
<thead>
<tr>
<th>Rubric</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fluency</strong></td>
<td>Most or all questions and answers are unclear and little use of correct grammar and conventions.</td>
<td>Some questions and answers are unclear and with some mistakes in grammar and conventions.</td>
<td>One or two questions or answers are unclear with little to no mistakes in grammar and conventions.</td>
<td>Creates clear and specific questions and answers in correct grammatical and use of conventions.</td>
</tr>
<tr>
<td><strong>Elaboration</strong></td>
<td>Sentences lack content specific language and many sentences are incorrect with many errors. Illustrations and or graphics are unclear and do not match text and/or missing labels.</td>
<td>Several sentences contain content specific language and may have few errors in the description of process. Illustrations and or graphics are simple with few details to support topic.</td>
<td>Most sentences contain content specific language with one less errors. Illustrations and or graphics support the topic.</td>
<td>All sentences contain content specific language and have no errors. Illustrations and or graphics are fully elaborative and support the topic.</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>Student presentation is sloppy and unorganized.</td>
<td>Some attempts at organization and neatness.</td>
<td>Most of the presentation is organized and neat.</td>
<td>Presentation is neat and organized.</td>
</tr>
</tbody>
</table>
ELL Modification

WHAT DO YOU KNOW ABOUT PLANTS?
Interactive Poster

Description:

For this task you will create an informative and interactive poster based on the information you learned from a non-fiction text about plants. You will need to use the information you learned from your chosen text to create an interactive question and answer poster.

Directions:

Read a non-fiction text about plants. You may focus on a particular plant of interest or the life cycle of plants in general. While you read and research your topic take notes on main ideas and interesting facts. Use the main ideas and facts to create questions that can be answered as a result of your reading. Create a lift tab poster, which states your questions along with your answers can be found by lifting the tab.

You will need to have the book you are basing your questions available for participants to use to find answers. Your board should also include visuals and pictures of plants. You should include at least 10 questions, which need to be written in correct grammatical form with correct punctuation. Use the rubric below to guide your project.
**Question (?) Words**

<table>
<thead>
<tr>
<th>Who?</th>
<th>What?</th>
<th>When?</th>
<th>Where?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why?</td>
<td>How?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Checklist:**

- _____ Visuals (pictures) of Plants
- _____ 10 questions
- _____ Complete sentences
- _____ Capital letters at the beginning of your sentences
- _____ Periods (.) or question marks (?) at the end of your sentences
- _____ Poster with flaps to show answers to the questions
<table>
<thead>
<tr>
<th>Rubric</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fluency</strong></td>
<td>Most or all questions and answers are unclear and little use of correct grammar and conventions.</td>
<td>Some questions and answers are unclear and with some mistakes in grammar and conventions.</td>
<td>One or two questions or answers are unclear with little to no mistakes in grammar and conventions.</td>
<td>Creates clear and specific questions and answers in correct grammatical and use of conventions.</td>
</tr>
<tr>
<td><strong>Elaboration</strong></td>
<td>Sentences lack content specific language and many sentences are incorrect with many errors. Illustrations and or graphics are unclear and do not match text and/or missing labels.</td>
<td>Several sentences contain content specific language and may have few errors in the description of process. Illustrations and or graphics are simple with few details to support topic.</td>
<td>Most sentences contain content specific language with one less errors. Illustrations and or graphics support the topic.</td>
<td>All sentences contain content specific language and have no errors. Illustrations and or graphics are fully elaborative and support the topic.</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>Student presentation is sloppy and unorganized.</td>
<td>Some attempts at organization and neatness.</td>
<td>Most of the presentation is organized and neat.</td>
<td>Presentation is neat and organized.</td>
</tr>
</tbody>
</table>
Science Worksheets
Plant Vocabulary

**roots** - The roots of a plant soak up vitamins and minerals. They also store food for the plant.

**leaves** - The leaves make food (sugar) for the plant. They also take in carbon dioxide and release oxygen into the air.

**stem** - The stem supports the plant. It has many thin tubes that carry water, minerals, and food through the plant.

**flower** - A flower is the part of a plant that makes seeds.

**fruit** - Some plants have fruits. Fruits protect and hold the seeds of the plant. Many animals eat fruits, which can help the seeds spread to different areas.

**chlorophyll** - Chlorophyll is a green pigment that is found in plants’ leaves. It helps the plant make food.

**photosynthesis** - Photosynthesis is the process that plants use to make food. During photosynthesis, the plan turns sunlight, chlorophyll, and carbon dioxide into food (sugar) and oxygen.

**sugar** - Sugar is the type of food that plants make in their leaves. Sugar is also called glucose.

**oxygen** - Oxygen is a type of gas (air) given off during photosynthesis. People and animals need oxygen to breathe.

**carbon dioxide** - A type of gas (air) needed by plants for photosynthesis. Plants use up carbon dioxide and produce oxygen. People and animals create much of the carbon dioxide that plants need to stay alive.
## Plant Vocabulary

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
<th>Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roots</strong></td>
<td>The roots of a plant soak up vitamins and minerals. They also store food for the plant.</td>
<td><img src="image" alt="Roots" /></td>
</tr>
<tr>
<td><strong>Leaves</strong></td>
<td>The leaves make food (sugar) for the plant. They also take in carbon dioxide and release oxygen into the air.</td>
<td><img src="image" alt="Leaves" /></td>
</tr>
<tr>
<td><strong>Stem</strong></td>
<td>The stem supports the plant. It has many thin tubes that carry water, minerals, and food through the plant.</td>
<td><img src="image" alt="Stem" /></td>
</tr>
<tr>
<td><strong>Flower</strong></td>
<td>A flower is the part of a plant that makes seeds.</td>
<td><img src="image" alt="Flower" /></td>
</tr>
<tr>
<td><strong>Fruit</strong></td>
<td>Some plants have fruits. Fruits protect and hold the seeds of the plant. Many animals eat fruits, which can help the seeds spread to different areas.</td>
<td><img src="image" alt="Fruit" /></td>
</tr>
<tr>
<td><strong>Chlorophyll</strong></td>
<td>Chlorophyll is a green pigment that is found in plants' leaves. It helps the plant make food.</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Photosynthesis</strong></td>
<td>Photosynthesis is the process that plants use to make food. During photosynthesis, the plant turns sunlight, chlorophyll, and carbon dioxide into food (sugar) and oxygen.</td>
<td></td>
</tr>
<tr>
<td><strong>Sugar</strong></td>
<td>Sugar is the type of food that plants make in their leaves. Sugar is also called glucose.</td>
<td></td>
</tr>
<tr>
<td><strong>Oxygen</strong></td>
<td>Oxygen is a type of gas (air) given off during photosynthesis. People and animals need oxygen to breathe.</td>
<td></td>
</tr>
<tr>
<td><strong>Carbon Dioxide</strong></td>
<td>A type of gas (air) needed by plants for photosynthesis. Plants use up carbon dioxide and produce oxygen. People and animals create much of the carbon dioxide that plants need to stay alive.</td>
<td></td>
</tr>
</tbody>
</table>
### Plants

<table>
<thead>
<tr>
<th>Record of my Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>
Researching a Seed

The seed I'm going to research is ____________________________

This is how my seed looks.

This is how my seed grows.

How far apart does this type of seed need to be planted? ____________________________

How deep should my seed be planted? ____________________________

How long will it take for the sprout to show? ____________________________

How long will it take to harvest? ____________________________

How much sun does it need? ____________________________

What weather does it grow best in? ____________________________

What countries do these seeds grow best? ____________________________
ELL Modification

Investigar una semilla

La semilla que voy a investigar es __________________________________________

Así es como mi semilla parece.

Así es como mi semilla crece.

¿Qué tan profundo debe ser plantada este tipo de semilla? ______________________

¿A qué profundidad debe ser plantada mi semilla? _____________________________

¿Qué tiempo tardará en florecer? _____________________________

¿Qué tiempo tardará para poder ser cosechada? _____________________________

¿Qué cantidad de sol necesita? _____________________________

¿En qué tipo de clima crece mejor? _____________________________

¿En qué países esta semilla crece mejor? _____________________________

© http://worksheetplace.com
Researching a Seed

The seed I’m going to research is ____________________________.

This is how my seed looks.

This is how my seed grows.

How far apart does this type of seed need to be planted?

How deep should my seed be planted?

How long will it take for the sprout to show?

How long will it take to harvest?

How much sun does it need?

What weather does it grow best in?

What countries do these seeds grow best in?

© http://worksheetplace.com
Life Cycle of a Plant Booklet

by ______________________

http://worksheetplace.com

The seeds need soil.

http://worksheetplace.com
The seeds need rain.

The seeds need sunlight.
The seeds begin to sprout.

The seeds keep growing.
The seeds become a plant.

The wind blows and the seeds scatter.
The seeds fall to the ground.

The cycle starts over.
Ciclo de vida de una planta

http://worksheetplace.com

Las semillas necesitan tierra.

http://worksheetplace.com
Las semillas necesitan lluvia.

Las semillas necesitan sol.
Las semillas comienzan a brotar.

Las semillas siguen creciendo.
Las semillas conviertan en una planta.

El viento sopla y las semillas dispersan.
Las semillas caen al suelo.

El ciclo comienza de nuevo.
My Parts of a Plant Booklet

by ______________________

This is the stem.
These are the roots.

These are the leaves.
This is the flower.

These are the leaves.
¿Qué hacen las partes de una planta?

por

El ______ trae agua y alimento al resto de la planta.
Las ______
absorben agua y mantienen la planta en la tierra.

Las ______
usan el sol y el aire para hacer alimentos para la planta.
La _______
hace las semillas
y la fruta.

¡Un botánico es
alguien que
estudia las plantas!
Math Worksheets

(Chapters 5, 6, and 11 from Math in Focus)
Chapter 5
Bar Models

(In addition to these worksheets, bar model problems could be made up to incorporate the theme of this unit)

Beginner-Early Intermediate ELLs
CHAPTER 5
Using Bar Models: Addition and Subtraction

Worksheet 1  Real-World Problems: Addition and Subtraction

Solve. Use bar models to help you.

Example

\[ \text{bar model} \]

\[
\begin{array}{c}
4,970 \\
\hline
2,178 \\
\hline
2,792
\end{array}
\]

1. \[
\begin{array}{c}
? \\
\hline
2,510 \\
\hline
4,363 \\
\hline
? \quad \text{bar model}
\end{array}
\]

\[
\begin{array}{c}
\quad \quad \\
\hline
\quad \quad \\
\hline
\quad \quad
\end{array}
\]

\[
\begin{array}{c}
\quad \quad \\
\hline
\quad \quad \\
\hline
\quad \quad =
\end{array}
\]

Reteach 3A 69
2. \[ \begin{array}{c}
1,496 \\
? \\
7,000
\end{array} \]

\[ \square \bigcirc \square = \square \]

3. \[ \begin{array}{c}
4,529 \\
3,728 \\
?
\end{array} \]

\[ \square \bigcirc \square = \square \]

4. \[ \begin{array}{c}
? \\
3,898 \\
5,701
\end{array} \]

\[ \square \bigcirc \square = \square \]
Solve. Use bar models to help you.

Example

There are 1,250 adults in the zoo.
There are 2,470 more children than adults in the zoo.
How many children are at the zoo?

\[1,250 + 2,470 = 3,720\]
3,720 children are at the zoo.

5. Greg has 4,750 U.S. stamps.
He has 1,758 Canadian stamps.
How many stamps does Greg have in all?

\[4,750 + 1,758 = 6,508\]
6,508 stamps in total.
6. The total number of blackberries and blueberries in a box is 2,000. There are 897 blackberries. How many blueberries are there?

7. Sam sells 576 more toys than George. George sells 1,293 toys. How many toys does Sam sell?
Worksheet 2  Real-World Problems: Addition and Subtraction

Solve. Use bar models to help you.

Example

\[ \begin{array}{c}
500 \\
& \quad A \\
\hline
& \quad B \\
\hline
1,900 \\
\end{array} \]

a. \[ A = 1,900 - 500 = 1,400 \]

b. \[ B = 500 + 1,900 = 2,400 \]

1. 

\[ \begin{array}{c}
& \quad A \\
\hline
400 \\
\hline
& \quad B \\
\hline
1,800 \\
\end{array} \]

a. \[ A = \quad \quad \quad \quad \quad = \quad \quad \quad \quad \quad \]

b. \[ B = \quad \quad \quad \quad \quad = \quad \quad \quad \quad \quad \]
2. \[\begin{array}{c}
700 \\
400 \\
\hline
\end{array}\]

(a) \(A = \underline{\quad} \underline{\quad} \underline{\quad} = \underline{\quad}\)

(b) \(B = \underline{\quad} \underline{\quad} \underline{\quad} = \underline{\quad}\)

3. \[\begin{array}{c}
800 \\
300 \\
\hline
\end{array}\]

(a) \(A = \underline{\quad} \underline{\quad} \underline{\quad} = \underline{\quad}\)

(b) \(B = \underline{\quad} \underline{\quad} \underline{\quad} = \underline{\quad}\)
**Example**

There are 1,982 adults at a concert.
There are 324 more adults than children at the concert.

a. How many children are at the concert?
b. How many people are at the concert?

```
children

adults

324

1,982

a. 1,982 - 324 = 1,658
   1,658 children are at the concert.
b. 1,658 + 1,982 = 3,640
   3,640 people are at the concert.
```

4. A video game costs $38.
A calculator costs $18 less.

a. What is the cost of the calculator?
b. What is the total cost of the two items?
5. Sam packs green apples and red apples into a box. There are 750 red apples. There are 125 more red apples than green apples.
   a. How many green apples does the box have?
   b. How many apples does the box have in all?

   ![Diagram with question marks and boxes representing green and red apples.]

6. Sam walks from Town A to Town B, then from Town B to Town C. The distance from Town A to Town B is 750 miles. The distance between Town B and Town C is 125 miles more than the distance from Town A to Town B.
   a. What is the distance between Town B and Town C?
   b. What is the total distance Sam walks from Town A to Town C?

   ![Diagram with question marks and boxes representing the distances.]

76  Chapter 5  Lesson 5.1
Example
A king invites guests to a party.
There are 870 male guests at the party.
There are 450 more male than female guests at the party.
How many guests are at the party?

\[
\begin{align*}
\text{females} & \quad ? \\
\text{males} & \quad ?
\end{align*}
\]

\[
870 - 450 = 420
\]
There are 420 female guests at the party.

\[
870 + 420 = 1,290
\]
There are 1,290 guests at the party.

7. Justin makes mixed juice using carrots and apples.
The mixed juice contains 270 milliliters of carrot juice.
There is 165 milliliters more apple juice than carrot juice in the mixture.
How much mixed juice does Justin make?
8. Pedro has some model motorcycles and some model cars. He has 132 fewer model cars than model motorcycles. Pedro has 352 model motorcycles. How many model cars and model motorcycles does Pedro have altogether?
CHAPTER 5  Using Bar Models: Addition and Subtraction

Lesson 5.1  Real-World Problems: Addition and Subtraction (Part 1)

Solve. Draw bar models to help you.

1. Mrs. Tan buys a duck and a chicken. The mass of the duck is 2,300 grams. The mass of the chicken is 1,675 grams. How much heavier is the duck than the chicken?

2. Allison jogs 3,860 meters and Calvin jogs 5,470 meters. How far do they jog altogether?
3. John and Tracy sell flags to raise money for their club. John sells 457 flags and Tracy sells 686 flags.
   a. How many flags do they sell in all?
   
   b. Who sells more flags? How many more?

   a. How many more bookmarks does Zelda make than Kiri?
   
   b. How many bookmarks do they make altogether?
5. Leila drinks 1,466 milliliters of water a day.
   Mark drinks 2,895 milliliters more than Leila.
   a. How much water does Mark drink?

   b. How much water do they drink in all?

6. Brad has 1,300 stamps.
   He has 938 Canadian stamps and the rest are Malaysian stamps.
   a. How many Malaysian stamps does Brad have?

   b. Which type of stamps does Brad have fewer of?
      How many fewer stamps?
7. Minah buys a sofa and a dining set for her new apartment.

<table>
<thead>
<tr>
<th>Sofa</th>
<th>Dining set</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2,500</td>
<td>$1,999</td>
</tr>
</tbody>
</table>

   a. Which item is less expensive?

   b. How much less expensive is it?
Lesson 5.1  Real-World Problems:
Addition and Subtraction (Part 2)

Solve. Draw bar models to help you.

1. A computer costs $1,590.
A printer costs $899.
   a. How much less expensive is the printer than the computer?
   b. How much do the two items cost altogether?

2. There are 3,160 books and magazines in a shop.
   There are 2,378 books. The rest are magazines.
   a. How many magazines are there?
   b. There are 1,226 English books in the shop and the rest are French books. How many French books are there?
3. Mr. Michael has $1,685. 
Ms. Katty has $2,928 more than Mr. Michael. 
a. How much money does Ms. Katty have?

b. How much money do they have in all?

4. There are 3,254 children at a concert. 
There are 1,369 fewer adults than children attending the concert. 
a. How many adults are there at the concert?

b. How many people are at the concert altogether?
Lesson 5.1  Real-World Problems:
Addition and Subtraction (Part 3)

Solve. Draw bar models to help you.

1. The pictures below show the number of marbles in each bag.

   Bag A  Bag B  Bag C  Bag D  Bag E
   1,138 marbles  2,786 marbles  1,412 marbles  4,354 marbles  5,588 marbles

   Jane takes Bag B and Bag D.
   Karen takes Bag E.

   a. Who has more marbles?

   b. How many more marbles does she have?
2. In Green Bridge Elementary School, there are 159 adults, 1,960 boys, and 558 fewer girls than boys. How many people are there in the school?

3. Ravi has 1,286 stamps. Terell has 1,528 more stamps than Ravi. How many stamps do they have in all?
Advanced ELLs

Using Bar Models: Addition and Subtraction

PROBLEM SOLVING Thinking Skills

Solve. Use bar models to help you.

1. Olivia and Hannah collect 1,286 stamps in all. Olivia collects 454 stamps. How many more stamps does Hannah collect than Olivia?

<table>
<thead>
<tr>
<th>Hannah</th>
<th>1,286</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olivia</td>
<td>454</td>
</tr>
</tbody>
</table>

?
2. John, Thomas, and Lily save $397 in all. John saves $109 and Thomas saves $193. Lily saves the least. How much more does John save than Lily?
3. Emma and Mary have 1,483 baseball cards in all. Emma and Jennifer have 1,765 baseball cards in all. Jennifer has twice as many baseball cards as Mary. How many baseball cards does Emma have?
Solve. Use bar models to help you.

4. Three boxes are packed with CDs.
   Box A has 183 CDs.
   Box B has 56 more CDs than Box A.
   Box C has the same number of CDs as the sum of the CDs in the other two boxes.
   What is the sum of the CDs in all three boxes?
5. Jessica gives William, Ashley, and Abigail some blocks. William receives twice as many as Ashley. Abigail receives half as many as Ashley. Abigail receives 56 blocks. How many blocks does Jessica give them in all?

- William
- Ashley
- Abigail

56
6. Twice as many girls as boys were in a hall. When 105 girls left the hall, three times as many boys as girls were left. If 21 girls are left, how many children were in the hall at first?

Boys

Girls

21

105

?
7. Mickey and Taylor have 754 baseball cards in all. Mickey and Sophia have 1,132 baseball cards in all. Sophia has twice as many baseball cards as Taylor. How many baseball cards do they have in all?
Aleesha had 36 marbles at first.
She then received 56 marbles from Emma,
and 138 marbles from Natalie.
Now, Aleesha has 89 fewer marbles than Emma,
and 105 more marbles than Natalie.
How many marbles did Emma and Natalie have at first?
Chapter 6

Multiplication

(In addition to these worksheets, students can use their plants to create arrays and solve various multiplication problems to help them better understand the concept.)
**Example**

The number line shows 3 skips of 4.

\[
3 \text{ skips of } 4 = 3 \text{ groups of } 4 = 12
\]

**1.**

The number line shows _______ skips of _______

___ skips of _______ = _______ groups of _______ = _______
Fill in the blanks.

2. 3 skips of 4 = ________ groups of ________
   = ________ × ________

3. 2 skips of 5 = ________ groups of ________
   = ________ × ________

Look at the number line.
Write the multiplication fact.

Example

[Diagram of a number line with skips marked at 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]

6 × 2 = 12

4.

[Diagram of a number line with skips marked at 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]

______ × ________ = ________
Show the sentence on the number line.
Then circle the numbers.

Example
Skip count by 4 to 20.

5. Skip count by 5 to 25.

Show the multiplication fact on the number line.

Example
7 \times 3 = 21

6. 6 \times 4 = 24
7. **Show four multiplication facts that equal 12 on the number lines.**

**Example**

\[12 \times 1 = 12\]

\[\quad \times \quad = 12\]

\[\quad \times \quad = 12\]

\[\quad \times \quad = 12\]

\[\quad \times \quad = 12\]
Look at the number line. Write the multiplication facts.

Example

\[ 7 \times 2 = 14 \]
\[ 2 \times 7 = 14 \]

Changing the order of the numbers in a multiplication sentence does not change the answer. This is called the Commutative Property of Multiplication.

B.

\[ \_ \times \_ = \_ \]
\[ \_ \times \_ = \_ \]
Complete the multiplication fact. Then show the fact on the number line.

Example

\[ 6 \times 4 = 24 \]

9. \[ 4 \times 6 = \ldots \]

10. Write a statement to explain the pattern you see.

Use the given numbers to write two multiplication sentences. You may use each number more than once.

\[ 3 \ 4 \ 7 \ 8 \ 24 \]

11. \[ \underline{\ldots} \times \underline{\ldots} = \underline{\ldots} \]

12. \[ \underline{\ldots} \times \underline{\ldots} = \underline{\ldots} \]
Show the multiplication fact on the number line. Then explain the pattern.

Example

\[5 \times 1 \text{ and } 1 \times 5\]

\[\begin{array}{c}
0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\
\end{array}\]

\[5 \times 1 \text{ is the same as } 1 \times 5. \text{ They are both equal to } 5.\]

OR

\[5 \times 1 = 1 \times 5 = 5\]

Any number multiplied by 1 equals that number. This is called the multiplicative property of one.

13. \[4 \times 1 \text{ and } 1 \times 4\]

\[\begin{array}{c}
0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\
\end{array}\]

14. \[6 \times 1 \text{ and } 1 \times 6\]

\[\begin{array}{c}
0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\
\end{array}\]
15. Look at the statements you have written in Exercise 13 and 14. What can you conclude from the statements?

Complete.

16. $7 \times 1 = \underline{\phantom{000}}$  
17. $9 \times 1 = \underline{\phantom{000}}$

18. $12 \times 1 = \underline{\phantom{000}}$  
19. $1 \times 100 = \underline{\phantom{00000}}$

Fill in the circle next to the correct answer

20. $4 \times 0$ is

(a) sum of 4 and 0  
(b) difference between 4 and 0

(c) 4 groups of nothing  
(d) divide nothing by 4

21. Which diagram shows $3 \times 0$?

(a) 

(b) 

(c)
Draw a picture to show the following

Example

\[ 4 \times 0 \]

Any number multiplied by 0 equals 0. This is called the **Multiplicative Property of Zero**.

22. \[ 2 \times 0 \]

23. \[ 7 \times 0 \]

24. What pattern do you notice?
Complete.

25. $8 \times 0 = \underline{_______}$
   26. $0 \times 15 = \underline{_______}$
   27. $41 \times 0 = \underline{_______}$
   28. $0 \times 29 = \underline{_______}$

Complete.

**Example**

**Method 1**

\[
2 \times 3 \times 5 \\
= 6 \times 5 = 30
\]

**Method 2**

\[
2 \times 3 \times 5 \\
= 2 \times 15 = 30
\]

Changing the way numbers in a multiplication sentence are grouped and multiplied does not change the answer. This is called the **Associative Property of Multiplication**.

29. **Method 1**
   \[
   5 \times 2 \times 4 \\
   = \underline{_______} \times 4 = \underline{_______}
   \]
   **Method 2**
   \[
   5 \times 2 \times 4 \\
   = 5 \times \underline{_______} = \underline{_______}
   \]

30. **Method 1**
   \[
   4 \times 1 \times 5 \\
   = \underline{_______} \times \underline{_______} = \underline{_______}
   \]
   **Method 2**
   \[
   4 \times 1 \times 5 \\
   = \underline{_______} \times \underline{_______} = \underline{_______}
   \]
31. Method 1  
\[ 5 \times 2 \times 3 \]
\[ = \_ \times \_ = \_ \]

Method 2  
\[ 5 \times 2 \times 3 \]
\[ = \_ \times \_ = \_ \]

32. What pattern do you notice?

33. \[ 2 \times 5 \times 4 = \_ \_ \_ \_ \_ \_ \_ \]

34. \[ 5 \times 1 \times 4 = \_ \_ \_ \_ \_ \_ \_ \]

35. \[ 3 \times 0 \times 4 = \_ \_ \_ \_ \_ \_ \_ \]

Multiply in any order.

Example
\[ 4 \times 2 \times 3 = 24 \]
\[ 8 \times 3 = 24 \]
OR
\[ 4 \times 6 = 24 \]
Worksheet 2  Multiply by 6

Complete.

Example

\[ \begin{array}{c}
\quad \quad \quad \quad \quad \quad \\
\text{1 group of 6 dots} = \underline{1} \times \underline{6} \\
\end{array} \]

\[ = \underline{6} \]

A dot paper is an \textbf{array model}. The dots are arranged in rows and columns.

1. 

\[ \begin{array}{c}
\quad \quad \quad \quad \quad \quad \\
\text{2 groups of 6 dots} = \underline{\quad \quad} \times \underline{\quad \quad} \\
\end{array} \]

\[ = \underline{\quad \quad} \]

2. 

\[ \begin{array}{c}
\quad \quad \quad \quad \quad \quad \\
\text{10 groups of 6 dots} = \underline{\quad \quad} \times \underline{\quad \quad} \\
\end{array} \]

\[ = \underline{\quad \quad} \]
Shade the dots to show the multiplication sentence. Then fill in the blanks.

Example

\[ 3 \times 6 = \boxed{18} \]

3.

\[ 5 \times 6 = \boxed{30} \]

4.

\[ 7 \times 6 = \boxed{42} \]
Shade the dots to show the multiplication sentence. Then fill in the blanks.

**Example**

\[3 \times 6 = \boxed{18}\]

3.

\[5 \times 6 = \boxed{\quad}\]

4.

\[7 \times 6 = \boxed{\quad}\]
Express each array model as a multiplication fact.

5. 

\[ \text{_______} \times 6 = \text{_______} \]

6. 

\[ \text{_______} \times \text{_______} = \text{_______} \]

7. 

\[ \text{_______} \times 6 = \text{_______} \]
Fill in the missing numbers.
Use array models to help you.

Example

a.

5 groups of 6 dots

\[ = 5 \times 6 \]

\[ = 30 \]

b.

7 groups of 6 dots

\[ = 5 \text{ groups of 6 dots} + \]

\[ = 30 + 12 \]

\[ = 42 \]
9. a. 5 groups of 6 dots
   = _____ × _____ = _____

   8 groups of 6 dots
   = 5 groups of 6 dots +
     _____ groups of 6 dots
   = _____ + _____
   = _____

10. a. 10 groups of 6 dots
     = _____ × _____ = _____

     9 groups of 6 dots
     = 10 groups of 6 dots –
       _____ group of 6 dots
     = _____ – _____
     = _____
Worksheet 3  Multiply by 7
Complete.

Example

1 group of 7 dots = 1 × 7

= 7

1.

2 groups of 7 dots = _______ × _______

= _______

2.

10 groups of 7 dots = _______ × _______

= _______
Shade the dots to show the multiplication sentence. Then fill in the blanks.

Example

$$4 \times 7 = 28$$

3.

$$5 \times 7 = \_\_\_\_\_$$

4.

$$8 \times 7 = \_\_\_\_\_$$
Express each array model as a multiplication fact.

5. 

\[ \_ \times 7 = \_ \]

6. 

\[ \_ \times \_ = \_ \]

7. 

\[ \_ \times 7 = \_ \]
Worksheet 4  Multiply by 8
Complete.

Example

[Image of eight dots]

1 group of 8 dots = $1 \times 8$

= 8

1. [Image of eight dots]

2 groups of 8 dots = _______ $\times$ _______

= _______

2. [Image of ten groups of eight dots]

10 groups of 8 dots = _______ $\times$ _______

= _______
Shade the dots to show the multiplication sentence. Then fill in the blanks.

Example

\[5 \times 8 = \underline{40}\]

3.

\[4 \times 8 = \underline{32}\]

4.

\[7 \times 8 = \underline{56}\]
Express each array model as a multiplication fact.

Example

\[2 \times 8 = 16\]

5.

\[\text{ ______ } \times \text{ ______ } = \text{ ______ }\]

6.

\[\text{ ______ } \times 8 = \text{ ______ }\]
Fill in the missing numbers. Use array models to help you.

Example

a.

5 groups of 8 dots
= $\underline{5} \times \underline{B}$
= $\underline{40}$

b.

6 groups of 8 dots
= 5 groups of 8 dots + $\underline{1}$ group of 8 dots
= $\underline{40} + \underline{8}$
= $\underline{48}$

7. a.

5 groups of 8 dots
= $\underline{\_\_\_} \times \underline{\_\_\_} = \underline{\_\_\_}$

b.

8 groups of 8 dots
= 5 groups of 8 dots + $\underline{\_\_\_\_}$ groups of 8 dots
= $\underline{\_\_\_} + \underline{\_\_\_} = \underline{\_\_\_}$
Worksheet 5  Multiply by 9

Complete.

Example

1 group of 9 dots = 1 × 9

= 9

1. 

2 groups of 9 dots = ________ × _________

= __________

2. 

10 groups of 9 dots = ________ × _________

= __________
Shade the dots to show the multiplication sentence. Then fill in the blanks.

Example

\[5 \times 9 = 45\]

3.

\[4 \times 9 = \_\_\_\_\_\_\_\_

4.

\[7 \times 9 = \_\_\_\_\_\_\_

110 Chapter 6 Lesson 6.5
Express each array model as a multiplication fact.

**Example**

\[
\begin{array}{c}
\text{Example} \\
\begin{array}{c}
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\text{3} \times 9 = 27
\end{array}
\end{array}
\]

5.

\[
\begin{array}{c}
\begin{array}{c}
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\text{ } \times \text{ } \times \text{ } = \text{ }
\end{array}
\end{array}
\]

6.

\[
\begin{array}{c}
\begin{array}{c}
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\circ \circ \circ \\
\text{ } \times \text{ } 9 = \text{ }
\end{array}
\end{array}
\]
Intermediate/Proficient ELLs

CHAPTER 6

Multiplication Tables of 6, 7, 8, and 9

Lesson 6.1  Multiplication Properties

Look at each number line. Write the multiplication fact.

1.  

2.  

3.  

4.  

Extra Practice 3A  77
Multiply. Use skip counting to help you.

5. \(8 \times 2 = \) \_

6. \(4 \times 4 = \) \_

7. \(5 \times 0 = \) \_

8. \(6 \times 3 = \) \_

9. \(7 \times 4 = \) \_

10. \(8 \times 5 = \) \_

11. \(6 \times 10 = \) \_

12. \(7 \times 3 = \) \_

Fill in the missing numbers.

13. \(4 \times \) \_

\(= \) \_

\(\times 4 = 20\)

14. \(\) \(\times 3 = 3 \times \) \_

\(= 24\)

15. \(10 \times \) \_

\(= \) \_

\(\times 10 = 90\)

16. \(\) \(\times 5 = 5 \times \) \_

\(= 45\)

17. \(\) \(\times 2 = 16\)

18. \(\) \(\times 3 = 27\)

19. \(4 \times \) \_

\(= 36\)

20. \(5 \times \) \_

\(= 25\)
Lesson 6.2  Multiply by 6

Look at each array model. Then fill in the blanks.

1.  a. 6 12 ______ 24 ______ 36
   b. 30 36 42 ______ ______ ______

Fill in the missing numbers.

2.  a. $2 \times 6 = \_ \_ \_ \_ \_ \_
   b. $4 \times 6 = \_ \_ \_ \_ \_ \_
   c. $6 \times 6 = \_ \_ \_ \_ \_ \_
   d. $8 \times 6 = \_ \_ \_ \_ \_ \_
   e. ______ $\times 6 = 18$
   f. ______ $\times 6 = 42$
   g. $9 \times 6 = 6 \times \_ \_ \_ \_ \_ \_ = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_
   h. $10 \times \_ \_ \_ \_ \_ \_ = \_ \_ \_ \_ \_ \_ \_ \times 10 = 60
Multiply. Use related multiplication facts to help you.

3. a. \(6 + 6 + 6 + 6 + 6 = \text{_______} \times 6\)

   b. \[
   \begin{array}{c}
   \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \\
   \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \\
   \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \\
   \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \\
   \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \text{\textcircled{5}} \\
   \text{\textcircled{5}} \text{\textcircled{5}} \\
   \end{array}
   
   \begin{align*}
   5 \times 6 &= 30 \\
   2 \times 6 &= 12
   
   7 \times 6 &= \text{_______}
   
   7 \times 6 &= 5 \times 6 + \text{_______} \times 6
   
   c. \quad 12 = \text{_______} \times 6
   
   24 = \text{_______} \times 6
   
   12 + 24 = \text{_______} \times 6 + \text{_______} \times 6
   
   = \text{_______} \times 6
   
   = \text{_______}

   d. \quad 18 = \text{_______} \times 6
   
   36 = \text{_______} \times 6
   
   54 = \text{_______} \times 6 + 6 \times 6
Solve. Show your work.

4. Pencils are given to 4 children.
   Each child has 6 pencils.
   How many pencils do the children have in all?

5. A pet store owner keeps 6 birds in each cage.
   How many birds does he keep in 8 cages?
6. Jason makes 6 bookmarks in an hour. How many bookmarks can he make in 7 hours?

7. Siti has 9 dolls. Each doll costs $6. How much do the 9 dolls cost in all?
Lesson 6.3 Multiply by 7
Look at each area model. Write the multiplication fact.

1. 
2. 

____ × ____ = _____

_____ × _____ = _____

Fill in the missing numbers.

3. 2 × 7 = ________

4. 4 × 7 = ________

5. 5 × 7 = ________

6. 8 × 7 = ________

7. 7 × ________ = 49

8. ________ × 7 = 63

9. ________ × 7 = 7 × ________ = 21

10. ________ × 7 = 7 × ________ = 0
Fill in the missing numbers.

11. \( 8 \times 7 = 4 \times 7 + \underline{_____} \times 7 \)

12. \( 6 \times 7 = 3 \times 7 + \underline{_____} \times 7 \)

Solve. Show your work.

13. For a relay race, teams of 7 children each are formed. How many children are there in 6 teams?

14. When 36 is added to a number, the answer is the same as multiplying the number by 7. What is the number?
Lesson 6.4 Multiply by 8

Complete each skip-counting pattern.

1. 8, 16, ________, ________, ________, 48
2. 40, ________, ________, ________, 72, ________

Fill in the missing numbers.

3. I have 8 tentacles.

<table>
<thead>
<tr>
<th>×</th>
<th>1</th>
<th>3</th>
<th>5</th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>4</th>
<th>6</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>8</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fill in the missing numbers.

4. \[2 \times 8 = \_ \_ \_ \_ \times 2 = \_ \_ \_ \_\]
5. \[8 + 8 + 8 + 8 + 24 = \_ \_ \_ \_ \times 8\]
6. \[40 = \_ \_ \_ \_ \times 8 = 8 \times \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_
7. \[40 + 40 = \_ \_ \_ \_ \_ \_ \times 8 + \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \times 8 = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_]
8. Keenan spends $8 a day.
   How much does he spend in a week?

   Monday  $8
   Tuesday  $8
   Wednesday $8
   Thursday $8
   Friday   $8
   Saturday $8
   Sunday   $8

9. Mrs. Li has 9 grandchildren.
   She gives each grandchild 8 storybooks.
   How many storybooks does Mrs. Li give altogether?
Lesson 6.5  Multiply by 9
Fill in the missing numbers.

1. I am holding up 9 fingers.

   
   
   
   
   
   
   
   
   

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>3</th>
<th>5</th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>4</th>
<th>6</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Multiply. Use related multiplication facts to help you.

2. \( 9 \times 9 = 5 \) groups of 9 + \[ \_ \] groups of 9

   = \[ \_ \] + \[ \_ \]

   = \[ \_ \]

OR

\( 9 \times 9 = 10 \) groups of 9 - \[ \_ \] group of 9

   = \[ \_ \] - \[ \_ \]

   = \[ \_ \]
Solve. Show your work.

3. Pam buys 9 cartons of milk.  
   She pays $4 for each carton.  
   How much does Pam pay in all?

4. When 56 is added to a number, the answer is the same as 
   multiplying the number by 9.  
   What is the number?
Advanced ELLs

CHAPTER 6
Multiplication Tables of 6, 7, 8, and 9

PROBLEM SOLVING
Thinking Skills

Solve.

1. Circle the multiplication sentences hidden in the number grid. They can be in a row (→), column (↑), or diagonal (↘, ↗). An example has been done for you.

<table>
<thead>
<tr>
<th></th>
<th>9</th>
<th>4</th>
<th>8</th>
<th>32</th>
<th>40</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>7</td>
<td>21</td>
<td>63</td>
<td>84</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>28</td>
<td>63</td>
<td>95</td>
<td>30</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>6</td>
<td>54</td>
<td>5</td>
<td>8</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>34</td>
<td>6</td>
<td>9</td>
<td>7</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>11</td>
<td>72</td>
<td>45</td>
<td>56</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>
Solve.

2. A bag of pencils can be divided evenly among 6 or 8 children without any pencils left over. What is the least number of pencils that the bag may contain?

3. How many total times does the letter A appear below? Explain how you found the answer using multiplication facts.

A A A A A A
A A A A A A
A A A A A A
A A A A A A
A A A A A A
A A A A A A
A A A A A A
A A A A A A
A A A A A A
A A A A A A
Solve. Show your work.

4. Kim buys 3 books for $7 each.
   She sells them for $9 each.
   Kim then buys another 5 books for $8 each but
   sells them for only $6 each.
   How much money does Kim make or lose in all?
PROBLEM SOLVING
Strategies

Fill in the missing digits.
Use multiplication facts of 6, 7, 8, or 9.

5.  
\[ \begin{array}{c}
C \\
\times \ C \\
\hline
D \ C
\end{array} \]

C = \square \quad D = \square

6.  
\[ \begin{array}{c}
F \\
\times \ F \\
\hline
G \ H
\end{array} \quad \text{and} \quad G + H = F 
\]

F = \square \quad G = \square \quad H = \square

7.  
\[ \begin{array}{c}
K \\
\times \ L \\
\hline
M \ N
\end{array} \quad \text{and} \quad M + N = K 
\]

K = \square \quad L = \square \quad M = \square \quad N = \square
Solve.

8. □ and ○ represent different numbers.

□ + ○ = △
□ − ○ = 1
△ × 8 = 56

What are □ and ○?
9.  

\[ \Diamond \quad \text{and} \quad \star \text{ represent different numbers.} \]

These two numbers are between 7 and 15.

\[ \Diamond - \star = \heartsuit \]

\[ \heartsuit \times 9 = 54 \]

What are \( \Diamond \) and \( \star \)?

\[ \Diamond = \quad \]

\[ \star = \quad \]
Solve. Show your work.

10. Eugene has 6 times as many toy cars as Joseph.
    Brandon has half as many toy cars as Eugene.
    Joseph has 18 toy cars less than Brandon.
    How many toy cars do Eugene and Brandon have in all?
Study the figure below.
The numbers are arranged in a pattern.
Use the pattern to fill in the numbers on page 49.

```
56

24  4  32

8  6

72  80

48
```
Fill in the missing numbers in each figure.

11.

12.
PROBLEM SOLVING
Exploration

Solve. Show your work.

13. Find $7 \times 3$.
   Use a number line and multiplication facts to help you.
   Use three different methods.

14. Casey bought 5 flower pots for $9 each.
    He sold them for $7 each.
    Casey then bought another 3 flower pots for $6 each.
    What is the least amount of money in whole dollars he must sell each
    flower pot for so that he does not lose any money?
Chapter 11
Measurement

(As part of the unit, students can work in partners to measure and chart their plants. They can also do the same thing with measuring the weight.)
Worksheet 1  Meters and Centimeters

Look at the pictures.
Then fill in the blanks.

1.

The pen is _________ centimeters long.

2.

The bow is _________ centimeters long.

3.

The boy is _________ meter tall.
Convert to centimeters.

Example

\[ 2 \text{ m} 10 \text{ cm} = 200 \text{ cm} + 10 \text{ cm} \]
\[ = 210 \text{ cm} \]

The meter (m) and centimeter (cm) are units of length.  
1 m = 100 cm  
So, 2 m = 200 cm.

4. \[ 4 \text{ m} 28 \text{ cm} = \quad \quad \text{ cm} + 28 \text{ cm} \]
\[ = \quad \quad \quad \text{ cm} \]

5. \[ 9 \text{ m} 5 \text{ cm} = \quad \quad \text{ cm} + 5 \text{ cm} \]
\[ = \quad \quad \quad \text{ cm} \]

6. \[ 8 \text{ m} 54 \text{ cm} = \quad \quad \text{ cm} + 54 \text{ cm} \]
\[ = \quad \quad \quad \text{ cm} \]

7. \[ 7 \text{ m} 47 \text{ cm} = \quad \quad \text{ cm} + \quad \quad \text{ cm} \]
\[ = \quad \quad \quad \text{ cm} \]

8. \[ 3 \text{ m} 6 \text{ cm} = \quad \quad \text{ cm} + \quad \quad \text{ cm} \]
\[ = \quad \quad \quad \text{ cm} \]
Complete each number bond.

Example

100 cm

127 cm

27 cm

9.

285 cm

85 cm

10.

274 cm

11.

582 cm

Reteach 3B  37
Convert to meters and centimeters.

Example

147 cm = \underline{100} \text{ cm} + \underline{47} \text{ cm}

= \underline{1} \text{ m} + \underline{47} \text{ cm}

= \underline{1} \text{ m} \underline{47} \text{ cm}

12. 695 cm = \underline{\text{_______}} \text{ cm} + 95 \text{ cm}

= \underline{\text{_______}} \text{ m} + 95 \text{ cm}

= \underline{\text{_______}} \text{ m} 95 \text{ cm}

13. 108 cm = \underline{\text{_______}} \text{ cm} + \underline{\text{_______}} \text{ cm}

= \underline{\text{_______}} \text{ m} + \underline{\text{_______}} \text{ cm}

= \underline{\text{_______}} \text{ m} \underline{\text{_______}} \text{ cm}

14. 584 cm = \underline{\text{_______}} \text{ cm} + \underline{\text{_______}} \text{ cm}

= \underline{\text{_______}} \text{ m} \underline{\text{_______}} \text{ cm}

15. 309 cm = \underline{\text{_______}} \text{ cm} + \underline{\text{_______}} \text{ cm}

= \underline{\text{_______}} \text{ m} \underline{\text{_______}} \text{ cm}
Name: _____________________________ Date: ________________

Worksheet 3  Kilograms and Grams

Read each scale.
Then write the mass.

1.

The mass of the bag of pears is _______ kilograms.

2.

The mass of the cap is _______ grams.
Read each scale.
Then write the mass.

3. ________ g

4. ________ kg ________ g

5. ________ g

6. ________ kg ________ g
Write in grams.

Example

\[ 2 \text{ kg} = \underline{\phantom{3}} \times 1,000 \text{ g} = \underline{2,000} \text{ g} \]

7. \[ 5 \text{ kg} = \underline{\phantom{3}} \times 1,000 \text{ g} = \underline{\phantom{3}} \text{ g} \]

8. \[ 9 \text{ kg} = \underline{\phantom{3}} \times 1,000 \text{ g} = \underline{\phantom{3}} \text{ g} \]

9. \[ 7 \text{ kg} = \underline{\phantom{3}} \times 1,000 \text{ g} = \underline{\phantom{3}} \text{ g} \]

Write in grams.

Example

\[ 3 \text{ kg} 275 \text{ g} = \underline{3} \text{ kg} + \underline{275} \text{ g} \]
\[ = \underline{3,000} \text{ g} + \underline{275} \text{ g} \]
\[ = \underline{3,275} \text{ g} \]

10. \[ 6 \text{ kg} 147 \text{ g} = \underline{\phantom{3}} \text{ kg} + 147 \text{ g} \]
\[ = \underline{\phantom{3}} \text{ g} + 147 \text{ g} \]
\[ = \underline{\phantom{3}} \text{ g} \]

11. \[ 8 \text{ kg} 49 \text{ g} = \underline{\phantom{3}} \text{ kg} + 49 \text{ g} \]
\[ = \underline{\phantom{3}} \text{ g} + 49 \text{ g} \]
\[ = \underline{\phantom{3}} \text{ g} \]
12. \[ 4 \text{ kg} 702 \text{ g} = \underline{\hspace{2cm}} \text{ kg} + \underline{\hspace{2cm}} \text{ g} \]
   \[= \underline{\hspace{2cm}} \text{ g} + \underline{\hspace{2cm}} \text{ g} \]
   \[= \underline{\hspace{2cm}} \text{ g} \]

13. \[ 7 \text{ kg} 8 \text{ g} = \underline{\hspace{2cm}} \text{ kg} + \underline{\hspace{2cm}} \text{ g} \]
   \[= \underline{\hspace{2cm}} \text{ g} + \underline{\hspace{2cm}} \text{ g} \]
   \[= \underline{\hspace{2cm}} \text{ g} \]

**Complete each number bond.**

*Example*

1,749 g

\[\underline{\hspace{2cm}} \text{ kg} \]

\[\underline{\hspace{2cm}} \text{ g} \]

1,000 g

\[\underline{\hspace{2cm}} \text{ kg} \]

\[\underline{\hspace{2cm}} \text{ g} \]

749 g

\[\underline{\hspace{2cm}} \text{ kg} \]

\[\underline{\hspace{2cm}} \text{ g} \]

14. \[ 5,108 \text{ g} = \underline{\hspace{2cm}} \text{ kg} + \underline{\hspace{2cm}} \text{ g} \]

15. \[ 1,648 \text{ g} = \underline{\hspace{2cm}} \text{ kg} + \underline{\hspace{2cm}} \text{ g} \]
16. 6,085 g = g + g

Write in kilograms and grams.

Example

\[
2,583 \text{ g} = \frac{2,000}{\text{g}} + \frac{583}{\text{g}} \\
= \frac{2}{\text{kg}} + \frac{583}{\text{g}} \\
= \frac{2}{\text{kg}} \frac{583}{\text{g}}
\]

17. 7,148 g = _______ g + 148 g \\
= _______ kg + 148 g \\
= _______ kg 148 g
18. \[ 3,075 \text{ g} = \underline{\quad} \text{g} + 75 \text{ g} \]
   
   \[ = \underline{\quad} \text{kg} + 75 \text{ g} \]
   
   \[ = \underline{\quad} \text{kg} \, 75 \text{ g} \]

19. \[ 6,009 \text{ g} = \underline{\quad} \text{g} + 9 \text{ g} \]
   
   \[ = \underline{\quad} \text{kg} + 9 \text{ g} \]
   
   \[ = \underline{\quad} \text{kg} \, 9 \text{ g} \]

20. \[ 2,622 \text{ g} = \underline{\quad} \text{g} + \underline{\quad} \text{g} \]
    
   \[ = \underline{\quad} \text{kg} + \underline{\quad} \text{g} \]
   
   \[ = \underline{\quad} \text{kg} \, \underline{\quad} \text{g} \]

21. \[ 4,015 \text{ g} = \underline{\quad} \text{g} + \underline{\quad} \text{g} \]
    
   \[ = \underline{\quad} \text{kg} + \underline{\quad} \text{g} \]
   
   \[ = \underline{\quad} \text{kg} \, \underline{\quad} \text{g} \]

22. \[ 8,500 \text{ g} = \underline{\quad} \text{g} + \underline{\quad} \text{g} \]
    
   \[ = \underline{\quad} \text{kg} + \underline{\quad} \text{g} \]
   
   \[ = \underline{\quad} \text{kg} \, \underline{\quad} \text{g} \]
Intermediate/Proficient ELLs

Chapter 11

Metric Length, Mass, and Volume

Lesson 11.1  Meters and Centimeters

Write in centimeters.

1. \(6 \text{ m } 80 \text{ cm} = \underline{\phantom{000}} \text{ cm}\)

2. \(5 \text{ m } 43 \text{ cm} = \underline{\phantom{000}} \text{ cm}\)

3. \(8 \text{ m } 6 \text{ cm} = \underline{\phantom{000}} \text{ cm}\)

4. \(12 \text{ m } 35 \text{ cm} = \underline{\phantom{000}} \text{ cm}\)

5. \(15 \text{ m } 7 \text{ cm} = \underline{\phantom{000}} \text{ cm}\)

6. \(28 \text{ m } 12 \text{ cm} = \underline{\phantom{000}} \text{ cm}\)

Write in meters and centimeters.

7. \(185 \text{ cm} = \underline{\phantom{000}} \text{ m } \underline{\phantom{000}} \text{ cm}\)

8. \(312 \text{ cm} = \underline{\phantom{000}} \text{ m } \underline{\phantom{000}} \text{ cm}\)

9. \(708 \text{ cm} = \underline{\phantom{000}} \text{ m } \underline{\phantom{000}} \text{ cm}\)

10. \(936 \text{ cm} = \underline{\phantom{000}} \text{ m } \underline{\phantom{000}} \text{ cm}\)

11. \(1,203 \text{ cm} = \underline{\phantom{000}} \text{ m } \underline{\phantom{000}} \text{ cm}\)
Read the description. Write the name and height of each student. Then fill in the blanks.

12.

Mary: 1 meter 52 centimeters  
Lucy: 137 centimeters  
Eric: 143 centimeters  
Ken: 1 meter 60 centimeters

Lucy

137 cm

13. ___________ is the tallest.

14. ___________ is the shortest.

15. Mary is ___________ centimeters taller than Eric.
Lesson 11.3  Kilograms and Grams
Read the scales. Write the mass.

1. 

2. 

3. 

4. 

kg  g  

kg  g  

kg  g  

kg  g  

Extra Practice 38  19
Write in grams.

5. 6 kg = _______ g  
6. 3 kg 438 g = _______ g  
7. 8 kg 260 g = _______ g  
8. 2 kg 370 g = _______ g  
9. 4 kg 50 g = _______ g  
10. 5 kg 90 g = _______ g  
11. 7 kg 5 g = _______ g  
12. 9 kg 8 g = _______ g

Write in kilograms and grams.

13. 3,000 g = _______ kg  
14. 2,850 g = _______ kg _______ g  
15. 5,643 g = _______ kg _______ g  
16. 1,865 g = _______ kg _______ g  
17. 3,080 g = _______ kg _______ g  
18. 7,055 g = _______ kg _______ g  
19. 8,005 g = _______ kg _______ g  
20. 9,018 g = _______ kg _______ g

1 kg = 1,000 g
Look at the pictures. The mass of each item is listed on its packaging. Then complete the table and fill in the blanks for Exercises 21 to 25.

<table>
<thead>
<tr>
<th>cheese</th>
<th>baked beans</th>
<th>rice</th>
<th>peaches</th>
<th>detergent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>veggie chips</td>
<td>cereal</td>
<td>milk formula</td>
<td>crabs</td>
<td>cherries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. 

<table>
<thead>
<tr>
<th>Less than 500 g</th>
<th>More than 500 g but less than 1 kg</th>
<th>From 1 kg to 1 kg 500 g</th>
<th>More than 1 kg 500 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>cheese</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Use the table on the previous page to complete the statements.

22. The __________ is the lightest.

23. The __________ is the heaviest.

24. __________ items are lighter than a jar of cherries.

25. __________ items are heavier than a bag of crabs.

Complete.

26. Order the masses from heaviest to lightest.

_ __________ _________

heaviest

2 kg 300 g 3,450 g 1,280 g
CHAPTER 11

Metric Length, Mass, and Volume

PROBLEM SOLVING
Thinking Skills

Solve.

1. Victoria jogged 90 meters on Monday.
   Find the distance she jogged in centimeters.

Read the scale.

2. What is the mass of the sugar in grams?
3. Express the volume of water in the jug in milliliters.

Follow the directions.

4. Estimate the length of the stick in centimeters.

5. Find the height of the fish tank in centimeters.

The height of the fish tank is ________ centimeters.
6. Emma finds the mass of a bag and a chair.
   She finds that the bag has a mass of 6 kilograms 9 grams.
   Both the chair and the bag have the same mass.
   Color the boxes that show the mass of the chair.

   [Boxes with options: 6,090 g, 6,900 g, 6,009 g, 6 kg 9 g, 6 kg 900 g, 6 kg 90 g]

7. A jug contains 3 liters 500 milliliters of water.
   Water from the jug is used to fill seven 250-milliliter mugs.
   Find the amount of water left in the jug.
8. Convert each measurement to liters and milliliters. Then shade the boxes with the two largest and the two smallest measurements.

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>S</th>
<th>O</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,903 mL</td>
<td>6,012 mL</td>
<td>3,250 mL</td>
<td>7,009 mL</td>
</tr>
<tr>
<td></td>
<td>1.903 L</td>
<td>6.012 L</td>
<td>3.250 L</td>
<td>7.009 L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>J</th>
<th>T</th>
<th>D</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>300 mL</td>
<td>1 mL</td>
<td>4,020 mL</td>
<td>1,025 mL</td>
</tr>
<tr>
<td></td>
<td>0.300 L</td>
<td>0.001 L</td>
<td>4.020 L</td>
<td>1.025 L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>I</th>
<th>U</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5,001 mL</td>
<td>8,150 mL</td>
<td>6,905 mL</td>
<td>250 mL</td>
</tr>
<tr>
<td></td>
<td>5.001 L</td>
<td>8.150 L</td>
<td>6.905 L</td>
<td>0.250 L</td>
</tr>
</tbody>
</table>

Arrange the letters in the shaded boxes to spell out the answer to the following riddle.

What can fly without wings?

________    _______  _______  _______
9. Look for the pattern.
    Then fill in the missing masses.

    50 g  100 g  200 g  _______  550 g  800 g  _______
PROBLEM SOLVING
Exploration

Study the diagram showing the distances between cities. Then follow the directions.

10. Rita wants to fly from City A to City P. There is no direct flight from City A to City P.

\[
\begin{align*}
A & \quad 726 \text{ km} & B & \quad 215 \text{ km} & C & \quad 816 \text{ km} \\
B & \quad 459 \text{ km} & C & \quad 654 \text{ km} & D & \quad 523 \text{ km} \\
C & \quad 299 \text{ km} & D & \quad 365 \text{ km} & E & \quad \text{ } \\
A & \quad 372 \text{ km} & P & \quad 684 \text{ km} & D & \quad 365 \text{ km}
\end{align*}
\]

Find five ways to travel from City A to City P indirectly. Choose the best route. Explain why you chose that route.

\[
\begin{align*}
AB &= 726 \text{ km} & BC &= 215 \text{ km} & AC &= 816 \text{ km} \\
BP &= 459 \text{ km} & PC &= 654 \text{ km} & PE &= 523 \text{ km} \\
CE &= 299 \text{ km} & AD &= 372 \text{ km} & DE &= 365 \text{ km}
\end{align*}
\]
11. The total mass of two goats is 48 kilograms. 
The mass of one of the goats is at least 10 kilograms more 
than the other. 
The mass of the lighter goat is more than 16 kilograms. 
Find three possible masses of the heavier goat.
Writing Task
Research Report Outline

Use this outline to write a report about your chosen plant. Use your research notes to help you. Remember to use correct punctuation, grammar and capitalization.

Introduction: Use an attention grabber to begin your report and briefly discuss your plant and three topic areas you will discuss.

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

1st topic paragraph

____________________________________________________________________

____________________________________________________________________
3rd topic paragraph

Conclusion: Sum it all up and add an afterthought
Expository Writing Checklist

Introduction:

1. I used 3 sentences in my introduction.
2. I used an attention getter.
   Attention getter: ___________________________________
3. I stated my thesis which is
   ___________________________________

Paragraph 2 (Reason #1):

1. I have a topic sentence that states my first reason.
   Reason: ___________________________________
2. I used at least three details to explain my reason.
   Detail #1: ___________________________________
   Detail #2: ___________________________________
   Detail #3: ___________________________________
   Other details: _________________________________
3. I have at least four sentences in this paragraph.

Paragraph 3 (Reason #2):

1. I have a topic sentence that states my second reason.
   Reason: ___________________________________
2. I used at least three details to explain my reason.
   Detail #1: ___________________________________
   Detail #2: ___________________________________
Paragraph 4 (Reason #3):

1. I have a topic sentence that states my third reason.
   Reason: __________________________________________

2. I used at least three details to explain my reason.
   Detail #1: ________________________________________
   Detail #2: ________________________________________
   Detail #3: ________________________________________
   Other details: ______________________________________

3. I have at least four sentences in this paragraph.

Paragraph 5 Conclusion:

1. I restated my thesis statement.
   Thesis: ____________________________________________

2. I used an after thought to end my essay.
   After thought: ______________________________________
<table>
<thead>
<tr>
<th>ORGANIZACIÓN</th>
<th>¿Tiene?</th>
<th>COMENTARIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Incluye</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Introducción: (4 oraciones incluyendo ganador de atención, tesis, y 3 detalles de apoyo)</td>
<td>GA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D3</td>
<td></td>
</tr>
<tr>
<td>• Cuerpo: (3 párrafos incluyendo oración temática y 3 detalles de apoyo para cada uno)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P2</td>
<td>D D D</td>
</tr>
<tr>
<td></td>
<td>P3</td>
<td>D D D</td>
</tr>
<tr>
<td></td>
<td>P4</td>
<td>D D D</td>
</tr>
<tr>
<td>• Conclusión: (Reafirmar la tesis y 3 detalles importantes – 1 detalle importante de cada párrafo)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reafirmar T</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D3</td>
<td></td>
</tr>
<tr>
<td>Termina la conclusión con una oración dramática</td>
<td>Sí</td>
<td>No</td>
</tr>
<tr>
<td>Enfocado en el tema en todo el ensayo</td>
<td>Sí</td>
<td>No</td>
</tr>
</tbody>
</table>
Expository Writing Rubric

<table>
<thead>
<tr>
<th>ELABORACIÓN</th>
<th>¿Tiene?</th>
<th>COMENTARIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incluye</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Hechos</td>
<td>Sí</td>
<td>No</td>
</tr>
<tr>
<td>• Ejemplos</td>
<td>Sí</td>
<td>No</td>
</tr>
<tr>
<td>• Detalles</td>
<td>Sí</td>
<td>No</td>
</tr>
<tr>
<td>Usas palabras interesantes para mejorar tu ensayo.</td>
<td>Sí</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FLUIDEZ</th>
<th>¿Tiene?</th>
<th>COMENTARIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usa oraciones completas.</td>
<td>Sí</td>
<td>No</td>
</tr>
<tr>
<td>Usa una variedad de palabras y frases de transición (por ejemplo, además)</td>
<td>Sí</td>
<td>No</td>
</tr>
<tr>
<td>Usa el idioma español correctamente para mostrar capitalización, puntuación, y ortografía</td>
<td>Sí</td>
<td>No</td>
</tr>
</tbody>
</table>
Puntuación:  1  2  3  4  5  6

Christopher Columbus Family Academy
Expository Writing Rubric

Título: ________________________       Fecha: ______________

Autor: ___________________________  Crítico: ____________

<table>
<thead>
<tr>
<th>ORGANIZACIÓN</th>
<th>¿Tiene?</th>
<th>COMENTARIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incluye</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Introducción: (4 oraciones incluyendo tesis (idea principal) y 3 detalles de apoyo)</td>
<td>Idea Principal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D3</td>
<td></td>
</tr>
<tr>
<td>• Cuerpo:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2-3 párrafos incluyendo una oración temática y 3 detalles de ayuda)</td>
<td>P2  D  D  D</td>
</tr>
<tr>
<td></td>
<td>P3  D  D  D</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P4  D  D  D</td>
<td></td>
</tr>
<tr>
<td>• Conclusión:</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ELABORACIÓN</strong></td>
<td>¿Tiene?</td>
<td><strong>COMENTARIOS</strong></td>
</tr>
<tr>
<td>-----------------</td>
<td>---------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Incluye</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Hechos</td>
<td>Sí</td>
<td>No</td>
</tr>
<tr>
<td>(Enunciados</td>
<td></td>
<td></td>
</tr>
<tr>
<td>verdaderos)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ejemplos</td>
<td>Sí</td>
<td>No</td>
</tr>
<tr>
<td>(Detalles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>específicos)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Detalle</td>
<td>Sí</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FLUIDEZ</strong></th>
<th>¿Tiene?</th>
<th><strong>COMENTARIOS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Usa oraciones completas.</td>
<td>Sí</td>
<td>No</td>
</tr>
</tbody>
</table>
| Usa palabras de transición:  
(también, otro, por ejemplo, además) | Sí  | No |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Usa mayúsculas, puntos o signos de interrogación, y deletreo correcto.</td>
<td>Sí</td>
<td>No</td>
</tr>
</tbody>
</table>

**Puntuación:** 1  2  3  4  5  6

**Rubric**

<table>
<thead>
<tr>
<th>Grade 3 Expository Rubric</th>
<th>Elaboration</th>
<th>Organization</th>
<th>Fluency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>Fully elaborated sentences.</td>
<td>Includes a well developed introduction, body,</td>
<td>Text is smooth and natural to read.</td>
</tr>
<tr>
<td>Level</td>
<td>Topic/Details</td>
<td>Introduction/Body/Conclusion</td>
<td>Accurate Use of Conventions</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------</td>
<td>------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Proficient</td>
<td>Mostly elaborated sentences.</td>
<td>Includes a mostly well developed introduction, body, and conclusion.</td>
<td>Text is smooth and natural to read with occasional lapses.</td>
</tr>
<tr>
<td>Basic</td>
<td>Few elaborated sentences.</td>
<td>Inconsistent paragraph structure.</td>
<td>Text shows lapses in fluency and may be awkward. Uses simple sentence patterns</td>
</tr>
<tr>
<td>Below Basic</td>
<td>Undeveloped sentences</td>
<td>Topic is unclear</td>
<td>Text is brief and choppy.</td>
</tr>
</tbody>
</table>
Post-Test

Name __________________________________  Date __________________

____________________
Use the pictures below to answer questions 4, 5, and 6.

4. Which picture shows the oldest plant?
   A.  1
   B.  2
   C.  3
   D.  4

5. Which picture shows seed pods?
   A.  1
   B.  2
   C.  3
   D.  4

6. Which picture shows the youngest plant?
   A.  1
   B.  2
   C.  3
   D.  4
7. Look at the diagrams below. Match the part of the flower with what it does to help the flowering plant. Write the letter on the line. The first one has been done for you.

<table>
<thead>
<tr>
<th>Flower Part</th>
<th>How It Helps the Flowering Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Poisson sticks to it.</td>
</tr>
<tr>
<td></td>
<td>It attracts bees.</td>
</tr>
<tr>
<td></td>
<td>It makes pollen.</td>
</tr>
</tbody>
</table>

8. Jon’s plant has flowers. What must Jon do so that the plant will have seed pods?
   A. Keep the plant watered
   B. Remove the flowers
   C. Raise the lights higher
   D. Pollinate with a bee stick

9. Bianca is growing Wisconsin Fast Plants. After two weeks, the plants seem very crowded. Each plant is weak looking. What might have caused Bianca’s plants to grow poorly?
   A. She didn’t thin the plants.
   B. She didn’t pollinate the plants.
   C. She left the light on too long.
   D. The bee sticks were close to her plants.
Helen visits her grandpa. When she is there she measures her height. She records it on a graph.

Use the graph to answer questions 13, 14, and 15. Choose the correct answer or answers by circling the correct letter.

13. When did Helen seem to stop growing taller?
   A. 8 years old
   B. 12 years old
   C. 16 years old
   D. 21 years old
14. Helen must be 140 cm tall to use a riding lawn mower. How old was Helen when she was first tall enough to mow the grass?
   A. 6 years old
   B. 8 years old
   C. 12 years old
   D. 16 years old

15. What would be another good title for this graph?
   A. Helen Grows Like Corn
   B. Helen Grows Taller Than Grandma
   C. Helen’s Height at Grandpa’s
   D. How Tall Is Grandpa?

**Part 2**

In the box below, illustrate a seed and label with its parts provided in the word bank.

<table>
<thead>
<tr>
<th>Word Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>embryo</td>
</tr>
<tr>
<td>cotyledon</td>
</tr>
</tbody>
</table>


Label the diagram of the flower below. Use the words provided in the blank for your labels.

Word Bank
Petal  anther  stigma  pistil  leaf  stamen  carpel
nectar


Superteacherworksheets.com

Theworksheetplace.com
