

- **Discover! Play! Share! Using Play to Build Early Literacy and STEM Skills with Families**

Saturday, September 29,  
2018: 11:15 AM-12:30 PM



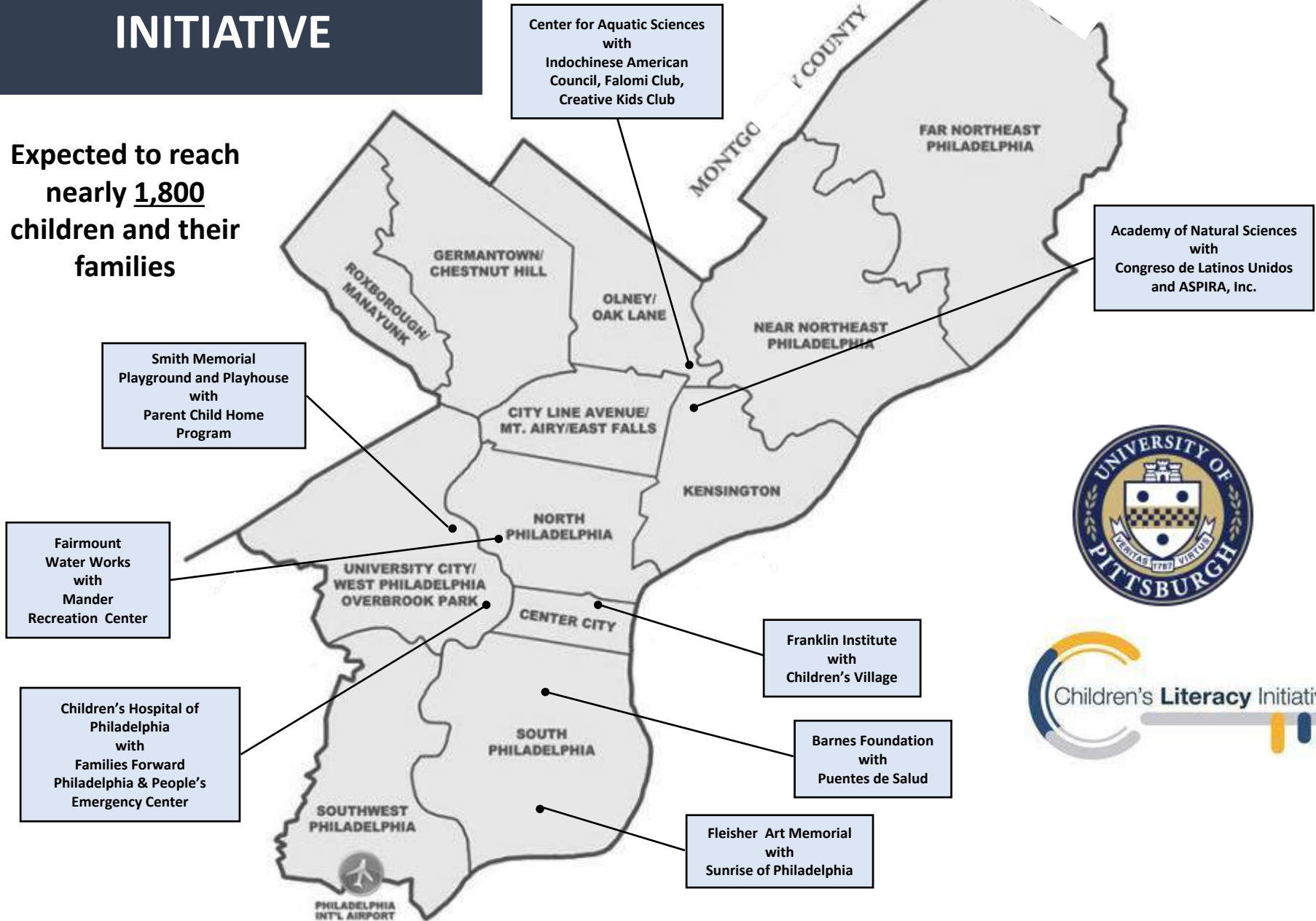
*Discover! Play! Share! and  
NaturePlayShare!  
Using play to build early literacy  
and STEM skills with families.*

A S T C   A n n u a l   C o n f e r e n c e  
S a t u r d a y   S e p t e m b e r   2 9 ,   2 0 1 8



# INFORMAL LEARNING INITIATIVE

Expected to reach nearly **1,800** children and their families



# PARTNERS

## Discover, Play, Share



## Everyday Literacy



## Family Science Storytime



## Nature, Play, Read



## Our Stories



## Puentes a las Artes/ Bridges to the Arts



## The Watershed is an Open Book



## Young Chef's Community Literacy





# NATUREPLAYSHARE!

A partnership of Indochinese American Council, Falomi Club, Creative Kids Club and the Center for Aquatic Sciences.

Serving families in the Olney and Logan neighborhoods of North Philadelphia.

Families are engaged through a variety of experiences:

- Museum Days
- Community-based workshops at local centers
- 4-session Family literacy workshop series

Goals: improved child interest, ability, and engagement with literacy and improved caregiver attitudes, knowledge, and skills about literacy.

Angela Wenger, EVP & COO, Center for Aquatic Sciences [awenger@aquaticsciences.org](mailto:awenger@aquaticsciences.org)





Science  
and Literacy  
for Success

# Discover! Play! Share!



A partnership of ASPIRA, Congreso de Latinos Unidos, and the Academy of Natural Sciences of Drexel University  
Serving families in the North Philadelphia, including  
Hunting Park, Kensington, and Olney.

A dramatic play program incorporating literacy and natural  
sciences.

Engaging at least 160 children and 80 families in North  
Philadelphia through literacy workshops and community  
workshops.

Training community ambassadors to help deliver programs.



# Overview for Session

- 10 minutes –Introduction to initiative and individual projects.
- Four rounds of 15 minutes at each table
  - Table 1: Curriculum activities STEM and Early Literacy
  - Table 2: Funding and vision for city-wide initiatives
  - Table 3: Establishing and sustaining partnerships
  - Table 4: Curriculum activities for non-English speaking and immigrant families.
- 5 minutes for questions and wrap up.





# NATUREPLAYSHARE!

## Center for Aquatic Sciences at Adventure Aquarium AN ANNOTATED PHOTO GALLERY

This year's project, through the combined efforts of Center for Aquatic Sciences, Creative Kids Club, Falomi Club and Indochinese American Council personnel, tackled some very ambitious goals...

**Families enjoyed opportunities to participated in an array of experiences, all designed to:**

**... engage them in explorations of scientific phenomena encountered, but perhaps not noticed, in their everyday lives.**





... help them look at things carefully for details, changes, behaviors, characteristics, similarities and differences.



Have YOU ever seen banana seeds?



... inspire a deep love of sharing books and reading together.

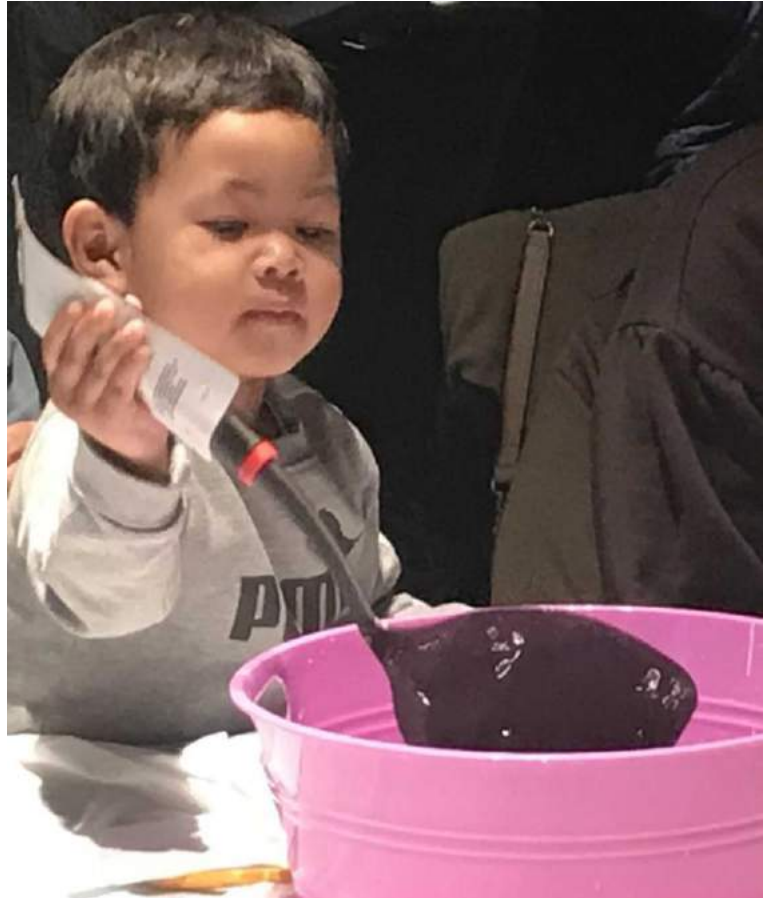
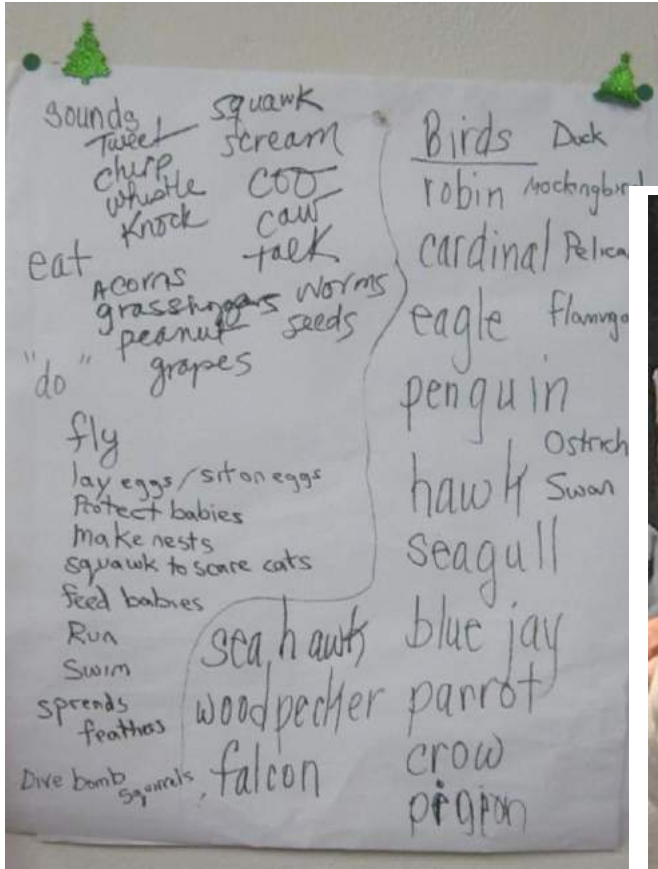




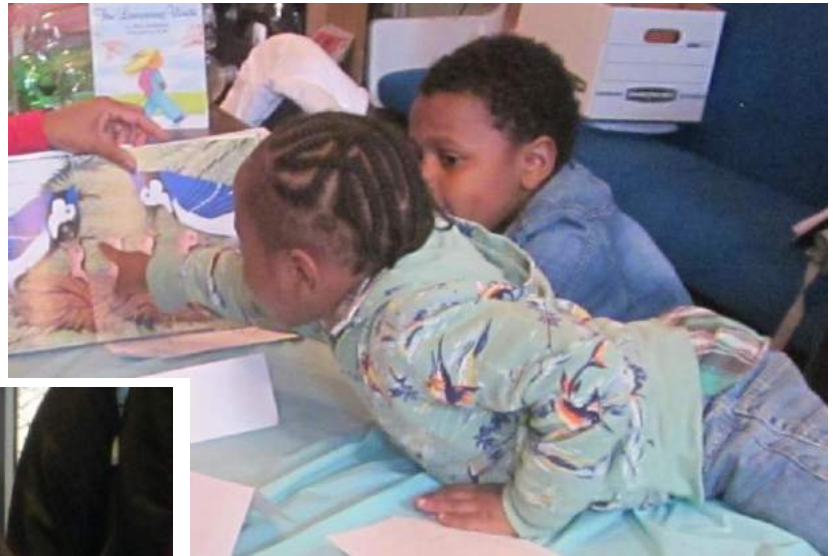
... introduce new worlds.



... connect new ideas to prior knowledge.



... engage participants in rich learning talk; encouraging them to offer details, reasoning and evidence as a regular part of conversation.



... inspire them to value clear communication;  
drawing what is actually there,  
recording observations and thoughts,  
and labeling all samples.



... model dramatic play and active learning.



... foster both a strong urge and the strategies to follow up at home on ideas, phenomena and questions that pique their curiosity.





... build and contribute to a community of curious, open-minded learners eager to share ideas.



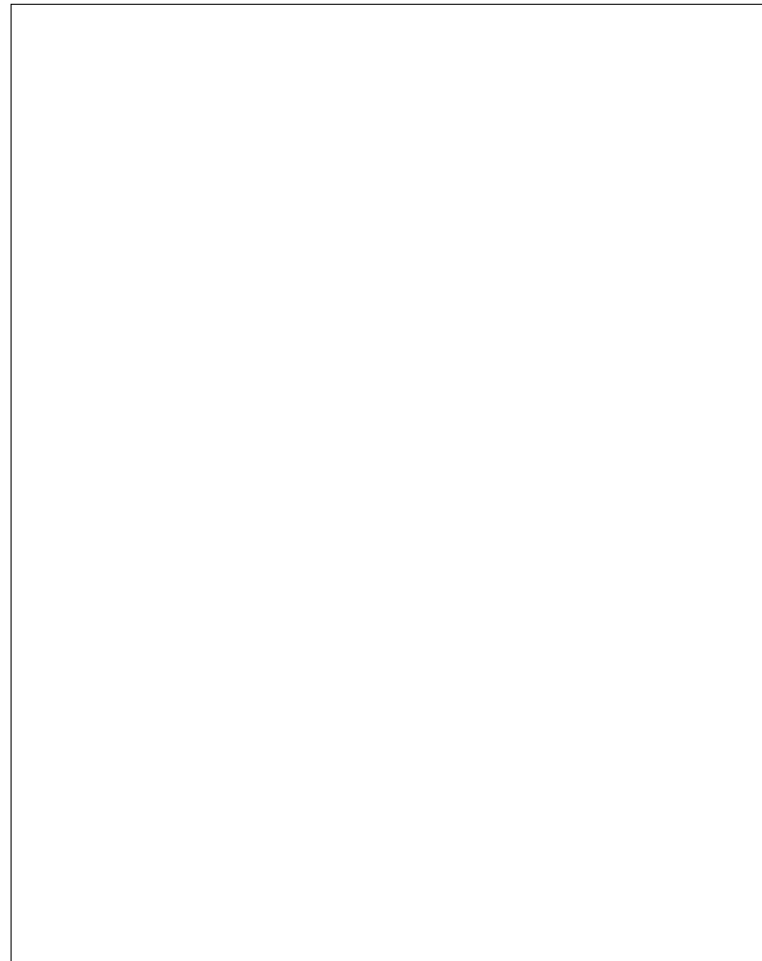
... and plant the seeds of a cherished home library.



Dioramas have all the ingredients for a perfect story!

## The Most Amazing Story Ever Told

Pick your favorite diorama in the museum and make up a story about what is happening behind the glass. Talk about the characters and the setting for your story. Then create a drawing below that can be used as the cover of your story.



Don't forget to write your name as the author and illustrator!

## Marty's Moose Spoofs

**Q:**What do bees use to brush their hair?

**A:** Honeycombs

**Q:** Why should you never invite a Tyrannosaur into your room?

**A:** It "rex" the place.

**Q:** How do you know a Stegosaurus is always ready to eat?

**A:** It carries its own plates around.

**Q:** Where do whales go to hear beautiful music?

**A:** The Orca-stra.

**Q:** Why do Polar Bears have fur coats?

**A:** Because they'd look silly in a snowsuit.

**Q:** What do frogs eat in the summer?

**A:** "Hop"sicles.

**Q:** What's a snake's favorite subject?

**A:**"Hiss"tory.

## Lost Letters

Marty knocked some letters off signs throughout the museum. Help him figure out the missing letters!

Out \_\_ ide l \_\_

The Bi \_\_ \_\_ ig

\_\_ utter \_\_ lies!

Din \_\_ saur \_\_ all

For information on upcoming programs, events, and exhibits at the Academy, please visit our website at [ansp.org](http://ansp.org).

Connect with us online!

@AcadNatSci

#AcademyofNaturalSciences



# MARTY'S MOOSE-EUM GUIDE

Rhymes, Riddles, and Reading for families with kids ages 3-8

Visit the Academy Shop to pick up Marty's monthly Book Club choice.

Each book comes with a unique guide to keep your whole family learning and laughing together.



Color Marty and his favorite stories!



The Academy of Natural Sciences  
of DREXEL UNIVERSITY



## Grown-ups Corner

Playing with language and letters is a great way to get kids excited about reading even before they're able to decipher the words on a page. Recognizing the sounds letters make, learning how words are built from letters, and connecting meaning to text are skills you can support at home.

The same skills your child uses to be a great scientist also can make them a great reader. Help your child make observations about the written word, experiment with the sounds different letters make, and problem solve spelling.

*Use this guide to help your family tell more stories, learn about letters, explore the wonderful world of words, and have fun together all while learning more about your natural world at the Academy of Natural Sciences.*

## FUN WITH WORDS

### Can you name this Cretaceous critter?



*I'm 25 feet long, but in Dino Hall, my skull is all you see. I have massive horns. Count them: one, two, three! No meat for me, please. I eat lots of leafy crops. With my beak and grinding teeth, I'm a \_\_\_\_\_!*

Answer: Triceratops

### Rhyme Time

*How many words can you think of that rhyme with some of Marty's favorite words?*

Moose Book Brown Pun

### Animal Alphabet

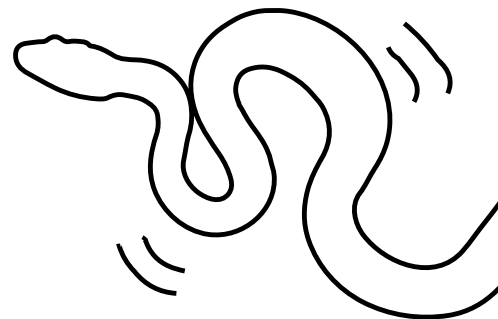
*Can you name an animal for every letter in your name?*

ABC

### Words on the Move

Can you slither like a snake? Head up to the third level and use your body to act out the animal action words on the wall leading to Outside In.

*What other animal action words can you think of?*



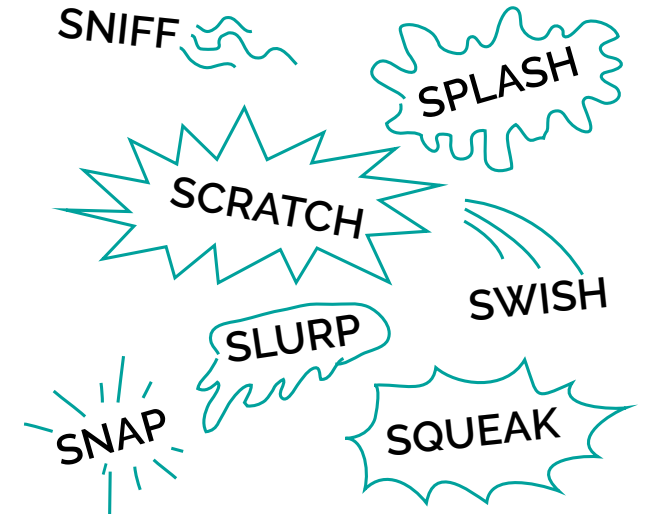
## Compound Word Scramble

Two words can be put together to form a new word with a new meaning, called a compound word. Match a word from the first column with a word from the second column to create compound words.

grass	snake
bee	bone
cup	fly
rattle	hopper
back	hive
butter	cake

## Oh, Onomatopoeias!

Onomatopoeias are words that imitate a sound. Visit a diorama hall and see if you can find a diorama where you might hear any of these outstanding onomatopoeias!



## Word Wiggles

Marty loves to play with words. He loves to wiggle letters in and out to make new words.

*"A loon is a bird."*

*Can you change one letter in the word loon to spell the name of a big cat?*

*Hint: You can see this big cat in African Hall!*

\_\_\_\_\_

*"A pear is a fruit."*

*Can you change one letter in the word pear to spell the name of an animal in North American Hall?*

*Hint: This animal appears in three dioramas!*

\_\_\_\_\_



Answers: Lion, Bear

*Compost Stew: An A to Z Recipe for the Earth* by Mary McKenna Sidal

### Read Together

Use these question suggestions to enhance your classroom read-aloud. These questions are designed to not only help your class think about the book and the science presented, but also to make personal connections to the story and have fun!

**Text:** *Environmental chefs, here's a recipe for you to fix from scratch to mix a batch of Compost Stew.*

- **Questions:** Is the girl dressed like a chef? Would you use the tool she's holding to cook? What is your favorite recipe?

**Concepts:** Composting is a great way to recycle organic trash and make it into the perfect fertilizer for plants. When compost is added to the soil of plants, it adds much needed nitrogen, potassium and phosphorus which helps the plants to grow.

**Text:** *Apple cores, bananas bruised, coffee grounds with filters, used.*

- **Questions:** What do you do with things like apple cores and banana peels? Do you like eating apples and bananas? Are they good for you?

**Concepts:** An essential part of composting is choosing the right kinds of "trash" to add. Vegetable tops and fruit peels, tea bags, coffee grounds, and eggshells are excellent additions to compost. These things break down relatively quickly into the perfect nutrients for plants. When you compost these things not only are you recycling them into fertilizer, you are reducing the amount of trash you send to a landfill. Avoid putting things like meat or cheese in your compost. These things can add harmful bacteria or mold to the mix and should still end up in the trash can.

**Text:** *Just add it to the pot and let it all rot into Compost Stew.*

- **Questions:** Can you find the ingredients from the earlier pages on this page? Would you eat this stew? Who would "eat" this stew?

**Concepts:** Bacteria, fungi and protozoans now go to the work on the nutritious trash in the compost bin. By controlling the things that go into compost and controlling the environment (more on that later!) you can control the rot! We usually think "rotting" is a bad thing, but when this rotting is done with the help of the right organisms with the right food, rotting can lead to the perfect fertilizer for plants.

**Text:** *Wiggly worms with compost cravings*

- **Questions:** What are some words you can use to describe worms? What other animals do you see on these pages?

**Concepts:** Other organisms other than bacteria and fungi can play an important role in composting. Poop from some plant-eating animals like cows and chickens can be safely added to compost. (*Never add waste from dogs, cats, or humans to your compost because they can introduce harmful viruses and bacteria.*) Worms are the superheros of composting! They munch on the scraps and break them down even faster than bacteria alone. Then, they do what all animals do after they eat- poop! Their waste is filled with all the great nutrients plants need to grow. Composting with worms is called vermicomposting.

**Text:** *Moisten. Toss Lightly. Cover. Let brew.*

- **Questions:** What tools are the children using to add water and mix the compost? What does the symbol on the barrel mean?

**Concepts:** Compost needs three more important things to be successful: water, air, and heat. Compost should be kept damp (not soggy), turned or tossed every day to allow air to get to the bacteria that need it, and covered to keep the heat that is produced when the scraps break down in to keep the decomposing happening! It also keeps critters like raccoons or rats from eating your Compost Stew ingredients!



### Marty's Joke Corner

What is the coolest vegetable in the garden?

A rad-ish.

What type of computers can worms fix?

Apples!

Why are recycling bins so optimistic?

They are cans, not *cannots*!

# Marty's Book Club

## Science Center

Add these simple activities to your existing classroom science center to encourage even more connections with the story. Have fun, experiment, and make messes!

- **Fruit and Veggie Art**

Before you toss those fruit and vegetable leftovers in the compost bin, use them to make art. Some fruits and veggies can be crushed with a little vinegar to make beautiful inks to paint with. Spinach, red cabbage, and raspberries work very well, but experiment with whatever is left after you make a meal. Dip stems, cores and strips of veggies and fruits into water-based, nontoxic paint and stamp on paper for a completely unique piece of art!

- **Compost Stew Sensory Experiences**

Many of the "ingredients" mentioned in the book can be added to a science center for sensory exploration. Add dehydrated seaweed sheets, dried flowers, unused tea bags and coffee grounds, and uncooked oatmeal. Encourage students to make observations of the ingredients dried, then allow them to experiment with adding cold and warm water to the ingredients. What happened to them?

## STEAM Extension Activities

Explore the story throughout your day with these quick activities. These suggestions are designed to be easily added to your existing literacy, math, gross motor, and art curriculum.

- **Recycled Collage**

Use the illustrations in Compost Stew as inspiration for your own recycled collage. Tear, cut, fold and glue paper, newspapers, clean food wrappers, cloth, seed packets, and anything else you might otherwise throw away to make a beautiful collage. Make a collage about all the ways your family can recycle!

- **Waste-free feast**

As a class, prepare a meal that is 100% waste-free. Use the ingredients in the story to plan your menu and consider the ways you will prepare and serve your meal. You could make a fruit salad, fresh squeezed orange juice, and coffee or tea (for the teachers!). Use reusable plates, bowls, forks and spoons-don't forget reusable cloth napkins! Make sure you add all the eggshells, veggie tops, fruit peels, and coffee grounds make it into your compost pile!

- **Compost at Home and at School**

Start your own compost bin or pile. You can start as small as your space will allow- an old plastic coffee can, or rubberized bin is a great start if you don't have a lot of space. Add worms for faster composting and a fascinating (and helpful) new colony of class pets to observe and learn from. For advice on starting your own compost pile see our additional resources below and talk to the experts at your local garden center or hardware store. Then, of course, use your nutrient-rich compost to start your own garden!

## Additional Resources

- ***Wonderful Worms*** by Linda Glaser
- ***Wiggling Worms at Work*** by Wendy Pfeffer
- **HGTV Composting 101:**<https://www.hgtv.com/outdoors/gardens/planting-and-maintenance/composting-101-turn-trash-into-garden-treasure>
- **New York State Department of Environmental Conservation:** [https://www.dec.ny.gov/docs/materials\\_minerals\\_pdf/compost.pdf](https://www.dec.ny.gov/docs/materials_minerals_pdf/compost.pdf)

## Standards

- **Pa Standards:** PA 3.1 A1, A5, C2, C3; PA 3.3 A1, A3; PA 4.1 D
- **NGSS Standards:** NGSS LS1, LS2, LS4