

Let's get grow^{ing}

SESSION 1

9:30-10:30

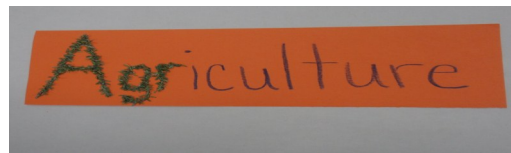
Growing Letters.....	Pg 2
Tops & Bottoms.....	Pg 3
Garden in a Glove.....	Pg 7
Edible vs. Non Edible.....	Pg 9
Garden Alphabet Book.....	Pg 11
List of suggested books.....	Pg 19

Websites for more information:

www.agintheclassroom.org – Teachers Resources

<http://growing-minds.org/> - Resources, Lesson plans

Growing Letters!



Grade Level: K-3 Science & Reading

Objective: This activity is designed to allow students to observe the germination process and what factors encourage growth and what factors can discourage growth.

Illinois Learning Standards: 1.B.2b; 1.C.2b; 1.C.2d; 2.A.2b; 11.A.2c; 11.A.2d; 11.B. 2b; 11.B.2f

Assessment Framework: Standard 1B 1.4.09; 1.4.10; 1.4.13; 1.4.14

Reading Suggestions:

AITC's Horticulture or Specialty Crops Ag Mag available at www.agintheclassroom.org

Planting a Rainbow by Lois Ehlert ISBN 978-0152063047

The Tiny Seed by Eric Carle ISBN 978-0689842443

Tops and Bottoms by Janet Stevens ISBN 978-0152928513

Pick, Pull, Snap by Lola M. Schaefer ISBN 978-0688178345

Materials:

Seeds

Glue

Crayons

Construction paper

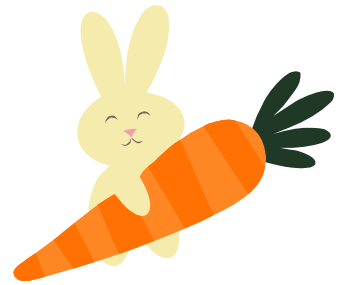
Water bottle

Wax paper or cookie sheets

Directions:

1. Cut large sheets of construction paper in half (hot-dog style). One 1/2 piece of paper for each student.
2. Next, write each students' name on the construction paper strip using the crayons. Older students can write their own name.
3. Now have each student trace over their name with glue. Elmer's white school glue will work or a glue stick.
4. Once the student has traced his or her name in glue have them shake the seeds over the glue. If you use small seeds like radishes, carrots or even grass seeds you can put them in shakers to help students place the seeds easier. Old rinsed out plastic spice jars work really well.
5. Sit to the side to let glue dry.
6. Once the glue is dried place the projects on wax paper or on cookie sheets so the seeds can be spritzed with water. Do not saturate the paper but do get the seeds damp. The seeds should be kept damp to ensure growth.

Tops and Bottoms



Grade Level: 2-4

Objective: After completing this activity, students will have a better understanding of how garden vegetables grow and what part of the vegetable they can eat.

Illinois Learning Standards: 1.A1a; 1.A1b; 2.B.1c; 4.A.1c; 11.B.1a; 11.B.1c; 12.A.1a; 12.A.1b; 12.B.1a

Assessment Framework: 1.3.01; 1.3.06; 1.3.07; 1.3.13; 2.3.02; 2.3.10; 12.4.03; 12.4.04; 12.4.05

Suggested Reading Materials:

Tops and Bottoms by Janet Stevens ISBN: 978-0152928513

Illinois AITC Specialty Crops Ag Mag

What You Will Need:

Vegetable template from www.agintheclassroom.org 2 Paper Fasteners (brads)

Colored pencils or crayons Hole Punch Scissors Glue

Two white paper plates per student

About the Book:

Tops & Bottoms, adapted and illustrated by Janet Stevens, is a story which has its origins in slave stories from the American South. In this trickster tale, a clever hare outwits the lazy bear while planting and harvesting the tops and bottoms of their vegetable garden.

Key Words:

- **hare** - The American form of hare is generally called rabbit.
- **harvest** - The gathering of a crop season. A period in which agricultural work is done and a particular type of weather prevails.

Getting Started:

Before reading the book, ask students to think of vegetables they eat. List them on a chart. Emphasize that vegetables are plants grown for food. It may also be necessary to emphasize the difference between fruits and vegetables as the list is made.

As a group, look at the cover of the book. What vegetables are pictured? What animals are pictured? Note the Caldecott Honor book Award Medal. This award is given to books that have outstanding illustrations. Encourage students to look carefully at the illustrations as the story is read.

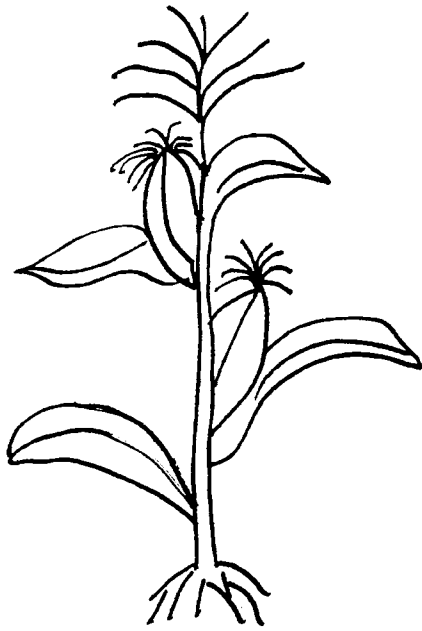
Activity Instructions:

1. Have students color and cut out the vegetables from the vegetable template.
2. Next have students fold one plate in half and draw a line down the center of the plate. Color one half of the plate blue and the other half brown.
3. Now have students glue the vegetables on the colored plate. The blue space will serve as the sky, so anything that grows on “top” should be placed on the line “growing” into the blue, anything that grows from the “bottom” should be placed on the line “growing” into the brown side of the plate. When finished, all the vegetables should be lined up on the center line (fold) with the “tops” vegetables showing in the blue and the “bottom” vegetables showing in the brown.
4. Next write on the second paper plate the words “Tops” and “Bottoms” in their corresponding place on the plate. Now fold the plate in half and cut along the fold.
5. On the left side of the first plate (the one containing the vegetables) place a hole punch about 3 cm in on the line.
6. Lastly, place the two halves labeled “Tops” and “Bottoms” on top of each other and place a hole 3 cm in on the left side. This hole should line up with the decorated plate. Line all the holes up and place a brad to secure the plates. Now the bottom plate should have a cover. When the “Tops” is pulled up it should reveal the crops that grow on top and the same with the “Bottoms.”

Lesson Extenders!

1. **Chart:** make a chart-list of vegetables before reading Tops & Bottoms to discuss what vegetables were included in the story. Then recall from the story if it was the top or bottom of the vegetable plant.
2. **Story Dictation:** Complete a shared writing activity in which students suggest ideas and the teacher writes down a story based on one of the illustrations in the book.
3. **Letters to Bear and Hare’s Families:** Write a letter to the Bear and Hare families. Perhaps students could give them hints on growing vegetables or inquire about how their garden is growing.
4. **Writing About Your Garden:** Students who have grown a garden might be encouraged to write about their experiences. Students who do not have gardens could write about what their plans would be if they could start a vegetable garden.

Tops and Bottoms

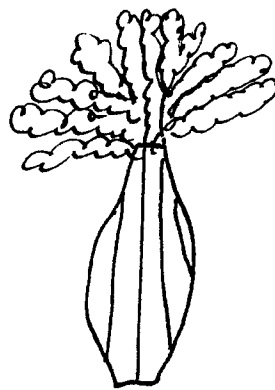


Corn

Beet

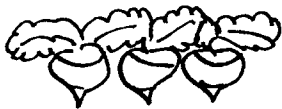


Lettuce



Celery

Carrot



Radish



Broccoli



Step 1



Step 2



Step 3

Garden in a Glove

Objective:

Teach students about seed germination using gloves and cotton balls.

Illinois Learning Standards: 1B.2a, 1B.2b, 2B.2a, 3.A.2, 11.A.2d, 11.A.2e, 11.B.2c, 11.B.2d, 13.A.2c, 13.B.2a

Assessment Framework: 1.3.12, 1.3.14, 12.4.03

Suggested Reading Material: Growing Things (Usborne) by: Angela Wilkes ISBN 978-0860208570

Materials Needed:

Clear plastic glove

5 cotton balls

5 types of seeds, 3-4 seeds of each (examples: lettuce, carrot, cucumber, tomato, broccoli)

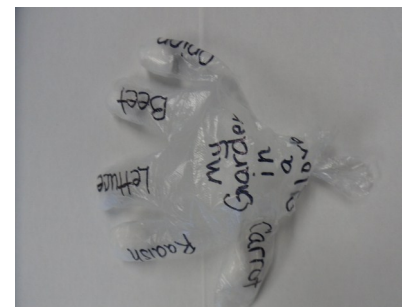
Pencil

Water

Marker

Directions:

1. Write your name on a clear plastic glove.
2. Wet five cotton balls and wring them out.
3. Place 3-4 seeds of the same type on each cotton ball (or dip the cotton balls in the seeds to pick them up). You may want to keep track of which seed is in which finger.
4. Put a cotton ball with the seeds attached into each finger of the glove. Hint: You may have to use a pencil to get the cotton ball all the way to the tips of the glove fingers.
5. Blow up the plastic glove and close it with a twist tie.
6. Tape the glove to a window, chalkboard, or wall. You may want to hang a clothes line under a chalk tray and use clothes pins to hold the gloves on.
7. The seeds will germinate in 3 to 5 days. Keep a plant diary and look at the seeds under a microscope.
8. Transplant the seeds about 1 1/2 to 2 weeks by cutting the tips of the fingers off the glove.
Transplant the cotton ball and small plants into soil or sphagnum moss.
9. After growing to full size, plants can be made into a salad.



Garden in a Glove

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VOCABULARY

Annual – life cycle of one year

Perennial – life cycle of more than two years

Germination – to begin to grow (sprout)

Transplant – to remove and plant in another place

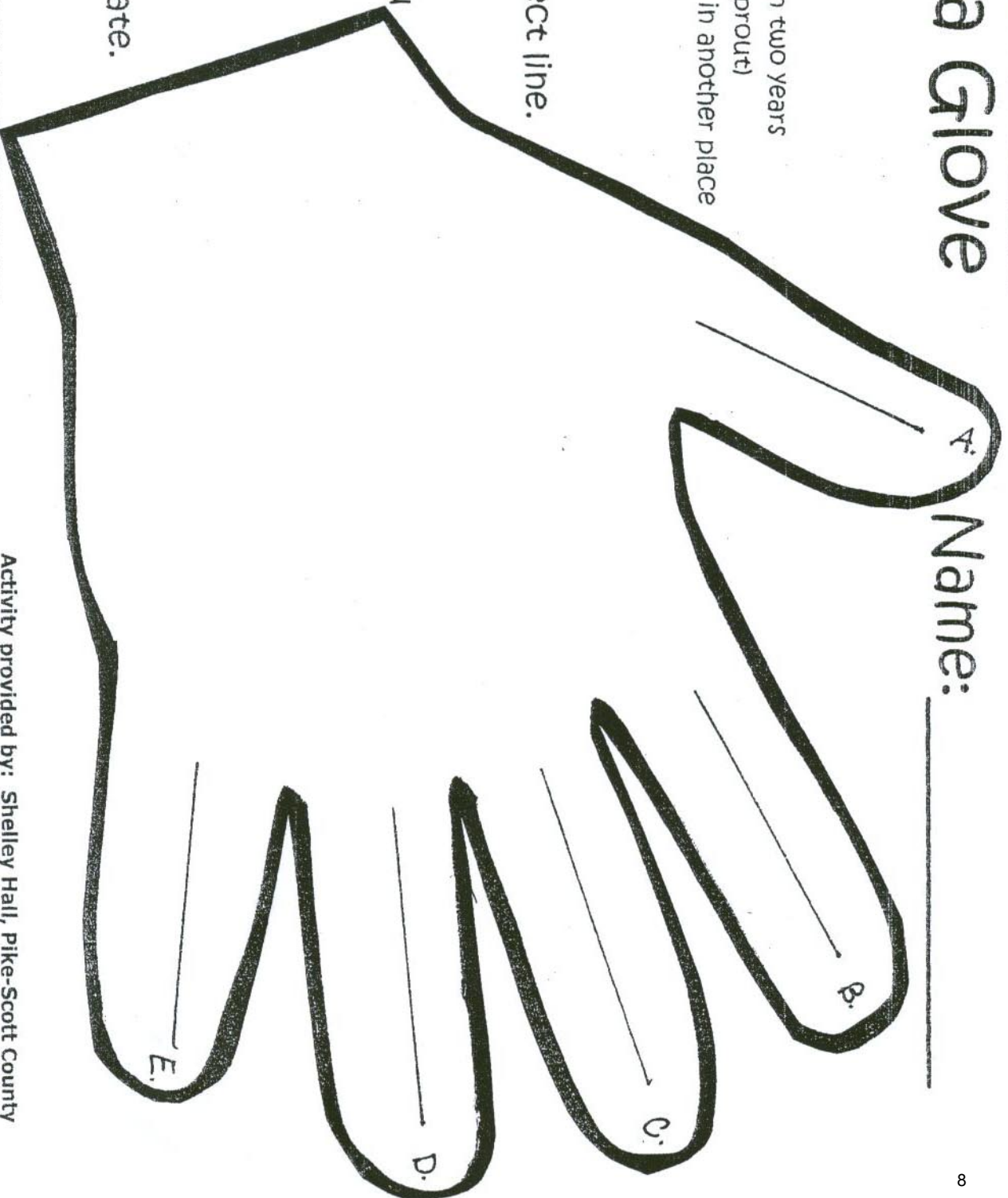
What seeds did you
plant in each finger?

Write them on the correct line.

Write the date when you
see the first sprout.

Number each finger
in the order they germinate.

Name: _____



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provides equal opportunities in programs and employment.

Activity provided by: Shelley Hall, Pike-Scott County
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Garden Lesson: Edible and Non-Edible

Goal

Students will learn the difference between edible and non-edible and understand how these concepts connect to a garden and the objects and properties of a garden. Through a visit to the garden and by utilizing charts and discussion questions, students will expand their understanding of edible, non-edible, and the garden environment.

NC Common Core and Standards Addressed

Kindergarten: *English Language Arts* – RI.K.5, RF.K.1, W.K.8, L.K.6, W.K.1; *Mathematics* – K.MD.3; *Science* – 3.03, 3.04.

First: *English Language Arts* – RL.1.1, RI.1.1; *Mathematics* – 1.G.1.

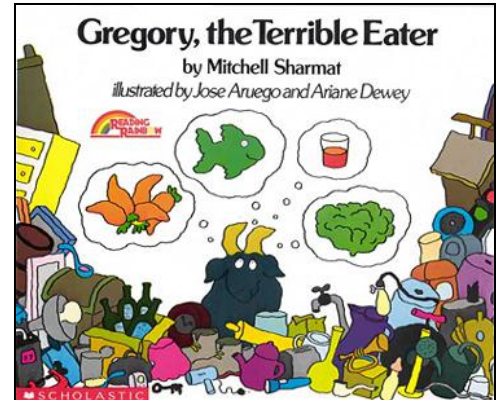
Second: *English Language Arts* – SL.1.1.

Materials

Books to Read

Gregory, the Terrible Eater by Mitchell Sharmat

Scarlette Beane by Karen Wallace



Supplies

- Pictures of edible and non-edible objects
- Plastic bags for collecting objects in the garden
- Poster board/paper with prepared discussion questions

Preparation: Prepare discussion questions/charts on poster board. The lesson suggests six different discussion questions, which are in bold.

Vocabulary

Edible: You can eat it.

Non-edible: You cannot eat it.

Activities

Initial Brainstorm

Show students a **chart with two headings: 'Edible' and 'Non-edible'**. Ask the students what they think the words 'Edible' and 'Non-edible' mean. If they do not know, explain that edible means things you can eat and non-edible means things you cannot eat. Lead the students in brainstorming examples that fit into these categories and write them on the chart. Show students the pictures of the edible and non-edible objects, ask them to identify the objects and if it is edible or non-edible and paste the picture in the correct category.



Read a Book

Read Gregory, the Terrible Eater or Scarlette Beane. As you are reading the book ask the students what edible and non-edible things they can see on the page. Add these to the brainstorming chart.

Garden Exploration

Put the students in groups and ask each group to go out into the garden and collect two items that are edible and two items that are non-edible. Bring the objects back into the classroom and sort them by edible and non-edible. You can also sort them after by shape, size, or color.

Discussion and Web Chart

Connect these new words to the garden and garden activities by brainstorming answers to the following questions: ***Why do you think we should (or should not) have an edible garden? Who should get to eat the food the class grows in the garden? Who should take care of the garden? How do you think we should take care of the garden? What are a few edible and non-edible plants or objects students would like to include in the garden?*** Write each of these questions on a large poster board or white board and write the student's answers.

Writing Assignment

Ask older students to write a paragraph (in their garden journals!) describing their ideal garden. Would the garden contain both edible and non-edible things? If so, what edible plants would the students include and what non-edible plants (or objects) would they include?

Write and circle the topics "Garden" and "Edible" on a large poster board. Ask the students to give examples of words that they think of when we think of "garden" and then "edible." Make a web with their answers. Draw lines from their word examples to the specific topic or connect the word to both topics if it fits with both.

Garden Lesson Plan: Garden Alphabet Book

Explore the garden and practice the alphabet!

Goal

Students will make observations and build an understanding of the properties of common objects in the garden. They will share information about what is in the garden by describing the objects through illustration and descriptive writing.

NC Standards Addressed

Kindergarten: English Language Arts – RI.K.5, RL.K.1, RI.K.3, L.K.2;
Science – 3.03.

First: English Language Arts – RL.1.2, W.1.5, SL.1.6.

Second: English Language Arts – RL.2.4, L.2.1.

Materials

Books to Read

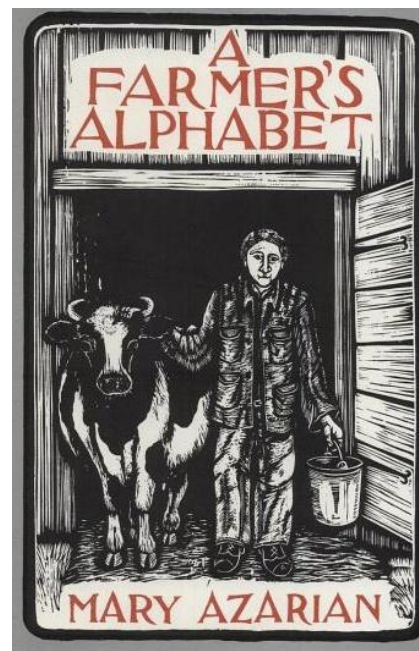
A Farmer's Alphabet by Mary Azarian

A Gardener's Alphabet by Mary Azarian

Garden Alphabet by Isabel Wilner

Supplies

- White cardstock – one sheet per student
- Clipboards
- Crayons/ colored pencils
- Alphabet word strips



Preparation: Before this lesson brainstorm a few words of things that you can find in the garden, actions you do in the garden, or adjective/noun pairings of things in the garden for each letter in the alphabet. Make sure they are things that the students can observe in the garden. Cut this list into strips – one letter per piece so students can use it as a reference during the lesson (*or use the attached Alphabet word strips*).

Activities

Introduction

Explain to students that we need to tell more people about the garden and that the people in the school (teachers, principal, cafeteria staff, other students, and parents) all want to know what is in our garden. Ask them if they will help tell people about what's in the garden. One way we can do this is to create an alphabet book of our garden!

Read a book and distribute letters

Start by showing the students an example of an ABC book, and then read one together. Call out the letter and engage students by allowing them to read the word that corresponds with the letter on the page. Point out that each page contains 1) one letter written clearly, 2) a word starting with the letter, and 3) a picture that illustrates the word.

Next, brainstorm things that we would find in the garden. Have the alphabet word strips in hand and start going through the alphabet. Explain that adjectives and verbs work too, such as *extra sweet strawberries*. Have the students raise their hands with examples and when a student calls out something that they would find in the garden, give them the corresponding alphabet strip, and tell them that they have been assigned that letter. Continue until each student has a letter/alphabet strip.

Illustrating

Each student will receive a clipboard with a piece of white cardstock attached and a pencil. Explain to the students that they will go outside and find an object in the garden that starts with the letter on their alphabet strip. Ask them to recall and replicate what we saw in the ABC books that we looked at: draw the letter at the top of the page, write the word clearly, and draw a picture that represents the word. Provide an example on the board. First and second grade students will receive paper that includes lines, and you should prompt them to write one or two sentences about their garden object. Provide an example.

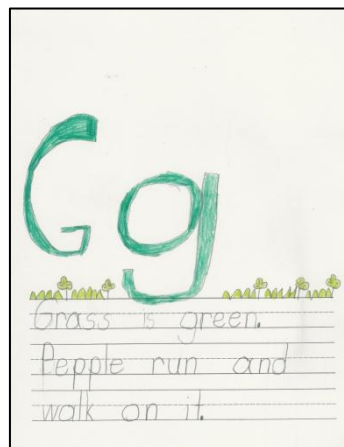
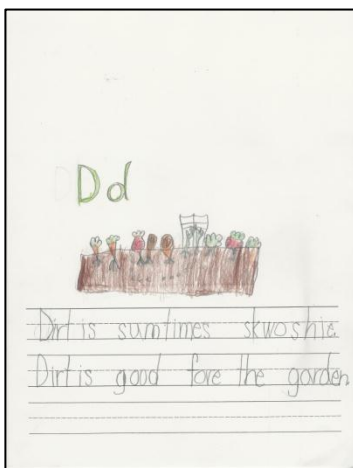
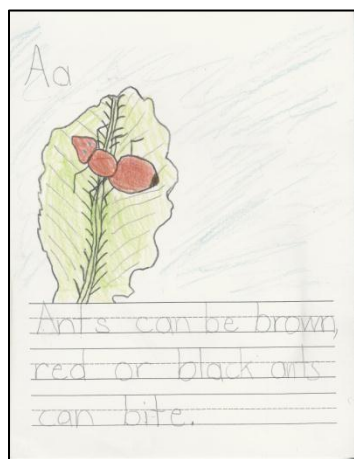
Once each student decides what they want to look for in the garden, ask them to circle or underline the word on their alphabet strips so that they remember what they are looking for and illustrating in the garden. A few of the students will be quizzed on what their letter is and what their object is to be sure they understand what to do. We will then head outside to explore the garden!

Have a variety of colors of markers or pencils for the students to use. Once they have finished their drawings ask them to sign their name on the back.

Observe students in the garden to make sure that they are staying on task. Look at their picture to see that it corresponds with the letter and the word.

Follow up

Compile all the drawings into your class's own garden ABC book!



A: Ants, anthill, aphids

**B: Bees, blooms, blue skies, birds,
blueberries, brown soil, beetles,
berry bushes, bricks, butterflies,
bugs**

**C: Children, chomping insects,
carrots, cherry tree, compost, clay,
clouds, creatures, centipedes**

**D: Digging tools, dirt, dirty hands,
dandelions**

E: Eggs, energetic kids, edible plants, earthworms

F: Flies, fruiting plants, flowers, finger prints, fireflies, fence, frogs

G: Grass, green, garden beds, grasshoppers, gate

H: Hard rocks, hay, hose, hard workers

**I: Insects, ideas, imaginations,
images, inchworms**

J: Jumping students, joking teachers

K: Kids, kale

**L: Lettuce plants, loving teachers,
little bugs, leaves, letters, ladybugs**

M: Mulch, mosquitoes

N: New sprouts, nice children

O: Oak Tree, orange, onions

**P: Paper scraps, peas, potato
plants, poles, picnic tables, pebbles,
paintings, plants**

Q: Quiet breeze, quick rabbits

**R: Raised garden beds, radishes,
roots, rocks, resting teachers**

**S: Straw, shed, stems, seeds,
sunshine, stones, spiders, shovel,
sticks, sand, spade**

**T: Trowels, trees, tools, toads, toys,
tunes, thinking students**

**U: Underground roots, unusual
insects, unique ideas**

V: Vegetables, vibrant colors, vines

**W: Wood blocks, wood chips,
wiggly worms, water, watering can,
wheel barrow, weeds, webs**

X: eXtra sweet strawberries

**Y: Yellow hay, yellow signs, yummy
veggies, yard**

Z: Zinnia flowers, zucchini

Suggested Books by Lesson

Growing Letters

Planting a Rainbow by Lois Ehlert

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