

Kent
District
Library



Summer WONDER

JUST A
FEW OF
THE STEAM
PROJECTS INSIDE

JOIN CURI

For
STEAM PROJECTS,

Kent County Park

OUTDOOR FUN

AND MORE!

30-Day Challenge

JUNE 1 - AUGUST 7

kdl.org/summer

IT'S FUN, IT'S EASY, IT'S

FREE

Your 30-Day Summer Wonder challenge awaits! It's FREE and includes adventures and prizes for ALL AGES. This year KDL has teamed up with Kent County Parks to bring you a spectacular summer of outdoor discovery, scavenger hunts, STEAM activities and lots of fun for everyone. Come explore with us. KDL is the perfect place to keep summer learning alive and **growing!**

HOW TO COMPLETE YOUR 30-DAY CHALLENGE



1. **Decide if you want to track your goals on a paper log or online at kdl.beanstack.org.**
2. **Start tracking your progress. It's a 30-day challenge for all ages. Do one activity per day. There's a variety of ways to complete your challenge depending on your age.**
3. **The earliest you can complete your challenge is July 1. Stop in to your local branch to claim your completer prize and be entered in a drawing for some other cool prizes.**
4. **If you meet your 30-day challenge, you can complete an additional 15 days of activities to be entered in a drawing for a bonus \$250 Meijer gift card.**

All 30-day challenge reading logs and Super Reader logs are due Saturday, August 7.

Workbook Contents

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Curi

Summer Wonder Guide

Tracking Log

FOR ALL AGES



30-Day Challenge

JUNE 1 - AUGUST 7

KENT DISTRICT LIBRARY • INSIDE AND OUT

Mark off a box (one per day) when you complete an age-based activity listed on the next page. When you meet your 30-day challenge, stop in to your local branch starting July 1 and turn in your completed log to receive a special prize. All logs are due Saturday, August 7.

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Day 7	Day 8	Day 9	Day 10	Day 11	Day 12
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Day 13	Day 14	Day 15	Day 16	Day 17	Day 18
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Day 19	Day 20	Day 21	Day 22	Day 23	Day 24
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUPER READERS

If you complete your goal and would like to keep going, we will give you a **Super Reader log**, available starting July 1. After an additional 15 days of activities, you will qualify to be entered in a drawing for a **bonus** \$250 Meijer gift card. Super Reader logs are due Saturday, August 7. For all ages.

Completer information:

Name (first) _____ (last) _____

Age _____ Phone _____ Library Branch _____

Email _____

School (if applicable) _____

Grade in the fall (if applicable) _____

PRIZES

Everyone who completes the 30-Day Challenge will receive a prize. Birth through age 17 will get to pick out a free book and adults will receive a beach bag tote. All completers will be entered in a drawing for a gift basket and one of 16 \$250 Meijer gift cards. Limit one prize per person. **Details at kdl.org/summer.**

Ways to complete your 30-Day Challenge

For a full list of suggestions, visit kdl.org/summer.

Little Readers | Birth through age 4

As a parent, you are your child's first, best teacher. The Kent County Success Basics are five fun, easy and powerful ways to help your child grow. Do one activity per day for 30 days. More suggestions listed on page 7.

- **Read:** Point to words and pictures as you read.
- **Talk:** Go for a walk and point to objects you see, sing the ABCs.
- **Love:** Snuggle, rock and have quiet time.
- **Play:** Blow bubbles, roll a ball back and forth.
- **Count:** Count fingers and toes, look for shapes at the store.



Online participation powered by



Youth | Ages 5-10

These are the ages when kids need access to books and reading the most. KDL wants to make sure that kids do not lose ground in the reading gains they've made over the school year. All of these activities will keep your child's brain active and count toward completing the 30-Day Challenge. Do one activity per day for 30 days.

- **Read** for at least 20 minutes. Choose from books, magazines, graphic novels, comics and more.
- **Write** a story, a letter, a journal entry or check out one of the writing prompts on page 8 or at kdl.org/summer.
- **Listen** to an audiobook or have a book read to you.
- **Do** one of the awesome and easy STEAM activities beginning on page 10 or at kdl.org/summer.



Teens and Adults | Ages 11 and up

KDL's Summer Wonder is for everyone — accept the challenge! Make these activities part of your summer routine. Do one activity per day for 30 days. For more activity ideas, visit kdl.org/summer.

- **Read** for at least 20 minutes. Choose from books, magazines, graphic novels, comics and more.
- **Write** a story, a letter, a journal entry or a poem.
- **Listen** to an audiobook or have a book read to you.
- **Do** or explore something new! Visit a new park, try a new recipe or explore a new hobby. More ideas listed on page 22.

New for
2021

Where's Curi?

**Find Curi for a chance to win an
"Outdoor Fun" gift basket!**



KDL and Kent County Parks invite you to go on an outdoor scavenger hunt! We are lucky to have such wonderful parks in Kent County, and here is a fun opportunity to get outdoors and explore (and learn) this summer! Use the clues below to find Curi in five park sites throughout the county. Can you find all five Curis? When you find a sign, answer the question in the description below and then go online at kdl.org/findcuri to enter for a chance to win an "Outdoor Fun" gift basket.



1

Lepard Preserve

6030 76th St. SE, Caledonia

A beautiful natural preserve with hills and bridges featuring excellent opportunities for hiking and exploration. From the parking lot, walk the short trail to the loop start. You will cross two lovely bridges. Hint: If you go left, you will find Curi faster. Once on the loop, pay attention to the interpretive signs. What is the name of the amphibian on the sign where Curi is?

2

Palmer Park

1275 52nd St. SW, Wyoming

Palmer Park offers more than 300 acres of greenspace within the City of Wyoming. Park in one of the lots near the shelter or on the main road. Walk to the end of the road and continue past the roundabout until you see a wonderful creek. Go to the bridge that crosses the creek and find Curi. From the bridge, look down into the creek. Name something you see.

3

Pickerel Lake Park

6001 Ramsdell Rd. NE, Rockford

Note: This park site is a nature preserve and watercraft, swimming, bicycles and dogs are not permitted. Also known as the Fred Meijer Nature Preserve, Pickerel Lake Park offers a scenic mix of natural areas to explore along a branching network of trails. From the parking lot, venture north to the boardwalk at the start of the Lake Trail. Look at the signs along the way. Curi loves to view the many types of waterfowl. Name a bird you see from Curi's spot.

For a complete list of parks,
visit kentcountyparks.org.

4

Wahlfield Park:

6811 Alpine Ave. NW,
Comstock Park
(Corner of Alpine and 8 Mile)

Wahlfield Park features a main recreational area that also serves as a trailhead for its extensive network of trails. Curi loves a playground and loves big boulders. You will find Curi somewhere near both. What can you see from Curi's spot? Notice you can see the many trail loops and you can continue on foot or bikes.

Open this map
on your phone by
scanning this with
your camera!



Millennium Park

1415 Maynard Ave. SW, Walker

5

Millennium Park is one of our nation's largest urban parks with over 1,400 acres of rolling terrain and six miles of Grand River frontage. Park in the Secchia Meadows parking area. Head toward the Universal Bridge (to the right of the pavilion). You can walk or ride bikes! Curi loves to look out over the water from a favorite spot. Name something specific that you see from this magnificent view.



KENT COUNTY PARKS AND TRAILS

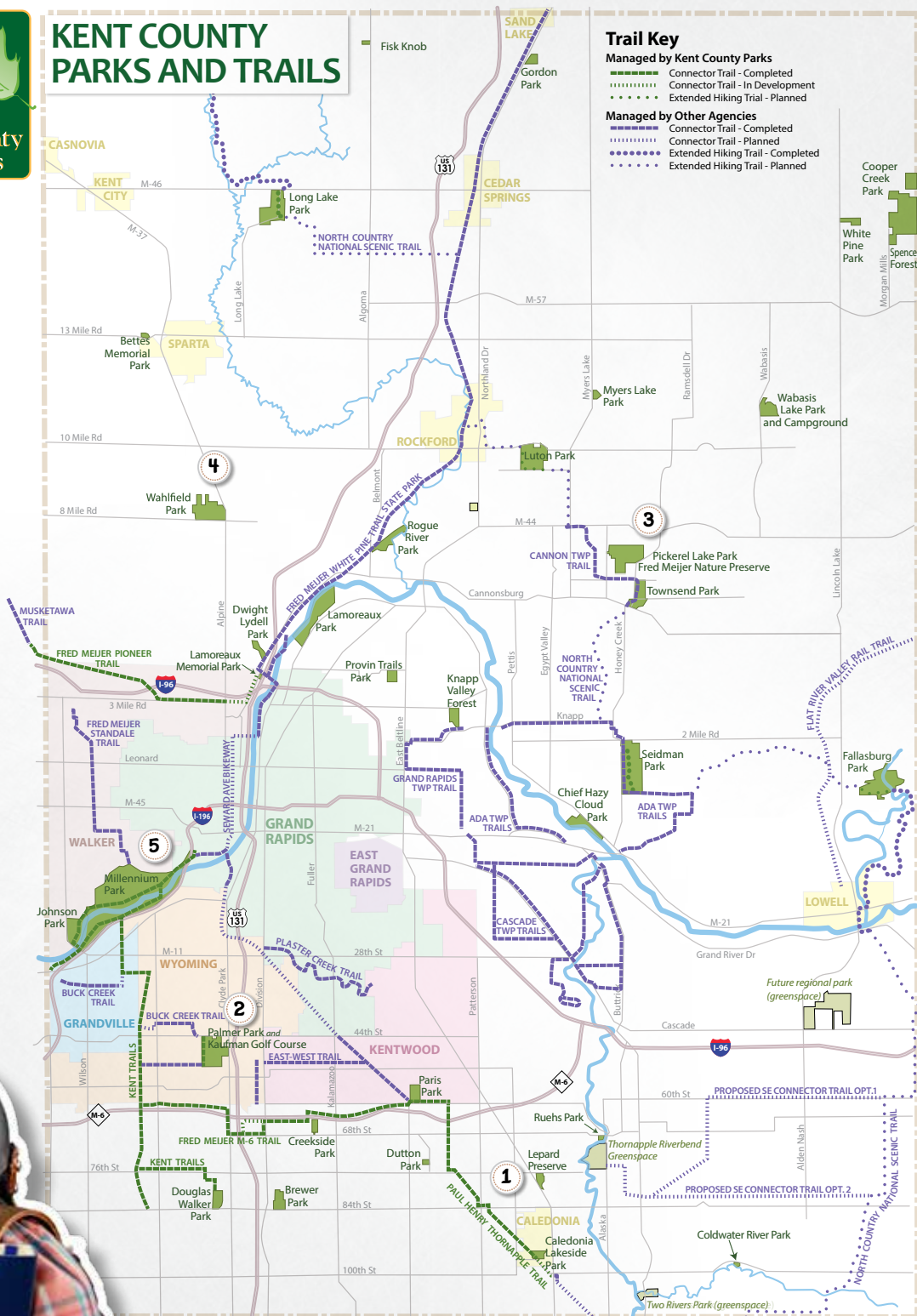
Trail Key

Managed by Kent County Parks

- Connector Trail - Completed
- Connector Trail - In Development
- Extended Hiking Trail - Planned

Managed by Other Agencies

- Connector Trail - Completed
- Connector Trail - Planned
- Extended Hiking Trail - Completed
- Extended Hiking Trail - Planned



Little Readers

BIRTH - AGE 4

As a parent, you are your child's first, best teacher.

The Kent County Success Basics are five fun, easy and powerful ways to help your child grow smarter.

Please visit kdl.org/successbasics for more information.

READ AND DISCUSS STORIES

Reading turns kids into confident thinkers. Make books a regular part of your relationship from the very beginning. With infants, point at the pictures and speak with excitement. With toddlers, just make it fun.



Read a story and act out movements to some of the action words.
While reading, describe the pictures, talking about colors, shapes and characters.

TALK SING AND POINT

Babies learn language from the moment they are born. Respond to their sounds, and later, their words. Connect through eye contact and a loving tone of voice, while pointing to help them know what you are talking about.



Say and do the motions to one of your favorite rhymes.
Make up your own verses for the song, "If You're Happy and You Know it."

LOVE MAXIMIZE LOVE MANAGE STRESS

Babies and toddlers thrive when their world feels loving, safe and predictable. Respond with smiles, words and touch to help them see, hear and feel your love. You will help them develop a sense of security and self-control.



Have your child help you prepare dinner.
Spend time outside together. Spread out a blanket and look at the clouds.

PLAY EXPLORE THROUGH MOVEMENT AND PLAY

Babies are like scientists who love making discoveries. Watch to see what interests your child, then encourage their curiosity and help them learn when they play and explore.



Put on a puppet show using stuffed animals or make your own sock puppet.
Get out spoons and pots to make a kitchen band.

COUNT GROUP AND COMPARE

Every child's brain is wired for math. Talk about numbers, shapes, patterns and comparisons as you go about your routines together. Watch your child learn to love math.



Help your child clap to the beat as you listen to a song.
Count a basket of objects together and sort them into related groups.



Youth | AGES 5-10

30-Day Challenge Ideas

- **Read** for at least 20 minutes. Choose from books, magazines, graphic novels, comics and more.
- **Write** a story, a letter, a journal entry or check out one of the writing prompts below.
- **Listen** to an audiobook, or have a book read to you.
- **Do** one of the awesome and easy STEAM activities starting on page 10. They can also be found at kdl.org/summer.



Writing Prompts

1. I was walking through the forest and I tripped on a huge branch. I fell on my face, knocking the wind out of me. As I looked up, I was eye to eye with a smiling creature. I said...
2. I woke up slowly yesterday and my eyes adjusted to the sunlight peeking into my room, but it was not my room. I was inside a moss-covered tree trunk.
3. If you could go on a hike anywhere in the world, where would you go and what would you see?
4. Imagine you can crawl into a den with a woodland animal. Whose den are you joining? What happens in the den?
5. Sit in your backyard or a safe outdoor space. Describe what you see, hear and smell around you.



Get Outdoors in Michigan

Y M T R N L O M E S U G K G E
 Z N N L V O O C Z N N A C N A
 H H A F L O O F W I H M A I G
 H Y E G S A V C H B O H T P L
 P L H E I L F S C S V F E M E
 G F P I B H I R S A S O R A N
 E R C E K F C O E M R F P C I
 R E E D D E L I A T E T I H W
 X T G D C B S D M F A W L I P
 Z T A G E Z H T L E T W L P J
 S U K L S G A U Q F K F A M D
 Z B P S U N S H I N E A R U K
 E P E N I P E T I H W X L N Y
 A P E T O S K Y S T O N E K V
 R O B I N G O R F L L U B E J

APPLEBLOSSOM
 CAMPING
 EAGLE
 LAKEMICHIGAN
 RACCOON
 WATERFALL

BULLFROG
 CATERPILLAR
 FISHING
 MOOSE
 ROBIN
 WHITEPINE

BUTTERFLY
 CHIPMUNK
 HIKES
 PETOSKYSTONE
 SUNSHINE
 WHITETAILEDDEER





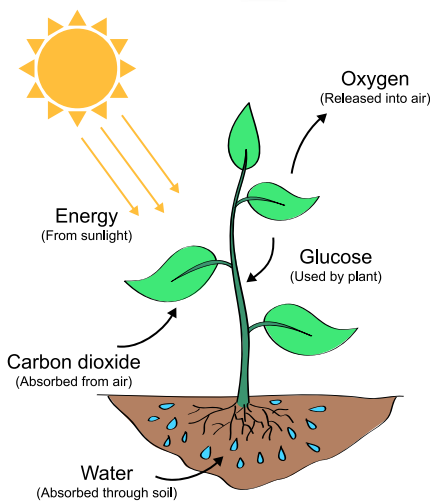
HOW DOES A Leaf Breathe?



Sometimes we don't always think of plants and trees as living and breathing organisms, but they are! They don't have lungs or a respiratory system like we humans do, but they are very much alive. This activity will help you visualize that concept.

WHAT YOU NEED:

- 1 glass or clear plastic bowl of water
- 1 active leaf from a tree or a plant (one that you remove from the tree or plant)
- 1 small rock
- Magnifying glass (optional but cool)



HOW TO:

- Fill your bowl with lukewarm water. It's best to use a glass or clear plastic bowl so you will be able to see the experiment from all angles. Be careful if you use glass.
- Remove a leaf from a tree or plant – not one picked up off the ground.
- Place the leaf in the bowl of water and put a small rock on top of it so it is fully submerged under the water.
- Put the bowl in a sunny spot.
- Take a peek a few hours later and observe the changes in the leaf.

WHAT'S HAPPENING?

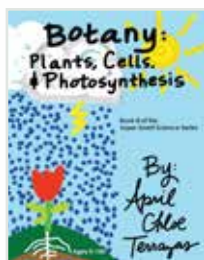
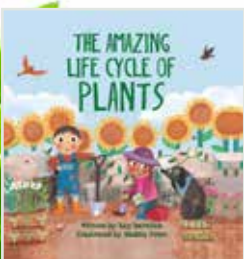


If you have a large magnifying glass, you will be able to make your observations up close. You should notice small bubbles that form around the leaf and the edges of the bowl. You are seeing the leaf use sunlight as part of photosynthesis. Photosynthesis is where leaves convert sunlight to energy.

Fun Fact



As the leaf creates energy, it gets rid of the items it no longer needs, so it will expel both the extra oxygen during photosynthesis along with water. It's sort of like what happens if you hold your breath underwater and then let it out. You would see bubbles coming up in the water. The photosynthesis is what allows us to see the bubbles.



Related Books:

- *The Amazing Life Cycle of Plants* by Kay Barnham
- *Botany: Plants, Cells & Photosynthesis* by April Chloe Terrazas
- *Plants Can't Sit Still* by Rebecca E. Hirsch

Summer Stargazing



Project a constellation onto the wall,
then head outside to see the real thing.



WHAT YOU NEED:

- Scissors
- Toothpick
- Flashlight
- Binoculars (optional)

HOW TO:

- Cut out the constellation circle card here.
- Use the toothpick to punch a hole in each larger star dot.
- Go into a dark room and use the flashlight to project the constellation onto the wall.
- Go outside on a clear night and look at the starry sky. Maybe you will even be able to find Scorpius! *Hint:* Look south towards the horizon. If you have binoculars handy, it may be a fun time to use them!



WHAT'S HAPPENING?

A constellation is a group of stars that form a pattern. Today's astronomers recognize 88 different constellations. Many constellations are named after animals or figures from mythology. Constellations were sometimes used to tell stories, and different people across the world named their own constellations. Depending on your location and season, the constellations you see in the night sky will change as the Earth orbits around the sun. Here in Michigan during the summer, you should be able to see the constellations Sagittarius, Cygnus and Hercules, in addition to Scorpius.

Fun Fact



Constellations travel from east to west across the night sky, just like the sun. The word "constellation" comes from a Latin term meaning "set with stars."



Related Books

- *Star Stories: Constellation Tales from Around the World* by Anita Ganeri
- *Star Finder!: A Step-by-Step Guide to the Night Sky* by DK
- *Star Stuff: Carl Sagan and the Mysteries of the Cosmos* by Stephanie Roth Sisson



Photo Scavenger Hunt



You will be exploring the great outdoors with your camera and discovering how zoom functions change your picture.

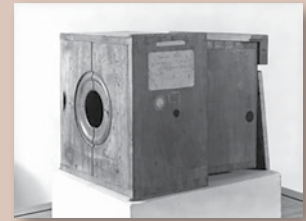
WHAT YOU NEED:

- Camera, iPad or smartphone
- Paper
- Pencil

HOW TO:

- Using your pencil and paper create a list of 5-10 things you want to find outside. Some ideas could be nuts, leaves, squirrels, clouds, insects, etc.
- Make sure you know how to take a picture, delete a picture and zoom using your camera.
- With your grownup's permission, head outside with your list, pencil and camera.
- Using your scavenger hunt list, start looking for some of the things you recorded.
- Whenever you find one of your scavenger hunt items, pause to take some pictures. Try using your zoom to take close-up photos. What happens if you shift from laying on the ground to standing over your item? Can you make an ant seem gigantic in a photo? What do leaves look like up close? Does the image get fuzzier when you zoom in or is it still clear?
- Once you have photos of all of your items, you're all done!

Fun Fact

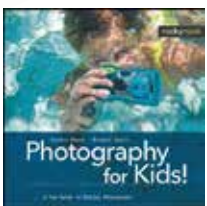


The first camera was invented in 1816 by Nicéphore Niépce. He used a device to project an image on a piece of paper coated with silver chloride that darkened when exposed to light.

WHAT'S HAPPENING?



Zooming in and out makes objects appear closer or farther away in an image. Some cameras and phones use optical zoom, or glass lenses inside the device that act almost like a telescope extending out or drawing back in depending on if you're zooming in or out. Some cameras and phones use digital zoom, which uses mathematical formulas to cut out parts of your picture as you zoom in closer, or add those parts back in if you zoom back out.



Related Books:

- *Photography for Kids! A Fun Guide to Digital Photography* by Michael Ebert
- *Step Gently Out* by Helen Frost
- *The Secret Life of Squirrels* by Nancy Rose

Map Your Yard



Have you ever wondered the names of all the plants that inhabit your yard? Did you know there are apps that help you identify plants and bugs? In this activity you will use an app on your smart phone to identify the names of all the different plants in your yard and create a map of where they are located.

WHAT YOU NEED:

- A yard (or a local park)
- A smartphone
- 1 large piece of white paper
- A notebook
- Markers, crayons or colored pencils



HOW TO:

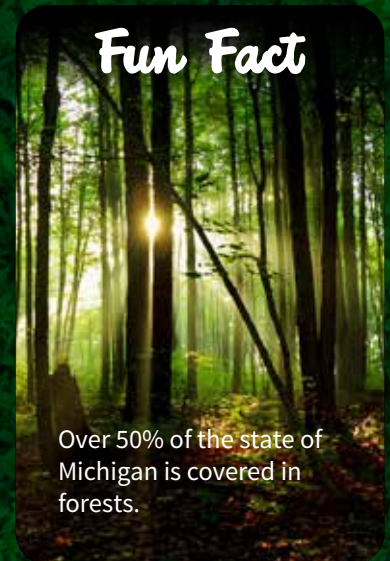
- Download (with an adult's permission) a plant identifier app onto a smartphone. (*Free options include PlantNet, PlantSnap and GardenAnswers.*)
- Using the app, go around your yard and try to identify the plants (trees, flowers, bushes, grass, weeds, etc.) you find. Most apps involve using the camera on your device to take a photo of the plant.
- Bring your notebook or large piece of paper to record where all your plants are located and what their names are. You can do a rough map in a notebook first. You can also start with the blank graphing sheet on page 20. Then use the information you've collected to make a final larger map with colored pictures of the plants.
- Most plants will have a common name and a scientific name. You can write down one or both.



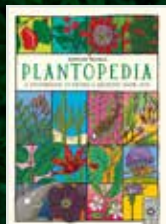
WHAT'S HAPPENING?

While you are walking around your yard, you might start to notice where plants like to grow and areas where nothing or only a few plants are growing. Some plants require a lot of sunlight, while others may only require a little sun each day. Plants also require water to grow. You can learn in apps how to best care for your plants too! With technology at the tips of your fingers, you can learn a lot. And if you can't find the information you need, that's where knowing a friendly librarian comes in handy!

Fun Fact



Over 50% of the state of Michigan is covered in forests.



Related Books:

- *Plantopedia: A Celebration of Nature's Greatest Show-Offs* by Adrienne Barman
- *Science Comics: Trees: Kings of the Forest* by Andy Hirsch
- *Plants* by Bridget Heos



Design a Parachute

Theorize a design and test your engineering skills with this parachute activity. Select your materials based on your approach and try out different ideas as you design your parachute for maximum flight!



WHAT YOU NEED:

- Parachute material types (plastic bags, cloth, paper, coffee filter, etc.)
- String types (yarn, ribbon, twine, etc.)
- A weight/person (toy figure, paper clips, pipe cleaners, rocks, washers, etc.)
- Scissors, tape, pencil

HOW TO:

- Create your parachute in a square or circle shape (about eight inches across).
- Cut four 12-inch pieces of string and attach them in four equally spaced spots around the parachute edges. Use a pencil to poke the holes in your material, or have an adult help cut holes if needed. You may need to reinforce your holes with tape after the string is attached.
- Attach the ends of the string to your weight.
- Drop your parachute from a height to see how it will fall.
- Try testing different sizes, lengths and weights. Do you think a larger parachute would fly better? If you change the weight to something heavier or lighter, what happens? Would a different type of string impact the flight?

WHAT'S HAPPENING?

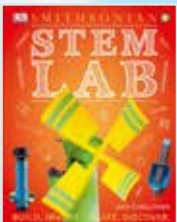


A parachute creates air resistance (or drag) which pushes against gravity, slowing down the fall of a person or object. When you open your parachute, you create more air resistance, drifting to the ground more slowly and safely—much more like a feather. Simply speaking, a parachute works by increasing your air resistance as you fall.

Fun Fact



During World War II, parachutes were used for landing special troops for combat, supplying isolated or inaccessible troops, infiltrating agents into enemy territory and stabilizing and slowing airborne weapons. In the following years, as the speed of aircraft increased, the ejection seat was developed.



Related Books:

- *STEM Lab: Build, Invent, Create, Discover* by Jack Challoner
- *Courage Has No Color: The True Story of the Triple Nickles: America's First Black Paratroopers* by Tanya Lee Stone
- *Science Comics: Flying Machines: How the Wright Brothers Soared* by Alison Wilgus

LET'S BUILD A Gnome Home!



Animals and other creatures all have homes, so why not gnomes and fairies? This activity will help you learn about balance and construction.

WHAT YOU NEED:

- Twigs/sticks
- Leaves
- Small stones
- Nuts, flowers, vines, bark or moss

HOW TO:

- Find a good location where there is little foot traffic (maybe near a hedge, flower bed or under a tree trunk)
- Place your base of sticks/twigs in a shape (square or triangle or even more sides). Pushing the corner sticks into the ground may give your home more stability.
- Overlap the ends. Continue building, placing sticks on the opposite ends, overlap again. Continue adding sticks and twigs to make the home as high as you want.
- Use shorter pieces to make a window or door.
- Add a roof out of leaves, moss, vines or bark.
- Decorate your home with flowers or nuts. Make a path of pebbles or small twigs to lead the gnomes to their home.

Option 1: Build a teepee-style home. Start with a base of stones and lean the sticks onto each other with the tops touching.

Option 2: If you live near a wooded area, make a kid-sized fort. It's a good place to read a book on a hot summer day!

WHAT IS HAPPENING?



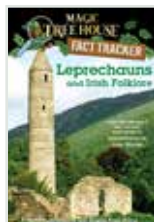
You have become an engineer. You are constructing a building using balance, spatial awareness and geometry. The more you build the easier it will become. During the winter, try building with materials in your home. Or, if you are brave, make an igloo outside.



Fun Fact



Did you know that in Charlevoix, Michigan there are people that live in Hobbit Houses or Gnome Homes inspired by the book *Lord of the Rings* by Tolkien? Take a visit there and see for yourself.



Related Books:

- *Fairy House Handbook* by Liza Gardner Walsh
- *Gnome* by Fred Blunt
- *Leprechauns and Irish Folklore* by Mary Pope Osborne





Nature Mandala

The word mandala comes from Sanskrit and means circle. Mandalas can be pleasing to the eye because of their beauty and symmetry. Making a mandala can be calming and relaxing. For this activity, you will use materials from nature to make your own lovely mandala.



WHAT YOU NEED:

- For a background, you can use a plain piece of paper, a paper plate or a cleaned off area on the ground or sidewalk.
- Look around. Pick up items from nature that you can find multiples of. Think flowers, leaves, pinecones, sticks and rocks. Try to pick things with different sizes, colors and textures.

HOW TO:

- Place one special item as your center piece. This can be a large item.
- Continue placing items in a circular design around the center piece.
- Work from the center going further out, creating rings around the center piece.
- Continue creating your design until your various items are used up and it feels complete.

Fun Fact

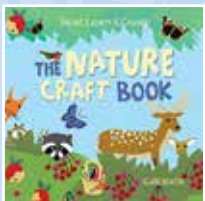


Designing mandalas can help improve your concentration and lower your stress!



WHAT'S HAPPENING?

A mandala is a circular structure with radial symmetry, meaning that the design radiates out symmetrically from the center. The human eye finds things that are symmetrical pleasing and beautiful.



Related Books:

- *Read, Learn & Create: The Nature Craft Book* by Clare Beaton
- *Gardening for Kids: Learn, Grow, and Get Messy with Fun STEAM Projects* by Brandy Stone
- *The Organic Artist For Kids: A DIY Guide To Making Your Own Eco-Friendly Art Supplies From Nature* by Nick Neddo

Nature Face

Collect nature items and design different faces using natural materials. This activity will take you outside to create art and enjoy nature.

WHAT YOU NEED:

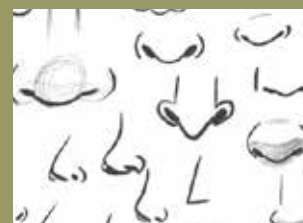
- A piece of paper or cardboard
- Pencil
- Glue
- Natural materials to make your face (leaves, sticks, flowers, feathers, seeds or anything you can find outside)

HOW TO:

- Draw a circle or oval on your paper that will be your face.
- Collect materials. Search your own back yard, or travel to a park with an adult and search for any materials you might use.
- Using your materials, design your face. Don't forget eyes, ears, nose, mouth and hair. What other things can you design with nature? How about glasses?
- Glue down your pieces.
- Enjoy your art!



Fun Fact



A human nose serves many functions besides smelling. Your nose filters and warms the air coming through it. It also catches dust and harmful particles in the air. Can your nature nose do those things?

WHAT'S HAPPENING?



You are enjoying the natural world and creating beautiful art. You are thinking about different ways to use natural materials you see every day.



Related Books:

- *Anywhere Artist* by Nikki Slade-Robinson
- *Exploring Nature Activity Book for Kids: 50 Creative Projects to Spark Curiosity in the Outdoors* by Kim Andrews
- *5 Steps to Drawing Faces* by Susan Kesselring

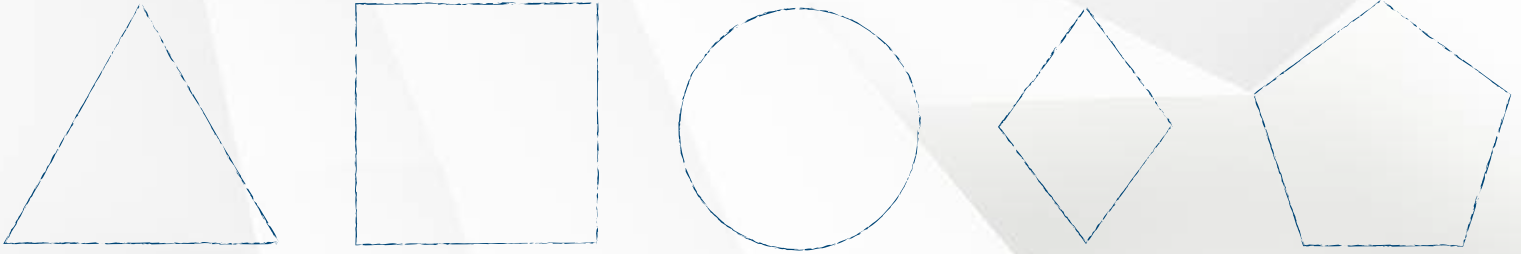


Shapes in Nature

Take a walk to look for and discover the shapes that make up our world.

WHAT YOU NEED:

- Paper (optional)
- Writing utensil (optional)



HOW TO:

- Create your own list of shapes you want to find in nature. OR use our list of shapes above.
- Take a minute to trace your finger around the shapes you want to discover.
- Take a writing utensil with you if you want to keep track of what you find.
- Go on a walk and look around to see what shapes you can find. Look at nature, at buildings, on the ground, etc.

WHAT'S HAPPENING?

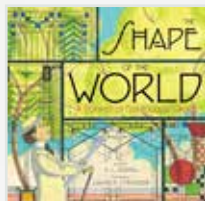
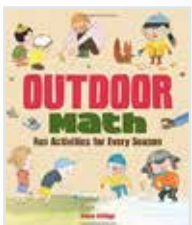


There are many shapes and patterns to be found in nature. These patterns are not random but are a result of how things grow and are organized. Can you find shapes within the different shapes you've already found? What textures do these shapes have?

Fun Fact



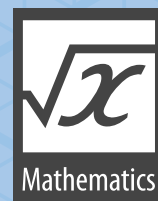
When Frank Lloyd Wright was a baby, his mother gave him blocks to play with and he learned that shapes are made up of many other shapes. As he grew up, he loved finding shapes in nature. He went on to study architecture and became known as one of the greatest American architects of all time.



Related Books:

- *Outdoor Math: Fun Activities for Every Season* by Emma AdBåge
- *The Shape of the World: A Portrait of Frank Lloyd Wright* by K. L. Going
- *Now What? A Math Tale* by Robie H. Harris

CAN YOU Go the Distance?



Paper airplanes can be a lot of fun to make, but let's see how far you can make them fly! Start off with a simple paper airplane and record its distance. What modifications could you make to make it fly further? Try it out with this activity.

WHAT YOU NEED:

- A piece of printer paper
- A paper clip, optional
- A piece of construction paper, optional
- A pen, pencil or marker
- A tape measure or ruler

HOW TO:

- Make a paper airplane of your choice. Decorate it if you would like to. If you need help finding a design, there are many available online or check out one of the books below at the library.
- Once you have your airplane made, find an open space to fly it in. This project works great outdoors but can be done inside as well. Take a couple of practice flights before you start measuring.
- When you are ready, throw your paper airplane and let it land on the ground. Use the tape measure or ruler to record the distance of your first flight on the graph on this page. Try to fly it a second time and record that distance in the second spot.
- Can you make any modifications to your plane to make it fly further? Try adding a paper clip to the airplane to add some weight. What else can you do to your plane to make it go the distance? Record these distances for the airplane with modifications. You can use the blank charts on page 21 to get started.

	Airplane 1		Airplane with Modifications	
	Feet	Inches	Feet	Inches
Flight 1	18	6	22	4
Flight 2	22	10	30	8
Flight 3				
Flight 4				

Fun Fact



The record distance for a paper airplane to be thrown is 226 feet, 10 inches.

WHAT'S HAPPENING?



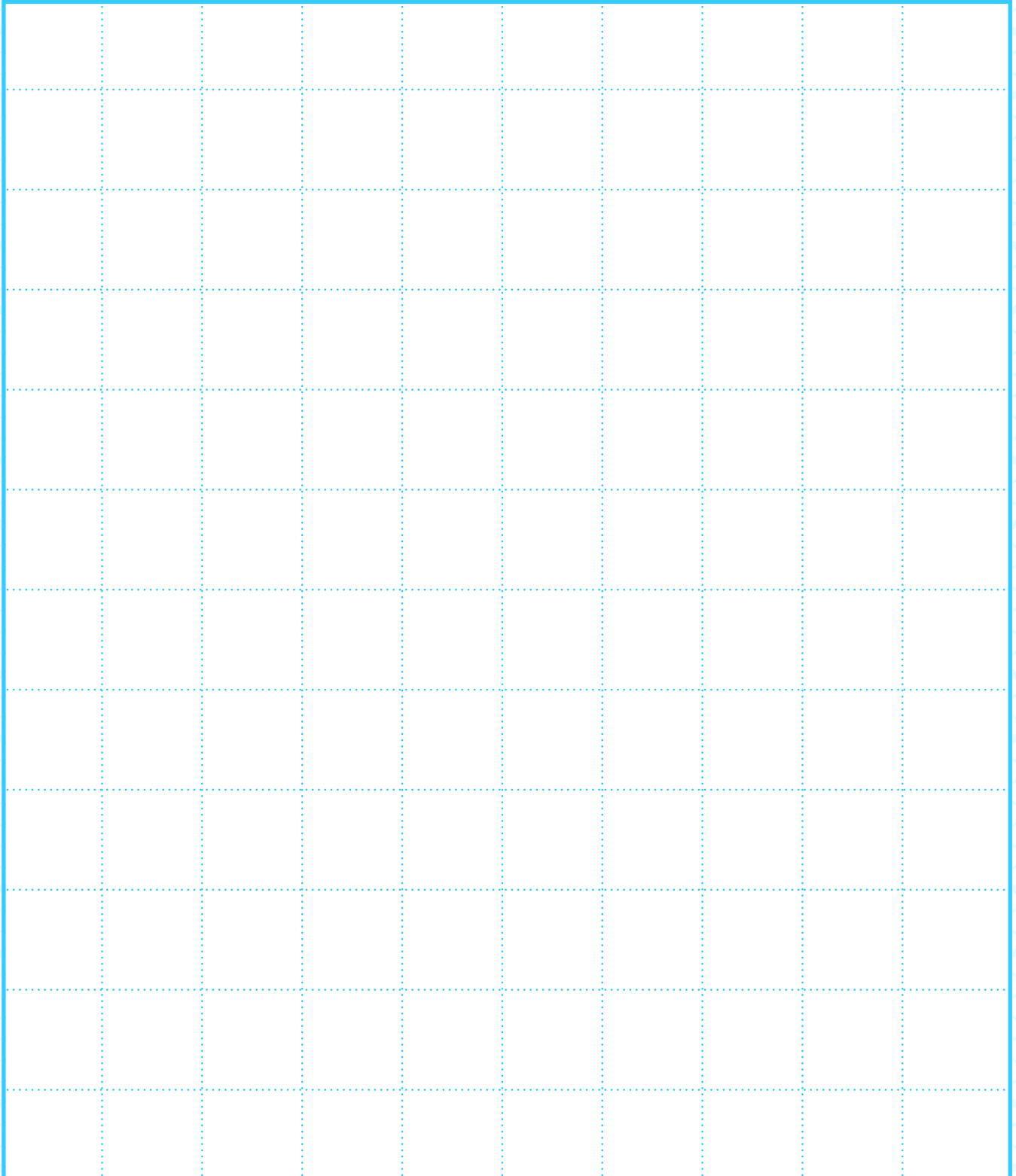
This project helps us understand the four forces of flight: lift, weight, thrust and drag. As the paper airplane flies through the air, lift holds it up. You gave the paper airplane a forward thrust with your arm. Drag from the air made the paper airplane slow down. The paper's weight, along with gravity, brings the paper airplane back to the ground.



Related Books:

- *Amazing Paper Airplanes: The Craft and Science of Flight* by Kyong Hwa Lee
- *My First Guide to Paper Airplanes* by Christopher L. Harbo
- *The Flying Machine Book: Build and Launch 35 Rockets, Gliders, Helicopters, Boomerangs and More* by Bobby Mercer

Map Your Yard



CAN YOU Go the Distance?

	Airplane 1		Airplane with Modifications	
	Feet	Inches	Feet	Inches
Flight 1				
Flight 2				
Flight 3				
Flight 4				

	Airplane 2		Airplane with Modifications	
	Feet	Inches	Feet	Inches
Flight 1				
Flight 2				
Flight 3				
Flight 4				

	Airplane 3		Airplane with Modifications	
	Feet	Inches	Feet	Inches
Flight 1				
Flight 2				
Flight 3				
Flight 4				

	Airplane 4		Airplane with Modifications	
	Feet	Inches	Feet	Inches
Flight 1				
Flight 2				
Flight 3				
Flight 4				

Teens and Adults

AGES 11 AND UP

30-Day Challenge Ideas

KDL's Summer Wonder is for everyone — accept the challenge! Make these activities part of your summer routine. Do one activity per day for 30 days.

- **Read** for at least 20 minutes. Choose from books, magazines, graphic novels, comics and more.
- **Write** a story, a letter, a journal entry or a poem.
- **Listen** to an audiobook or have a book read to you.
- **Do** or explore something new! Visit a new park, try a new recipe or explore a new hobby.

More Ideas

1. Perform an act of kindness for someone.
2. Plant a native flower in your yard or in a pot to support pollinators.
3. Build a campfire (SAFELY) and cook a meal on it.
4. Set up a bird feeder and observe what birds visit.
5. Practice a new language (Try Rosetta Stone or Mango at kdl.org/online-resources).
6. Eat plant-based for a day.
7. Visit a KDL branch you have never been to before (or haven't seen in a while).
8. Try a mindfulness activity, like meditation or a zentangle.
9. Send a homemade card to a relative.
10. Select a recommendation from our KDL Staff Picks at kdl.org/staff-picks.
11. Listen to a podcast or audiobook.
12. Pick up trash around your neighborhood.
13. Find a new recipe online and give it a try.
14. Go stargazing at midnight.
15. Repurpose an old item instead of throwing it away.
16. Ask a friend for a craft idea, and make something together.



Adult Prize Beach-Bag Tote





“Stay Curious!”
– Curi

