

Garden Lesson Template

Three Sisters Garden - First Grade Lesson Overview

Science Standards addressed:

EALR 1: Systems: *Part-Whole Relationships* K-1 Living and nonliving things are made of parts. People give names to the parts that are different from the name of the whole object, plant, or animal.

EALR 2: Inquiry: *Making Observations*

Students learn that scientific investigations involve trying to answer questions by making observations or trying things out, rather than just asking an adult.

EALR 3: Application: *Tools and Materials* Students learn to use simple tools (e.g., pencils, scissors) and materials (e.g., paper, tape, glue, and cardboard) to solve problems in creative ways.

Objective: To introduce students to the Native American tradition of planting a three sisters' garden and let them plant seeds for corn, beans and squash. To discuss their symbiotic relationship – how they help each other.

Date: Mid April for indoor planting, early May for planting seeds directly into the garden, mid to late May to plant seedlings

Time Required:

Materials: Native American music; pictures of a planted 3 sisters garden, back of gold coin with Native American woman planting, individual pictures of corn, beans and squash

For indoor planting - 2-4" Pots, soil, seeds, labeling sticks, water squirt bottle, tray, container for soil, separated into stations depending on how many volunteers you have.

For outdoor planting – seed packets, trowels to make the hills, colorful yarn to size the 3-sisters mound in the garden. Watering can to water seeds in.

Class Discussion and Action:

1. Have Native American music playing and ask students which culture they think the music comes from. Once it is identified ask students to tell some things they know about Native Americans (emphasize that they lived here for many years before the pilgrims came).
2. Native Americans had to farm and raise all their own food – they could not go to the grocery store or fast food place to get food. They figured out that 3 of their most important crops grew better and produced more when they were planted together. Can anyone guess what these 3 very important foods were? Put up pictures of the individual foods as they are identified.
3. Show picture of the 3 sisters' garden growing together. Explain to students that these plants have a **symbiotic relationship** which means each plant is providing something to the other

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plants. This is called **companion planting**. Kind of like being with your friends, these plants do better when they are planted together.

4. The Native American tradition is to build a mound for the plants to be planted on and around. The corn grows straight and tall in the middle of the mound, it provides a great pole for the beans to wrap around as they grow. The beans provide nitrogen to the soil which the others use. The squash spreads along the ground and provides shade to retain moisture and prevent the growth of weeds. The prickly hairs on the squash plant also keep pests away from the other plants.
5. Also when these vegetables are eaten together, they create a more balanced diet. The corn provides good energy from the carbohydrate it has. It has most of the amino acids needed to make protein, but the two it is missing are found in the beans, so together they can build protein. And the squash is full of vitamins like vitamin A to help our eyes and C to help our bodies fight disease.
6. By following this Native American custom, we can produce more of each of these vegetables and grow things that are essential for our body to have. This method of planting is so important to the Native American culture and what they have taught us that it is even portrayed on the back of one of the gold dollar coins (show picture).
7. Students will then be taken out in groups to plant.

For indoor planting: have enough pots and soil for 2 students to share one pot, approximately 12-15 pots/class. Each class should plant some of all three seeds. Plant one variety per pot, two seeds per pot. Some students will plant pumpkins, some will plant corn and others will plant beans.

Have half the kids label their marking stick with plant, student name and class then line up to fill their pot with soil, they can sit in one area with a helper volunteer who will show how to plant the seeds following package instructions on depth. Cover the seeds and water them. Meanwhile the second group will do the same with volunteer number 1.

Get all pots onto the tray and watered. Establish a watering schedule for the seeds showing amount to water each time. Move plants to established grow light area.

Recap about the 3 sisters that help each other. You can also discuss the great qualities of these three fruits/vegetables such as the great sweet taste, the vitamin A in squash, good for the eyes and skin, and the protein in beans, good for building muscle.

For planting directly into the garden in early May: Each class will plant one mound. Bring small groups of 4-5 students to the garden after the class discussion. First to make a circle to determine the size of the mound, then to use the trowels to create the mound in one of the beds, then to plant the corn on top of the mound, beans near the corn, but mid way down the mound and squash seeds on the outside of the mound. These seeds need to be kept moist. Because the irrigation is not in place until June, care should be taken to water these seeds. Garden club can help to water on Wednesdays.

If the class planted seeds indoors and the seedlings have come up under grow lights, they first need to be "hardened off" for several days by taking them outside each day for 2-6 hours to a spot that isn't too sunny or windy and won't be trampled by students.

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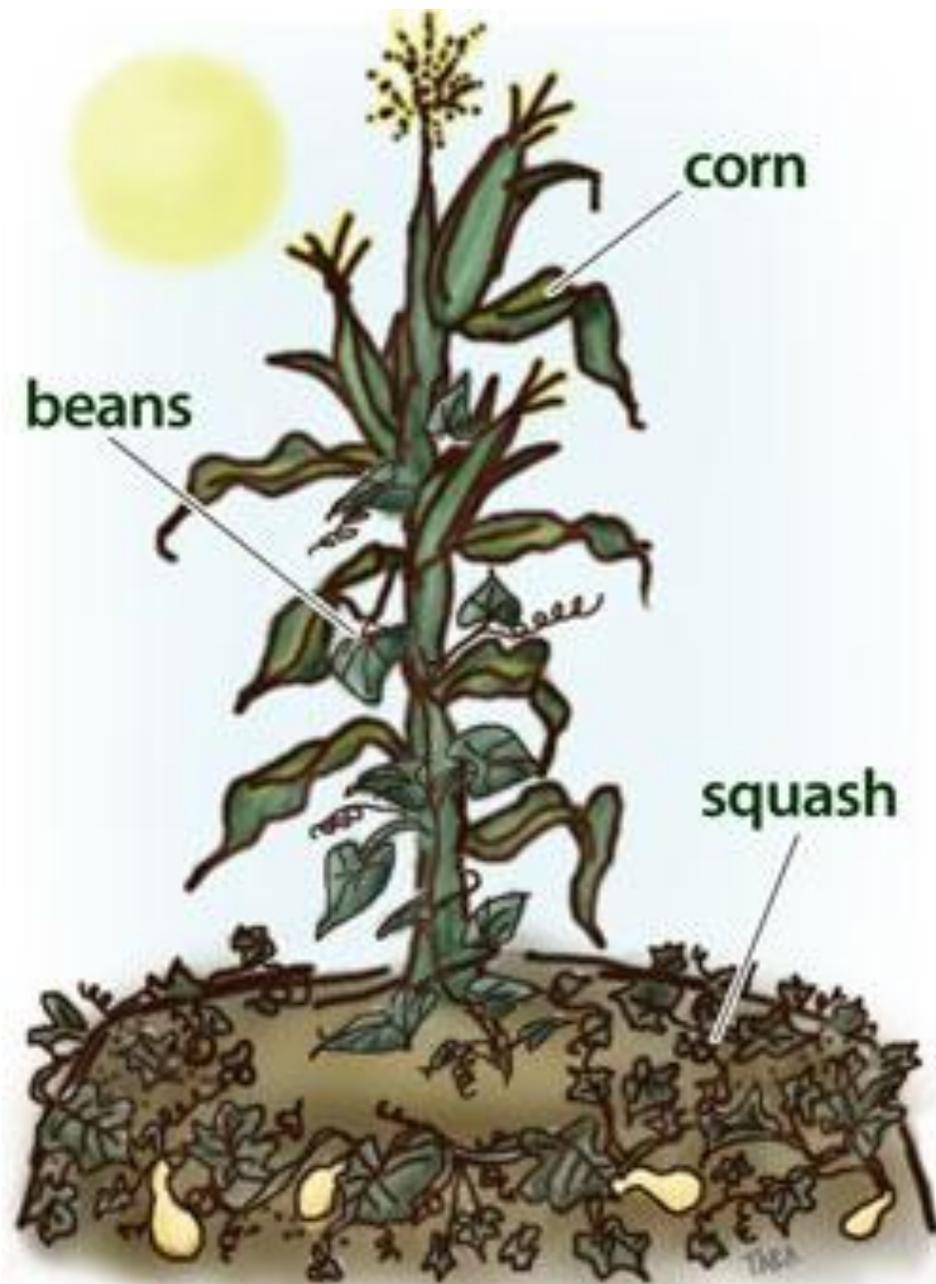
For planting seedlings into the garden mid to late May: In class, review the symbiotic relationship and how the plants help each other grow. Talk about the parts of the plant and nutrition. Lead 4 small groups per class; one group to create the mounds, one group per plant type, into the garden. Plant corn near the top, then beans midslope, and squash around the outside. Water the seedlings. Be vigilant against squash bugs. They have taken out our squash 2010 and 2011.

Notes: Since we had the plants from the FFA in 2013, I made the mounds ahead of time and took the class out in groups of 8. In the first 2 groups, they got with a partner and one dug the hole and one got the plant ready and planted it. The third group each student planted a squash seed. In 2012, I took the class out in 4 groups of 6: one group made the mound, and then each of the other groups planted one of the 3 kinds of seeds.

Seeds PowerPoint - This slide show can be shown by the classroom teacher before the garden coordinator visits the classroom and can also be used by the coordinator during the lesson.



Garden Lesson Template



Direct-Sow, Easy-to-Grow:
The Ancient *Three Sisters* Method

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Garden Lesson Template

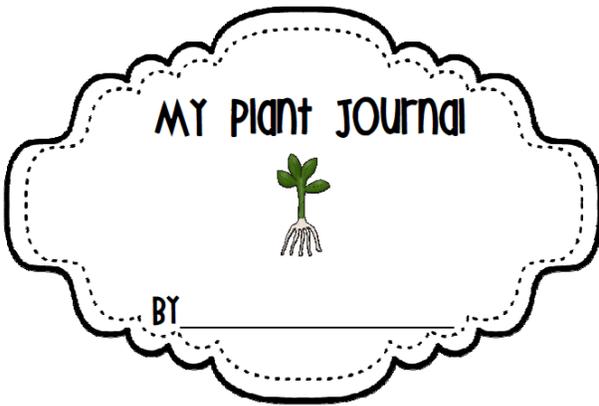


Garden Lesson Template

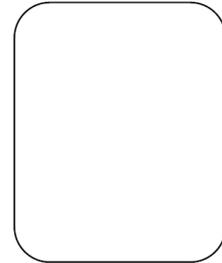


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Observing plant growth: Use science journals or journal templates for students to record their observations of plant growth. See How to Plant Seeds Poster and Journal,* Plant Observation Book,* Seed Observation Journal,* and Observing Seeds Worksheet.*



Date _____



My Plant



Observation Book

By _____

Courtesy Bartlett

Swimming into Second

Day One

Today, I planted a _____

I put _____ and _____ into my cup.

I predict my plant will look like this.

Day _____

My observations:

Courtesy Bartlett

Swimming into Second

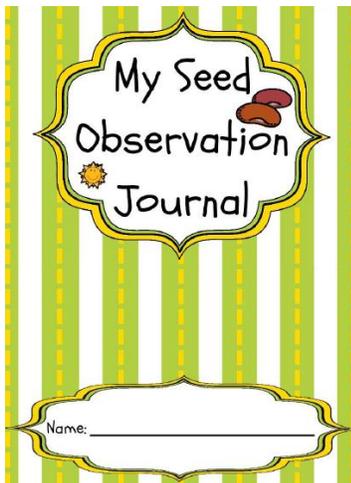
What did you learn about plants?

What 3 things does a plant need to survive?

- (1) _____
- (2) _____
- (3) _____

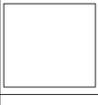
Courtesy Bartlett

Swimming into Second



My Seed Observation Journal

Name: _____

Date:	Sun Only 	Water and Sunlight 	Water Only 
_____			
_____			
_____			

Name: _____ Date: _____ # _____

Observing Seeds

Directions: Look at the different seeds. Then fill in the chart below.

	Shape Draw the seed.	Color Write the color.	Texture Rough, hard, smooth	Size Smaller than, the same size, or larger than a quarter.
Seed Sample A				
Seed Sample B				
Seed Sample C				
Seed Sample D				
Seed Sample E				
Seed Sample F				

Challenge yourself! Divide your seeds into at least two different groups. Tell your partner why you grouped the seeds as you did.

Garden Lesson Template

Standards addressed:

CCSS.ELA-Literacy.W.1.2 Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.

CCSS.ELA-Literacy.W.1.3 Write narratives in which they recount two or more appropriately sequenced events include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.

Writing: Use the writing templates* for your students to share their experience of planting.

narrative writing template

First:

Second:

Last:

Closure:

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Name: _____

How to Plant a Seed
What are the steps to plant a seed?

 First

 Next

 Then,

 Last





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informational writing

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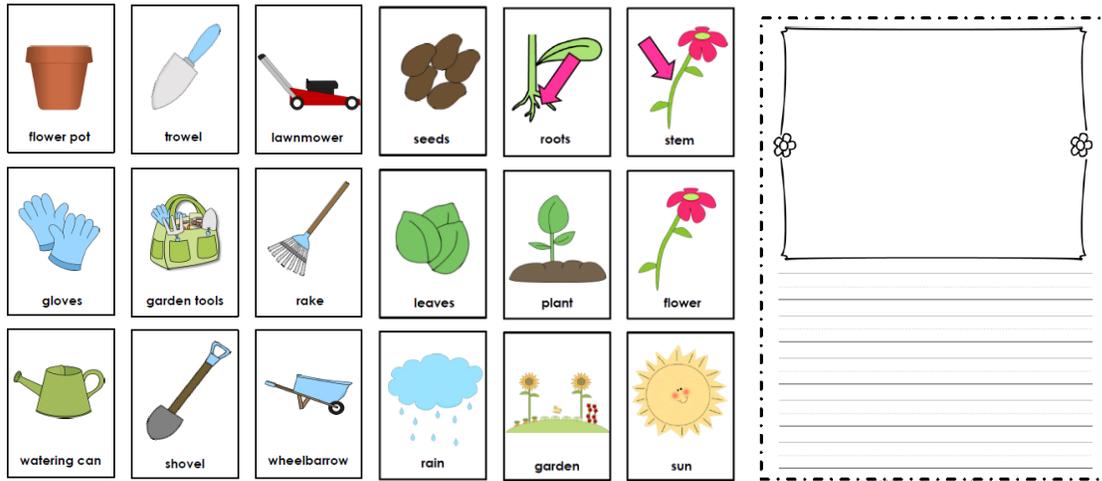
informational writing



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Garden Lesson Template

See *Plant a Garden Science and Writing*,* which includes word cards and a writing template.

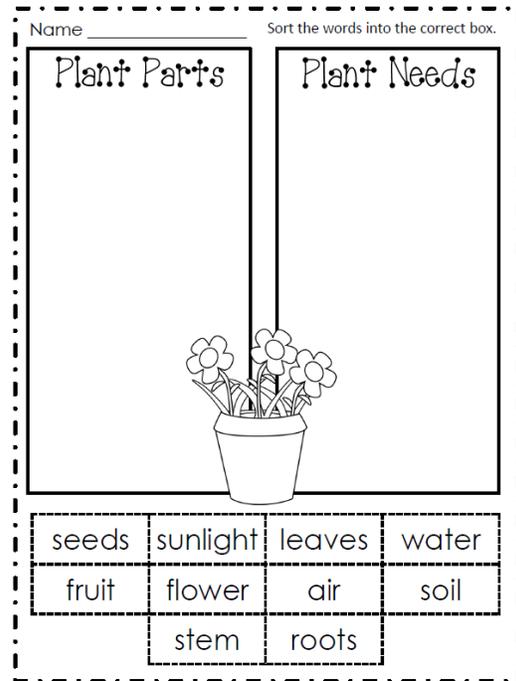
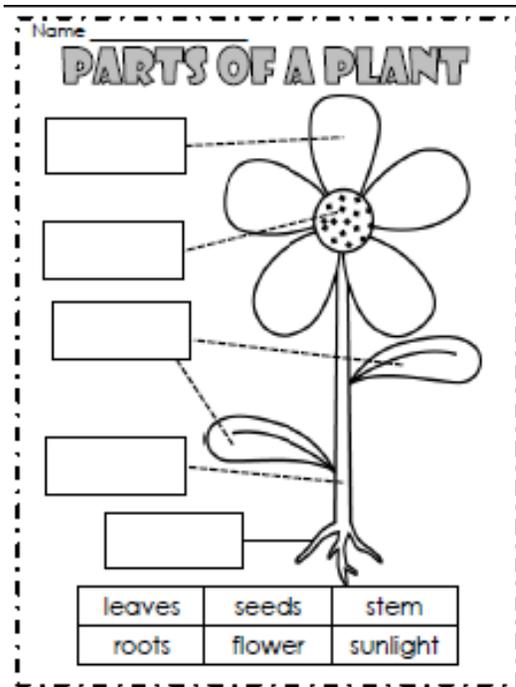


Standards addressed:

EALR 4 LS1: Life Science. Structures and Functions of Living Organisms: *Plant and Animal Parts*

Students learn that all living things have basic needs, and they meet those needs in various ways. Just as humans have external body parts that perform different functions to meet their needs, animals and plants also have body parts that perform different functions to meet their needs. A magnifier is a tool that reveals further details of plant and animal parts that are not easily seen with the unaided eye. Learning about the diverse needs of plants and animals and the various ways they meet their needs will help to prepare students to understand more detailed structures beginning at the 2-3 grade band.

See *Plant a Garden Science and Writing**, which includes templates for parts of a plant and plant needs.



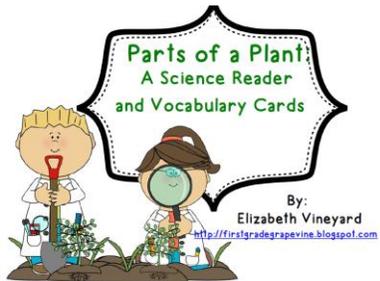
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Standards addressed:

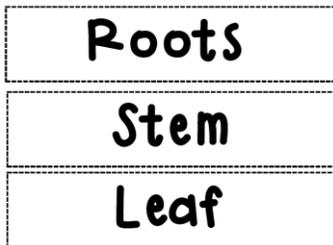
CCSS.ELA-Literacy.RI.1.4 Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.

CCSS.ELA-Literacy.RI.1.10 With prompting and support, read informational texts appropriately complex for grade 1.

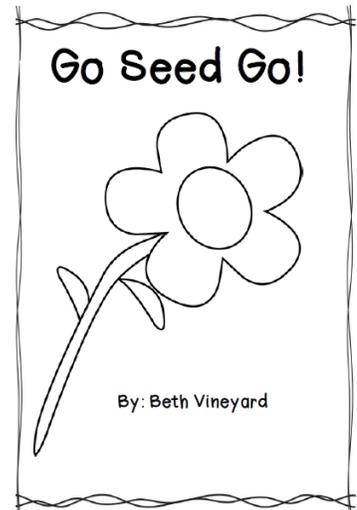
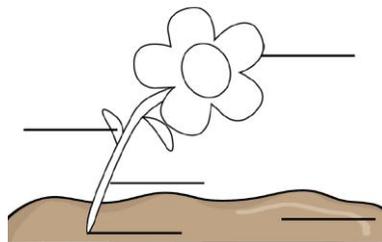
Parts of a Plant: Use Parts of a Plant: A Science Reader and Vocabulary Cards*



Classroom Bulletin Idea!



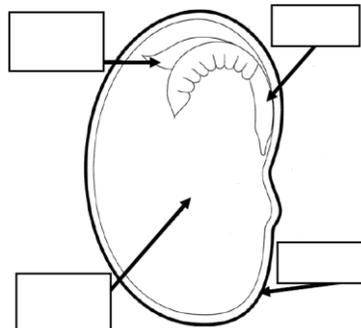
Parts of a Flowering Plant



Label Parts of a Seed*

Scientist: _____

Parts of a Seed



Word Bank

seed coat root leaves food

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Seed Plant Matching Cards*

Instructions: Seed & Plant Matching Cards

1. Prepare all of the cards.
2. Learn the names of the seeds and the plants.

3. Make a second set of cards & cut the labels off. Read the labels, match to the correct picture.
4. Match the seeds/pictures to the plant pictures & then add the correct labels. Use the set of pictures with the labels as Control Cards to check your work.

[Learn how to prepare 3-part cards.](#)

[Learn how to use 3-part cards \(Classified Cards\)](#)

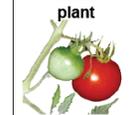
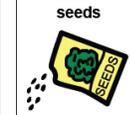
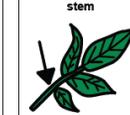
		
sunflower seeds	pumpkin seeds	sesame seeds
		
sunflower plant	pumpkin plant	sesame plant

©2014 Seed Plant Matching Cards

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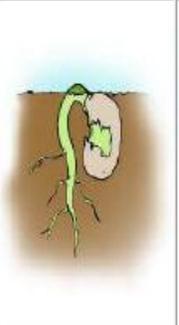
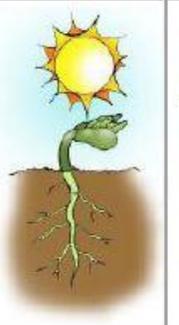
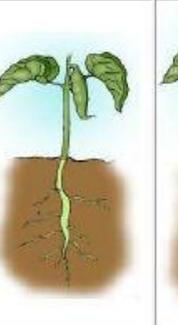
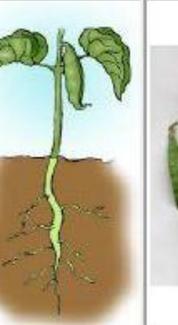
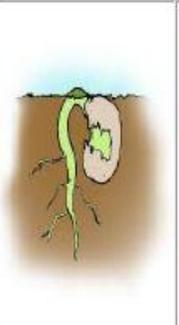
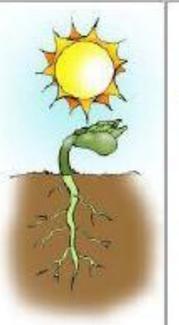
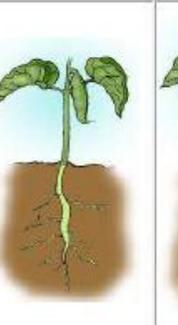
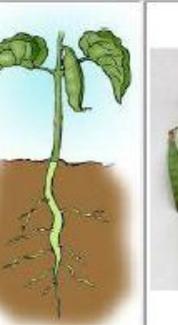
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Plant Life Cycle Picture Sequence*

one 1	two 2	three 3	four 4
			

Seed to Bean*

christianhomeschoolhub.spruz.com

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Standards addressed:

CCSS.ELA-Literacy.RL.1.10 With prompting and support, read prose and poetry of appropriate complexity for grade 1.

Poetry/Song: Plant Seed Song* and Planting Seeds Poem Freebie* and Seed Song*

Little Plant Seed

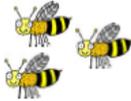
(to the tune of I'm A Little Teapot)
Lyrics written by: Janai West



I'm a little plant seed
in the ground
Here are the roots
that hold me down

When I get all warmed up
See me sprout
Pop!

My stem comes pushing out.



I'm a flower
in the ground
Bees are buzzing
all around



When a bee lands on me,
it feels funny
Yay!
The bees made lots of honey!



Little Plant Seed (with motions)

(to the tune of I'm A Little Teapot)
Lyrics written by: Janai West

I'm a little plant seed
in the ground
Here are the roots
that hold me down

Student crouches on ground and hugs knees.

Use both hands to point all fingers down towards the ground

When I get all warmed up
See me sprout
Pop!

Hug body and look up at the "sun".

My stem comes pushing out.

Jump up with hands pointing to the sky like a stem.

I'm a little flower
in the ground
Bees are buzzing
all around

Hands on hips with elbows pointing out like leaves.
Point to self or flower hat.
Pretend to look at bees buzzing by.

When a bee lands on me,
it feels funny
Yay!
The bees made lots of honey!

Pretend a bee lands on your nose or shoulder (can cross eyes for added effect).

Both hands into the air when yelling "Yay!".

