

Activity Guide

STEM & Literacy Ideas for
Schools, Libraries,
Makerspaces, & Home

ABOUT MAXINE AND THE GREATEST GARDEN EVER



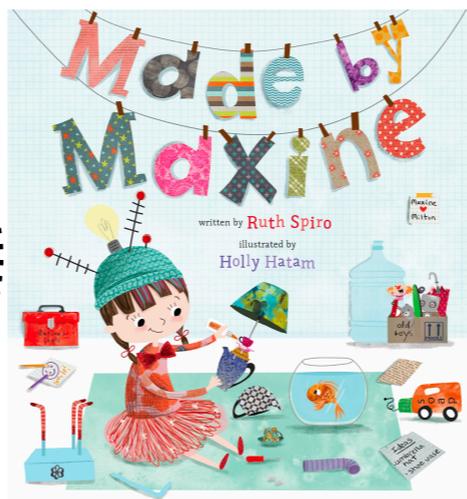
Best friends Maxine and Leo combine their maker and artistic skills to create (and save!) the ultimate garden in this empowering, STEM-focused picture book.

After sketching and plotting and planting, Maxine and Leo know they've made The Greatest Garden Ever! But they're not the only ones who think so. Soon, all sorts of animals make their way in, munching on carrots and knocking over pots. When Leo and Maxine can't agree on a way to get rid of these unwelcome critters, it looks like there's more on the line than saving their garden--they just might need to save their friendship too.

Kirkus Reviews

"Kids will enjoy the quirky visuals while appreciating the creative relationship of these two companions. Detailed, animated, vibrant drawings accentuate the drama and neatly depict the concluding message that celebrates compromise."

Have you met Maxine? She's an inspiring young maker who knows that with enough effort and imagination, it's possible to invent anything.



School Library Journal

"A fun and uplifting picture book for all libraries that encourages children to engage with STEM concepts."

"It takes a long time to grow a garden, but even longer to grow a friend."

DISCUSSION POINTS

Before Reading

- Take a close look at the book's cover and make a prediction about the story. What clues did you use to make the prediction?
- If you read the first book, how does that knowledge help you predict what this book will be about?
- Discuss the roles of the author and illustrator.
- Discuss the text type. Review the differences between literature and informational.



Common Core Standards These activities correlate to ELA Reading Standards for Literature: Craft and Structure RL.K.6 and RL.K-1.5.

During Reading

- Discuss potential meanings of new vocabulary words (i.e. inspiration, hitched).
- Focus on the illustrations and discuss how they contribute to the storyline (i.e. showing what is happening to the garden, shows how Maxine and Leo feel).
- Discuss the point of view from which the story is being told. How do you know?
- Stop periodically while reading to make predictions about what will happen next.

Common Core Standards These activities correlate to ELA Reading Standards for Literature: Integration of Knowledge and Ideas RL.K-3.7, Literature: Craft and Structure RL.1-2.6 and RL.3.4, and Language: Vocabulary Acquisition and Use L.K-3.4.

After Reading

- What do you think is the central message that the author is trying to communicate?
- How are Leo and Maxine similar? How are they different? How do you know?
- Discuss Maxine's and Leo's character traits. What do you know about them? What happened in the story to tell you this?
- Retell the story to a classmate using the key details.
- As a group, create a story map of the events in the book.



Common Core Standards These activities correlate to ELA Reading Standards for Literature: Key Ideas and Details RL.K-3.1, RL.K-3.2, and RL.K-3.3.

LITERACY ACTIVITIES

Grammar Review nouns, verbs, and adjectives with the class. Engage the class in a grammar hunt for them in the story. Depending on student readiness, pick one to focus on at a time. Complete the activity whole class using a document camera or copy specific pages for students to use independently or in groups. Extend the activity by using the words they found in new sentences. Students can also draw a picture to illustrate the meaning of the words.

Language The suffix “-ed” appears numerous times throughout the story as Maxine and Leo continue to try and protect their garden. Point out some of these words as you read. Engage students in a discussion about what “-ed” might mean. Discuss the meaning of the root word, how “-ed” changes it, and the meaning of past tense. Extend the activity by creating a list of other words students know that use the same suffix. Activity options: Using a word (or more) from the list, compare the root word to the past tense version and draw a picture, write a sentence, or write a short story or paragraph to demonstrate understanding of the two. Other prefixes and suffixes that occur frequently are “-ing” and “re-.”

Narrative Writing Discuss the importance of saying “I’m sorry.” Ask students to write about a time they got in an argument with a friend or family member. How did the argument end? Was the problem solved?

Narrative Writing Discuss point of view. Have students tell the story from Leo’s perspective.

Opinion Writing Introduce the concept of opinion writing and have students write an opinion piece in response to the story. Prompt ideas: What was your favorite moment and why? Who was your favorite character and why? What does it mean to be a good friend?

Common Core Standards These literacy activities correlate to ELA Standards for Writing: Text Types and Purposes W.K-3.1 and W.K-3.3, Language: Vocabulary Acquisition and Use L.1-3.4, and Reading Standards for Foundational Skills: Phonics and Word Recognition RF.3.3.A.



SEL CONNECTIONS

SOCIAL EMOTIONAL LEARNING

Maxine and Leo show us how to navigate friendships.

Discussion Questions

- How does Maxine treat Milton? How about Leo?
- In what ways are Maxine and Leo similar? In what ways are they different? How does this affect their friendship? Discuss the meaning of compromise.
- Why was it important that Maxine and Leo both admitted they were wrong? What does this show us about friendship?
- Think about Maxine and Leo's friendship. What are some things friends do? What shouldn't they do?

Extension Activities

- As a whole class, in small groups, or in pairs discuss how to handle conflicts in friendships. Given a scenario, how would you respond? Example scenarios: a friend said something mean, you and a friend disagree, your friend wants to play with someone else.
- Discuss what is important in friendships and how our actions can impact others. As a class, create a paper chain about friendship. On each strip, students will write or draw a friendship rule. Hang the finished product in the classroom as a reminder of what it means to be a good friend.

Maxine and Leo show us to have a growth mindset.

Discussion Questions

- What did Maxine and Leo do when the animals ate their plants?
- Did their scarecrow solve the problem? What happened?
- How did Maxine and Leo's plans for their garden change throughout the story? Was it easy or difficult for them to adjust their plans to accommodate the animals?

Extension Activities

- Have students write about a time that they tried something and it didn't work out as planned. Did they give up or try again? How did it work out then?
- Ask students to think of something they used to be unable to do (ex: ride a bike). Have them draw pictures of the steps they took to learn how to do it and a picture of them doing it now. Share with the class!
- Maxine and Leo had a goal of creating the greatest garden. It took a few tries to get there. Ask students to set a goal for themselves and write out steps they can take to achieve it.

Maxine and Leo show us to be kind to everyone, including animals.

Discussion Questions

- Why did Maxine and Leo change their minds and redesign their garden?
- How does Maxine treat Milton? How does this influence the way she treats the animals in the garden?
- How do Maxine and Leo treat each other?

Extension Activities

- As a class, discuss the importance of being kind. What does it mean to be kind? Make a list of kind and unkind behaviors. Who should we be kind to? Who has been kind to you?
- Complete a kindness challenge as a class. Challenge everyone to complete acts of kindness. When a student sees someone else doing something kind, they can write it down on a piece of paper and submit it to a kindness box. Read through these periodically as a group.

STEM IDEAS

SCIENCE - TECHNOLOGY - ENGINEERING - MATH

E Build a Scarecrow Have students design and build their own scarecrow to protect the garden using a variety of materials.

Material Ideas: blocks, legos, tape, cardboard, paper, glue, rubber bands

S Plants and Animals Maxine and Leo plant seeds in their garden. Discuss how Maxine and Leo take care of their plants. What do they need to grow? Engage students in an investigation about this. Plant seeds in soil and have a few different options: near or away from a window (or shade if outside), water often or not. Observe and record the results of this investigation and relate them back to the discussion. In younger grades, extend this discussion to what the animals (and humans) from the story need to survive as well.



E Protect A Garden Students can work independently or in groups to design and then build another way Maxine and Leo could protect their garden.

Material Ideas: blocks, legos, tape, snap cubes, cardboard, paper, glue, rubber bands

M Geometry Use pattern blocks to design a scarecrow, garden, or other item from the story. Students can identify the different shapes they are using to create their design. To extend, students can organize this information into a grade-appropriate graph.

M Problem Solving Use characters from the story to create a math word problem. Students can present to the class for their classmates to solve.

Example: If Maxine and Leo had ten seeds and they planted four, how many more do they still need to plant?

M Graphing Take a class survey of students' favorite fruits and vegetables. Have students help organize the data in a grade-appropriate graph. Engage students in a discussion to ask and answer questions regarding the graph and data.

T Coding Maxine used coding to help create their too-scary scarecrow. Students can also practice coding using websites that focus on coding for kids and hands-on coding activities.

Suggested Websites: Codakid, Kodable, Scratch, Codeacademy, Code Monster

High Tech Coding Practice: Bee Bot, Wonder Workshop Dash Robot, Osmo Coding, Bitsbox

Extending STEM

Encourage questioning. Do the designs solve the given problem? Which designs perform the task better? How so? How can students improve on their own designs?



Common Core Standards These activities correlate to Math Standards for Geometry: Reason with Shapes and Their Attributes 1.GA.2, Measurement and Data: Represent and Interpret Data 1.MD.C.4, 2.MD.D.10, and 3.MD.B.3, and Operations and Algebraic Thinking 1.OA.A.1-2, 2.OA.A.1, and 3.OA.D.8.

Next Generation Science Standards These activities correlate to Engineering and Design K-2-ETS1-1-2, Life Science K-LS1-1 and 2-LS2-1.

THE GREATEST GARDEN IDEAS

Plant a Garden

Choose a location (outdoors, cups on windowsill, etc.) As a class, brainstorm ideas for plants and then research which would be best suited to the available space and environment. Engage students in planting seeds and caring for them. As the plants grow, have students document their observations using journal entries, drawings, or photos.

Animals in the Garden

Maxine and Leo designed their garden for animals to come. How can you design yours for animals? Are there specific plants to include? What do certain animals look for in an environment? For example, birds look for food and shelter, thus birdhouses will attract birds.



Plant Investigations

These can be independent or group research projects, discussions, and even experiments!

Can We Use Them?

Investigate a few different plants to determine if they are useful to humans. Are they edible? Do they have medicinal uses? Do they help clean the air?

What Do Animals Eat?

Discuss how some plants attract specific animals. For example, milkweed attracts butterflies. How does this influence where animals live?

How Do Plants Impact the Environment?

Discuss the impact that plants have on the environment.

Are Insects Important for Plants?

Insects can help make soil better for plants by decomposing plants and animals. Are all insects good for plants?

Recycling & the Garden Compost

Discuss recycling. Explain that food waste can also be recycled as compost. Investigate this. What gets composted? What is the process like? Why does this help? If available, start your own class compost.

Reuse and Repurpose

Seeds can grow in many containers. Are there any empty containers laying around that can be used as pots for seeds?

Soda Bottle Terrarium

Repurpose an empty soda bottle into a mini ecosystem!

Materials: 2 liter soda bottle, sharp scissors, pebbles, potting soil, water, plants (ex: ivy, spiderwort, peperomia, pilea)

Optional: charcoal, moss

Step 1: Cut soda bottle 6 inches from bottom. **Step 2:** Add 1 inch of pebbles to bottom of bottle. **Step 3 (optional):** Add charcoal and then moss. **Step 4:** Add 3-4 inches of potting soil. **Step 5:** Plant carefully, ensuring that all roots are covered by the soil. **Step 6:** Spray water so that soil is moist. **Step 7:** Replace top and place in indirect sunlight. Mist when soil appears dry.

www.teaching-tiny-tots.com/toddler-science-terrarium.html

ENVIRONMENTAL EDUCATION

Animal Habitats

Maxine and Leo's garden attracted certain animals because of the food they planted. Research other animals and learn about their habitat and what they eat. How does what an animal eats influence where they can live?

Nature Walk

Take students on a nature walk. Make observations along the way about what they see: trees, leaves, plants, animals, etc. To extend this activity, take the same walk multiple times throughout the year and write down observations. What changed each time? Did anything stay the same?

Create Art with Nature

Maxine and Leo both like to create things. There are many ways to create art using things found in nature. You can go on a nature walk as a class to find items or students can bring some in to use. Ideas include using nature items (leaves, sticks, etc) as paintbrushes, leaf rubbings, making a collage of nature items, or building something using items found outside.

Reduce, Reuse, Recycle

Discuss the impact that people have on the environment and the meaning of the three Rs.

Reduce

As a class, come up with ideas of ways they can reduce their impact (water, energy, trash, etc.).

Reuse

Can students reuse things instead of just throwing them out? Maybe they can reuse boxes for an art project or extra storage. Extend by having students bring in recycled goods and repurpose them into something new.

Recycle

Investigate recycling. What is its importance? What can get recycled? Engage in self-reflections. Do they recycle? Can they be doing more?



Observe Weather

Weather changes all the time and impacts our environment. There are a few ways to observe the weather.

Temperature and Weather Tracking

Track the temperature throughout the year. Depending on student age and ability, they can record the numbers on a calendar or color code the days based on temperature ranges. Also record the weather. At the end of a month (or any set time), look through the data to find patterns. If applicable, students can graph the data as well. Discuss how different graphs are used for different types of data.

Rain or Snow

On days when you know it will rain or snow, set out plastic cups to catch the precipitation. Measure and record the results. Students can also graph the data.

Wind

On a windy day, students can observe plants or trees as they move. Students can also use bubbles or paper structures to determine if and which direction the wind is blowing.

Next Generation Science Standards These activities correlate to Life Science K-LS1-1, 2-LS4-1, and 3-LS4-3 and Earth and Space Science, K-ESS3-1, K-ESS2-1, K-ESS3-3, and 3-ESS2-1.

Common Core Standards These activities correlate to Math Standards for Measurement and Data: Represent and Interpret Data 1.MD.C.4, 2.MD.D.10, and 3.MD.B.3.

VIRTUAL LEARNING IDEAS

MAXINE AND THE GREATEST GARDEN EVER

At the time this guide was created, many school and library buildings are closed and students are learning at home. The following ideas engage children in meaningful, standards-based activities, don't require special materials, and are appropriate for a wide variety of residential settings. Best of all, they encourage creativity, repurposing and recycling!

STEM Ideas

Design a Garden Research some plants that students want to include in their garden. What environment do they need? Draw a picture of what the garden would look like. If age appropriate, have them draw one to scale (give students measurements for how apart plants should be).

Plant Investigations Have students research the plants they chose for their garden. Will they attract any specific animals or insects? Do these plants have any specific uses or impact on their environment?

Design a Scarecrow Have students design and draw their own scarecrow to protect the garden. How does it work? What are its features? They should include a list of materials, label the parts of the scarecrow and describe what they do, and write step by step instructions for how to build it (can tie in how-to writing as well).

Build a Scarecrow Have students design and build their own scarecrow with materials around the house, yard, recycling bin, or anywhere safe and accessible to them.

Protect a Garden Use a paper plate (or another similar size object) to represent a garden. Use materials around your house to build something to protect it (blocks, books, boxes, etc.)

Environmental Education

Reduce, Reuse, Recycle Discuss the impact that people have on the environment and the meaning of the three Rs. Have students look around their house for ways they can reduce waste and repurpose items! Students can find something they were going to throw out (clean and safe) and find another use for it. Examples: using a shoebox to store toys or making a bookmark using an old cereal box.

Observe Weather Patterns Keep a weather journal at home. Every day, look outside and observe what you see. If possible, check the temperature. Write or draw your observations of the day. At the end of the week or month, check for patterns. If it is age appropriate, have students create a graph (bar graph, tally chart, etc) that represents their observations. Share with the class and compare!

Animal Habitats Research some animals (students can choose) and learn about their habitat and what they eat. How does what an animal eats influence where they can live?



VIRTUAL LEARNING IDEAS

MAXINE AND THE GREATEST GARDEN EVER

Literacy Activities

Narrative Writing Discuss the importance of saying "I'm sorry." Ask students to write about a time they got in an argument with a friend or family member. How did the argument end? Was the problem solved?

Opinion Writing Introduce the concept of opinion writing and have students write an opinion piece in response to the story.

Prompt ideas:

- What was your favorite moment and why?
- Who was your favorite character and why?
- What does it mean to be a good friend?

SEL Connections

Kindness Challenge Have students participate in a kindness challenge at home. Brainstorm as a class ways to be kind to those at home. Challenge students to do acts of kindness throughout the week. Share as a class what they did.

Being a Good Friend Discuss what it means to be a good friend. Have students trace a hand on a piece of paper and write a rule for being a good friend on the hand. Ask students to hold up their hand and share their rule. Discuss any patterns that may have come up as they shared.



More Resources

Chunk the Groundhog

If you are permitted to access or share videos from Youtube or Facebook, check out Chunk the Groundhog enjoying garden treats! <https://www.youtube.com/watch?v=EkOmaLIXiVs>

My First Garden

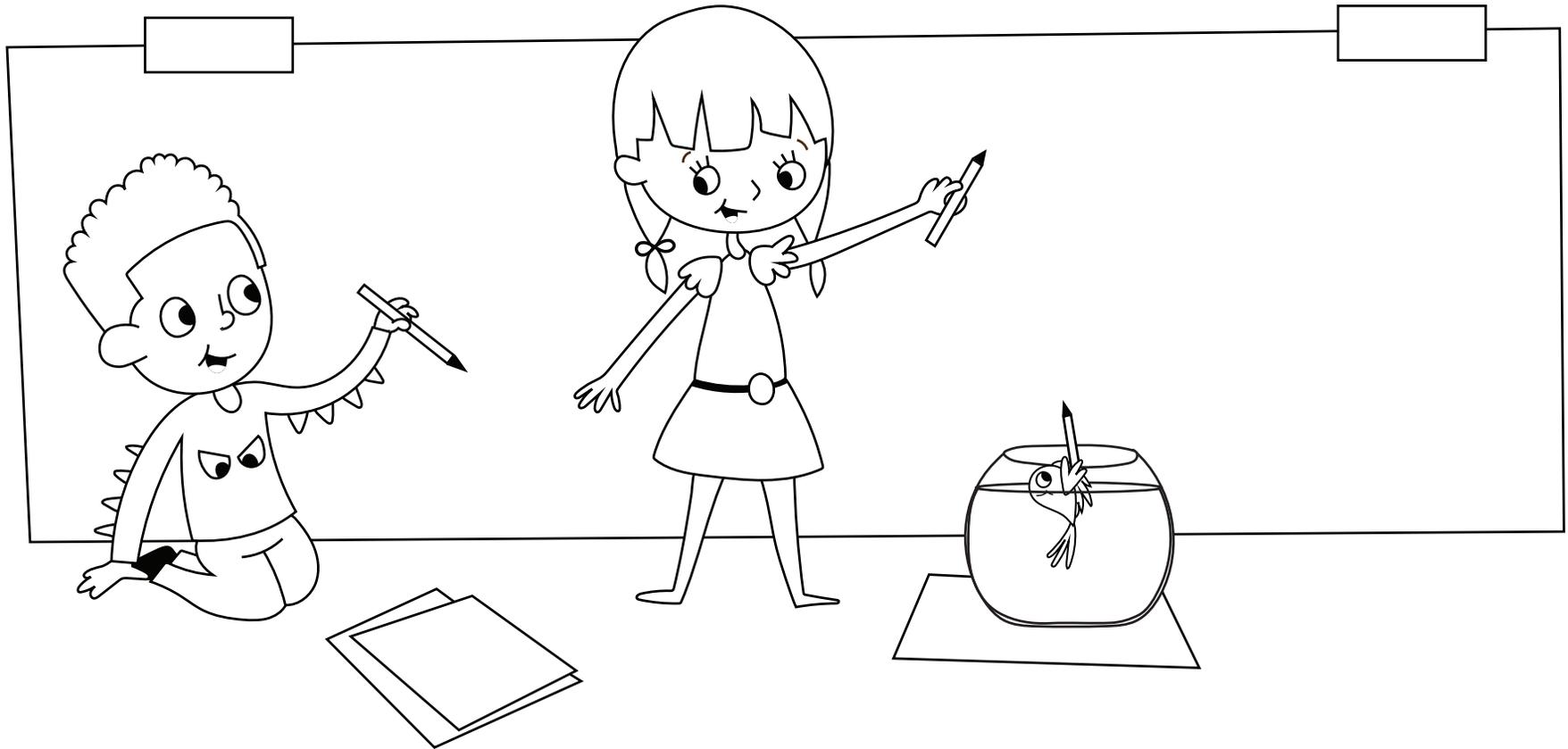
Learn gardening tips & tricks to grow your garden! <https://web.extension.illinois.edu/firstgarden/index.cfm>

Science World

There are many mini lessons on different topics related to plants including how they grow, what they can be used for, and how plants can be classified. <https://science-world.e-learningforkids.org/en/grade-1/list>

Washington Youth Garden

Washington Youth Garden provides online, virtual field trips to learn about gardening. These videos explore different nature areas in Washington D.C. and cover a variety of gardening topics. <https://www.washingtonyouthgarden.org/virtualfarmfieldtrip>



**Help Maxine and Leo design the greatest garden ever!
What would you want your garden
to look like?! Start coloring and inventing!**

Discover more books and printables at www.hollyhatam.com

© Holly Hatam 2020