SPECIAL THANKS TO OUR MICHIGAN LEARNING CHANNEL PARTNERSHIPS:

Content Partners:
- 826Michgian
- American Chemical Society
- Ann Arbor District Library
- Battle Creek Symphony Orchestra
- Career Girls
- Chris Anderson Science Around Cincy
- City Opera House
- CODE.org
- Colorado Springs Conservatory
- Detroit Institute of Arts
- Detroit Zoo
- Grand Rapids Ballet
- Huron-Clinton Metroparks
- Illustrative Mathematics
- INPACT at Home
- Kinetic Affect
- LearningSciencesFun
- Library of Congress
- Little Kids Rock
- Lucky Cat Productions
- MAISA Literacy Essentials
- Michigan Architectural Foundation
- Michigan DNR
- Michigan EGLE
- Michigan Humanities Council
- Midland Center for the Arts
- Mindful Practices
- Mr. E in the D
- MSU Extension
- NASA
- North Carolina Department of Public Instruction
- Positive Impact for Life
- SchoolKit
- Roadtrip Nation
- SciGirls
- Signing Time
- SIS4Teachers
- Speak It Forward
- Square One Education Network
- STEM Greenhouse
- Story Pirates
- Storycorps
- The Diatribe
- Traverse City Area Public Schools
- United States Air Force
- WORLD Channel
- YouCubed

Local PBS Stations
- WKAR - East Lansing
- Detroit Public Television
- WCMU - Mount Pleasant
- WDCQ - Saginaw
- WGVU - Grand Rapids
- WNIT - South Bend
- WNMU - Marquette

Partner PBS Stations
- PBS
- PBS Books
- PBS Kids
- APT (Alabama Public Television)
- LPB (Louisiana Public Broadcasting)
- PBS SoCal
- PBSNC
- TPT (Twin Cities PBS)
- WCMU
- WHRO
- WIMAGE
- WNET (New York Public Media)
- WQED
- WUCF

WATCH on the Michigan Learning Channel
or stream the channel at MichiganLearning.org

Visit MichiganLearning.org and follow @MichLearning on social media to find out more.

The Michigan Learning Channel is funded through a grant awarded by the Michigan Department of Education and the U.S. Department of Education.
DEAR GROWN-UPS,

Summer is full of opportunities to play and learn and we want to make it easy to find inspiring, kid-friendly activities! That’s why we’ve worked with PBS stations and content creators from across the country to bundle up some of our favorite activities into one, easy-to-carry-anywhere book. We hope you and your kids will use this to inspire learning all summer long!

Here are a few quick tips to keep your kids excited about learning this summer:

• **ASK LOTS OF QUESTIONS.** Encourage your kids to participate in conversations by asking them questions like: Why do you think that happened? What will happen next?

• **ENCOURAGE KIDS TO SEARCH FOR ANSWERS.** When your children ask you “why?” see if you can work together to figure out what they need to know or do to find the answer.

• **TRY SOMETHING NEW.** Summer is a great time to try new things like reading a new kind of book, tasting a new food or exploring a new park.

• **JUST HAVE FUN.** Summertime only comes along once a year, so be sure to take the time to relax and have fun while you’re learning.

• **BUILD LASTING, POSITIVE MEMORIES THAT WILL LAST A LIFETIME!**

HOW TO USE THIS BOOK

• Keep in mind that this book spans multiple grade levels. Your child won’t be using every single page, but choosing a few lessons each week. The goal is to keep kids’ brains engaged with a taste of reading, writing, math, art, science, and physical activity every week.

• The grade levels are merely guides to get you started. We recommend starting with the grade that your child just completed and adjusting as needed. Don’t be shy about using a different grade level or just picking and choosing lessons that look interesting. This has been a tough year for our children and we want your child to feel proud and confident.

• This book aligns with the content on the Michigan Learning Channel, which can be used on live tv or on demand. There are about 2-3 hours a week of video lessons, plus lots of activities in this book that don’t use a screen. We recommend getting outside everyday, reading everyday and having enjoyable moments together as a family!

• This book is designed to use for 8 weeks of summer. We suggest spreading it out over a few days each week and finding a time that works for your family. If you have older children they may do better in the evenings.

• As you go through the weeks, you will find each week has a theme and a link to videos that go with the activities. You can find all the video lessons, plus interactive virtual events and more at [www.michiganlearning.org/summer](http://www.michiganlearning.org/summer).

How do the students in your life use the Michigan Learning Channel? We would love your feedback! Feel free to contact us at mlc@dptv.org.

Michigan Learning Channel Team
MichiganLearning.org
Dates and Themes

The summer program runs from June 20 to August 14, 2022. Each week has a set of lessons, plus additional programs, activities, and field trips based on the weekly theme.

Take Flight (June 20-26):
From planes and kites to butterflies and birds, discover the fables and physics of things that fly.

Under Water (June 27-July 3):
Dive deep into oceans, rivers, and our own Great Lakes to discover what it takes to live beneath the waves.

Heroes (July 4-10):
Celebrate our nation's birthday and the people we call heroes, whether they are veterans, everyday helpers, or the kind who wear capes.

Creatures (July 11-17):
From the prehistoric to the present, learn about the fascinating features of creatures near and far.

Engineering (July 18-24):
Meet the people who design bridges, cars, and video games and learn how to think like an engineer.

Great Outdoors (July 25-31):
Explore the world outside your door and the incredible parks and waters that belong to us all.

When I Grow Up (August 1-7):
All summer we’ll learn about different careers—this week, think about all the exciting possibilities in your future!

Shoot for the Stars (August 8-14):
Look up at the night sky and into outer space and meet people who risked everything to follow their dreams.

Learn more about the Michigan Learning Channel at Facebook Live at fb.me/michlearning
www.michiganlearning.org/summer

On TV. Online. Statewide.
Where to Find the Michigan Learning Channel

Find your favorite shows anywhere you go!

Scan the QR Code:
Scan any of the QR codes in this book to see the accompanying video right on your device.

On Demand:
Video lessons and activities at MichiganLearning.org
Click your grade level for this week’s selected lessons
Or, use “Find a Lesson” to search by grade, subject, and educational standard

On the App:
Find shows on the free PBS app
The PBS App is available for mobile devices, Roku, Apple TV, and on many Smart TVs.
Search for Read Write Roar, Math Mights, Extra Credit, DIY Science Time, Wimée’s Words, InPACT at Home, Simple Gift Series, and more great programs.

On the Livestream:
Watch the 24/7 livestream at MichiganLearning.org/live-tv

On TV:
Find us on broadcast television with an antenna

Coming soon to:
Charter Cable services in Northern Michigan and the Upper Peninsula.
Visit MichiganLearning.org/Schedule for details

Learn more about the Michigan Learning Channel at
Facebook Live at fb.me/michlearning
www.michiganlearning.org/summer

On TV. Online. Statewide.

Follow @MichLearning on social media to find out more.
Your remote control and TV menus may vary, but the steps are the same. Your TV will scan for all available channels. TV sets connected to cable, satellite or other pay TV providers do not need to scan.

### How to Scan
1. Press menu on your remote control.
2. Select setup.
3. Choose antenna then channel scan or auto tune.
<table>
<thead>
<tr>
<th>TIME</th>
<th>GRADE</th>
<th>WHAT'S ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>5AM</td>
<td></td>
<td>Let's Learn</td>
</tr>
<tr>
<td>6AM</td>
<td></td>
<td>PBS Kids shows</td>
</tr>
<tr>
<td>6:30AM</td>
<td>Preschool - Kindergarten</td>
<td>Wimée's Words, Simple Gifts Series</td>
</tr>
<tr>
<td>7AM</td>
<td></td>
<td>Let's Learn</td>
</tr>
<tr>
<td>8AM</td>
<td></td>
<td>Read, Write, ROAR! (Kindergarten)</td>
</tr>
<tr>
<td>8:30AM</td>
<td></td>
<td>Math Mights (Kindergarten)</td>
</tr>
<tr>
<td>9AM</td>
<td>1st - 3rd Grade</td>
<td>Read, Write, ROAR! (1st Grade)</td>
</tr>
<tr>
<td>9:30AM</td>
<td>1st - 3rd Grade</td>
<td>Math Mights (1st Grade)</td>
</tr>
<tr>
<td>10AM</td>
<td>1st - 3rd Grade</td>
<td>Read, Write, ROAR! (2nd Grade)</td>
</tr>
<tr>
<td>10:30AM</td>
<td>1st - 3rd Grade</td>
<td>Math Mights (2nd Grade)</td>
</tr>
<tr>
<td>11AM</td>
<td>1st - 3rd Grade</td>
<td>Read, Write, ROAR! (3rd Grade)</td>
</tr>
<tr>
<td>11:30AM</td>
<td>1st - 3rd Grade</td>
<td>Math Mights (3rd Grade)</td>
</tr>
<tr>
<td>12PM</td>
<td>1st - 3rd Grade</td>
<td>Live From the City Opera House: It's Storytime</td>
</tr>
<tr>
<td>12:30PM</td>
<td></td>
<td>PBS Kids shows</td>
</tr>
<tr>
<td>1PM</td>
<td>4th - 6th Grade</td>
<td>Extra Credit</td>
</tr>
<tr>
<td>1:30PM</td>
<td>4th - 6th Grade</td>
<td>Math &amp; Movement</td>
</tr>
<tr>
<td>2PM</td>
<td></td>
<td>Story Pirates</td>
</tr>
<tr>
<td>2:30PM</td>
<td></td>
<td>DIY Science Time, SciGirls</td>
</tr>
<tr>
<td>3PM</td>
<td></td>
<td>Curious Crew</td>
</tr>
<tr>
<td>3:30PM</td>
<td>1st - 3rd Grade</td>
<td>Cyberchase, Into the Outdoors</td>
</tr>
<tr>
<td>4PM</td>
<td>1st - 3rd Grade</td>
<td>Read, Write, ROAR! (2nd &amp; 3rd Grade)</td>
</tr>
<tr>
<td>4:30PM</td>
<td>Preschool - Kindergarten</td>
<td>Math Mights (2nd &amp; 3rd Grade)</td>
</tr>
<tr>
<td>5PM</td>
<td>Preschool - Kindergarten</td>
<td>Read, Write, ROAR! (Kindergarten &amp; 1st Grade)</td>
</tr>
<tr>
<td>5:30PM</td>
<td></td>
<td>Math Mights (Kindergarten &amp; 1st Grade)</td>
</tr>
<tr>
<td>6PM</td>
<td></td>
<td>Let's Learn</td>
</tr>
<tr>
<td>7PM</td>
<td>4th - 6th Grade</td>
<td>Extra Credit</td>
</tr>
<tr>
<td>7:30PM</td>
<td>4th - 6th Grade</td>
<td>Math &amp; Movement</td>
</tr>
<tr>
<td>8PM</td>
<td></td>
<td>Story Pirates</td>
</tr>
<tr>
<td>8:30PM</td>
<td>4th - 6th Grade</td>
<td>DIY Science Time, SciGirls</td>
</tr>
<tr>
<td>9PM</td>
<td>6th - 12th Grade</td>
<td>Nature, NOVA, American Experience, Ken Burns and other PBS programming</td>
</tr>
<tr>
<td>5AM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Details at MichiganLearning.org/schedule

WATCH on the Michigan Learning Channel.
Episodes are available on-demand or stream the channel at MichiganLearning.org/summer
Learn at Home with PBS KIDS

Explore reading, math, science, life lessons, and more on the PBS KIDS 24/7 channel and live stream! The TV schedule below offers you and your child a chance to learn anytime alongside your friends from PBS KIDS.

<table>
<thead>
<tr>
<th>TIME (M-F)</th>
<th>SHOW</th>
<th>GRADE</th>
<th>LEARNING GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/5c am</td>
<td>The Cat in the Hat Knows a Lot About That!</td>
<td>PK-1</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>6:30/5:30c am</td>
<td>Ready Jet Go!</td>
<td>K-2</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>7/6c am</td>
<td>Peg + Cat</td>
<td>PK-K</td>
<td>Math</td>
</tr>
<tr>
<td>7:30/6:30c am</td>
<td>Super WHY!</td>
<td>PK-K</td>
<td>Literacy</td>
</tr>
<tr>
<td>8/7c am</td>
<td>Daniel Tiger's Neighborhood</td>
<td>PK-K</td>
<td>Social &amp; Emotional Learning</td>
</tr>
<tr>
<td>8:30/7:30c am</td>
<td>Daniel Tiger's Neighborhood</td>
<td>PK-K</td>
<td>Social &amp; Emotional Learning</td>
</tr>
<tr>
<td>9/8c am</td>
<td>Sesame Street</td>
<td>PK-K</td>
<td>Literacy, Math, Social &amp; Emotional Learning</td>
</tr>
<tr>
<td>9:30/8:30c am</td>
<td>Elinor Wonders Why</td>
<td>PK-K</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>10/9c am</td>
<td>Clifford the Big Red Dog</td>
<td>PK-K</td>
<td>Social &amp; Emotional Learning, Literacy</td>
</tr>
<tr>
<td>10:30/9:30c am</td>
<td>Dinosaur Train</td>
<td>PK-K</td>
<td>Science</td>
</tr>
<tr>
<td>11/10c am</td>
<td>Let's Go Luna!</td>
<td>K-2</td>
<td>Social Studies</td>
</tr>
<tr>
<td>11:30/10:30c am</td>
<td>Curious George</td>
<td>PK-K</td>
<td>Math, Science &amp; Engineering</td>
</tr>
<tr>
<td>12 pm/11c am</td>
<td>Nature Cat</td>
<td>K-3</td>
<td>Science</td>
</tr>
<tr>
<td>12:30 pm/11:30c am</td>
<td>Xavier Riddle and the Secret Museum</td>
<td>K-2</td>
<td>Social &amp; Emotional Learning</td>
</tr>
<tr>
<td>1/12c pm</td>
<td>Molly of Denali</td>
<td>K-2</td>
<td>Literacy</td>
</tr>
<tr>
<td>1:30/12:30c pm</td>
<td>Hero Elementary</td>
<td>K-2</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>2/1c pm</td>
<td>Cyberchase</td>
<td>1-5</td>
<td>Math &amp; Science</td>
</tr>
<tr>
<td>2:30/1:30c pm</td>
<td>Pinkalicious &amp; Peterrific</td>
<td>PK-1</td>
<td>The Arts</td>
</tr>
<tr>
<td>3/2c pm</td>
<td>Pinkalicious &amp; Peterrific</td>
<td>PK-1</td>
<td>The Arts</td>
</tr>
<tr>
<td>3:30/2:30c pm</td>
<td>Elinor Wonders Why</td>
<td>PK-K</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>4/3c pm</td>
<td>Donkey Hodie</td>
<td>PK-K</td>
<td>Social &amp; Emotional Learning</td>
</tr>
<tr>
<td>4:30/3:30c pm</td>
<td>Curious George</td>
<td>PK-K</td>
<td>Math, Science &amp; Engineering</td>
</tr>
<tr>
<td>5/4c pm</td>
<td>Alma's Way</td>
<td>K-1</td>
<td>Social &amp; Emotional Learning</td>
</tr>
<tr>
<td>5:30/4:30c pm</td>
<td>Xavier Riddle and the Secret Museum</td>
<td>K-2</td>
<td>Social &amp; Emotional Learning</td>
</tr>
<tr>
<td>6/5c pm</td>
<td>Molly of Denali</td>
<td>K-2</td>
<td>Literacy</td>
</tr>
<tr>
<td>6:30/5:30c pm</td>
<td>Hero Elementary</td>
<td>K-2</td>
<td>Science &amp; Engineering</td>
</tr>
</tbody>
</table>

Access FREE, at-home learning activities, tips, and more on pbskidsforparents.org

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LIVE Virtual Events

As part of the Summer Program, students can participate in live virtual events via Facebook Live. Events are interactive and presenters will take student suggestions and questions in real time. Recorded versions of these events will also be available online.

Live virtual events will be hosted on the Michigan Learning Channel Facebook page.

Wimee’s Words Live!
Recommended for ages 4-8

Join the loveable robot puppet Wimee and his friends as they discover more about the weekly theme. Wimee needs your help to write stories! Give Wimee your favorite words and ideas in the comments and watch as he incorporates them into stories and songs in real time. Your ideas may even be featured in future episodes of “Wimee’s Words” on PBS!

Wimee’s Words Live! with the Michigan Learning Channel
Every Wednesday, June 21-August 9, 4pm
Live on the Michigan Learning Channel Facebook page

Great Lakes Now Watch Party with the Belle Isle Aquarium
Recommended for ages 8 and up

The monthly PBS show Great Lakes Now explores the water, people, and environmental issues that tie together the whole Great Lakes basin. Once a month, they team up with the Belle Isle Aquarium to take a deep dive into the themes of the show. Students will have the chance to ask questions of the guest scientists and meet fantastic fish and other creatures.

Great Lakes Now Watch Party
Friday, July 1, 1pm
Friday, August 5, 1pm
Live on the Michigan Learning Channel Facebook page

Learn more about the Michigan Learning Channel at Facebook Live at fb.me/michlearning
www.michiganlearning.org/summer

Follow @MichLearning on social media to find out more.
Learn Anywhere!
On Air. Online. On Demand.

Serving students statewide through your local PBS station, the Michigan Learning Channel has everything kids need to build their brains and engage in learning key concepts to succeed in school!

Preschool
Read, sing, and play with your little one.

Wimree’s Words
Join Wimree, the fun, lovable robot that inspires kids to learn through creativity.

Simple Gift Series
Make music, find something new, and read with Betty the Bookworm.

POP Check
Mindful practice tools to Pause, Own what we are feeling, and Practice relaxing.

Kindergarten to 3rd Grade
Keep kids learning with fun lessons taught by Michigan teachers.

Read, Write, Roar
Kids build literacy skills with engaging ELA lessons.

Math Mights
Build number sense and learn strategies for solving math problems.

InPACT
Get moving with this home-based physical activity program.

4th to 6th Grade
Short, engaging videos and hands-on lessons keep tweens engaged.

Extra Credit
Creative writing, math, fitness, career exploration, and more!

Curious Crew
Dr. Rob Stephensen and inquisitive kids take a hands-on approach to scientific exploration.

Story Pirates
Bite-sized literary lessons with comedians, authors, and teachers.

VISIT us online to view all shows, learn about events, and download activities!

www.michiganlearning.org
Follow @michlearning to find out more.
Learn at Home with PBS KIDS

Play and learn anytime and anywhere with free apps from PBS KIDS! Use the chart below to find the app that aligns to your child’s grade, learning goal, and favorite PBS KIDS show - then download it on your mobile or tablet device to play online, offline, or anytime.

### Apps for Social & Emotional Learning

<table>
<thead>
<tr>
<th>App</th>
<th>Grade</th>
<th>Learning Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel Tiger for Parents</td>
<td>PK-K</td>
<td>Social &amp; Emotional Learning</td>
</tr>
<tr>
<td>PBS KIDS Games app</td>
<td>K-2</td>
<td>Multiple Learning Goals</td>
</tr>
<tr>
<td>PBS KIDS Video app</td>
<td>K-2</td>
<td>Multiple Learning Goals</td>
</tr>
</tbody>
</table>

### Apps for Literacy Learning

<table>
<thead>
<tr>
<th>App</th>
<th>Grade</th>
<th>Learning Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dinosaur Train A to Z</td>
<td>PK-K</td>
<td>Literacy, Science</td>
</tr>
<tr>
<td>Molly of Denali</td>
<td>K-2</td>
<td>Literacy</td>
</tr>
<tr>
<td>PBS KIDS Games app</td>
<td>K-2</td>
<td>Multiple Learning Goals</td>
</tr>
<tr>
<td>PBS KIDS Video app</td>
<td>K-2</td>
<td>Multiple Learning Goals</td>
</tr>
</tbody>
</table>

### Apps for STEM Learning (Science, Technology, Engineering & Math)

<table>
<thead>
<tr>
<th>App</th>
<th>Grade</th>
<th>Learning Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBS Parents Play &amp; Learn</td>
<td>PK-K</td>
<td>Literacy, Math</td>
</tr>
<tr>
<td>Play &amp; Learn Engineering</td>
<td>PK-K</td>
<td>Science and Engineering</td>
</tr>
<tr>
<td>PBS KIDS Measure Up!</td>
<td>PK-K</td>
<td>Math</td>
</tr>
<tr>
<td>Play &amp; Learn Science</td>
<td>PK-K</td>
<td>Science</td>
</tr>
<tr>
<td>Splash and Bubbles for Parents</td>
<td>PK-K</td>
<td>Science</td>
</tr>
<tr>
<td>Splash and Bubbles Ocean Adventure</td>
<td>PK-K</td>
<td>Science</td>
</tr>
<tr>
<td>The Cat in the Hat Builds That!</td>
<td>PK-K</td>
<td>Science and Engineering</td>
</tr>
<tr>
<td>The Cat in the Hat Invents</td>
<td>PK-K</td>
<td>Science and Engineering</td>
</tr>
<tr>
<td>Jet's Bot Builder: Robot Games</td>
<td>K-2</td>
<td>Science and Engineering</td>
</tr>
<tr>
<td>Photo Stuff with Ruff</td>
<td>K-2</td>
<td>Science</td>
</tr>
<tr>
<td>Ready Jet Go! Space Explorer</td>
<td>K-2</td>
<td>Science</td>
</tr>
<tr>
<td>Ready Jet Go! Space Scouts</td>
<td>K-2</td>
<td>Science and Engineering</td>
</tr>
<tr>
<td>Nature Cat’s Great Outdoors</td>
<td>K-3</td>
<td>Science</td>
</tr>
<tr>
<td>PBS KIDS ScratchJr</td>
<td>I-2</td>
<td>Coding</td>
</tr>
<tr>
<td>Outdoor Family Fun with Plum</td>
<td>I-3</td>
<td>Science and Engineering</td>
</tr>
<tr>
<td>Cyberchase Shape Quest</td>
<td>I-5</td>
<td>Math</td>
</tr>
<tr>
<td>PBS KIDS Games app</td>
<td>K-2</td>
<td>Multiple Learning Goals</td>
</tr>
<tr>
<td>PBS KIDS Video app</td>
<td>K-2</td>
<td>Multiple Learning Goals</td>
</tr>
</tbody>
</table>

pbskids.org/apps

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Week 1: Take Flight  
June 20-26

From planes and kites to butterflies and birds, discover the fables and physics of things that fly.

Use the sheet below to mark off this week’s activities as you complete them. See if you can get a BINGO!

Playlists this week: www.michiganlearning.org/takeflight

<table>
<thead>
<tr>
<th>Be a pollinator with Cyberchase</th>
<th>60 mins. of activity</th>
<th>Make paper airplanes with Ready, Jet, GO!</th>
<th>Watch Read, Write, ROAR!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read 20 minutes</td>
<td>Watch Math Mights</td>
<td>Spot a plane in the sky</td>
<td>60 mins. of activity</td>
</tr>
<tr>
<td>Try an InPACT at Home activity Card</td>
<td>HAVE FUN! (Free Space)</td>
<td>Fly a kite</td>
<td>Read 20 minutes</td>
</tr>
<tr>
<td>Watch Read, Write, ROAR!</td>
<td>Spot a helicopter in the sky</td>
<td>Watch Math Mights</td>
<td>Watch Live from the Opera House</td>
</tr>
<tr>
<td>Watch InPACT at Home</td>
<td>Read 20 minutes</td>
<td>Try Amelia Earhart’s word find (pg. 12)</td>
<td>Travel with Let’s Go Luna (pg. 11)</td>
</tr>
</tbody>
</table>
Where Would You Go?

If you could travel anywhere with Luna, Carmen, Andy and Leo, where would you choose to go and why?
Amelia Earhart's Travelling Word Find

Help Amelia find all the words related to her travels!

PLANE  FLYING  PILOT
SKY     PACK     FUN

Find more games and activities at pbskids.org/xavier
Activity Cards
Cut out the cards. When you’re feeling antsy, try following the directions for one of the exercises!

Blast-Off Lunges
INSTRUCTIONS
1. Get into a lunge position with left leg forward, hips underneath you, and right leg behind your right hip.
2. Slowly sink into a lunge, trying to get your knees to touch the ground.
3. Immediately “blast off” by hopping upwards and into next lunge position with right leg forward and left leg behind.
4. If needed, instead of jumping into the next lunge position, jump with feet together and then bounce into lunge position.
5. Repeat as many rounds as possible.

Side Leg Lifts
INSTRUCTIONS
1. Start by laying on your side with your legs stacked on top of each other.
2. Slowly raise your top leg up towards the sky and then back down.
3. Complete 10 repetitions and then switch legs.
4. Complete 3 sets per leg.
5. For added challenge, tape a bag of water to the top leg for some added weight!

Tap Backs
INSTRUCTIONS
1. Stand up tall and proud with your feet together and hands on your hips.
2. Take your right foot and tap it right behind you, then place back to starting position.
3. Take your left foot and tap it right behind you, then place back to starting position.
4. Repeat as fast as you can to get 100 tapbacks (50 on each leg).

Ski Jumps
INSTRUCTIONS
1. Start by standing tall with your feet shoulder width apart.
2. Using only your right foot, jump to the left about 2-3 feet and land on your left foot.
3. Gather yourself and then using only your left foot, jump to the right 2-3 feet and land on your right foot.
4. Repeat this as many times as you can for 30 seconds.
5. Bonus: After each time you jump, touch the ground with the same hand as the side you landed on.
6. Land on your left foot, touch the ground with your right hand.

Cereal Bowl
INSTRUCTIONS
1. Lay flat on your back with feet together.
2. Bring your knees together and raise both legs up so that your feet are facing the ceiling.
3. In slow motion, stir the imaginary bowl of cereal with feet and keep hands under your bottom.
4. Repeat 30 times.

Lay Down Hip Stretch
INSTRUCTIONS
1. Start by sitting at the edge of a bed in a relaxed position with your feet hanging off.
2. Lay back, and pull your right knee towards your chest while keeping your left leg hanging off the bed.
3. Pull your knee until you feel a stretch in your left hip and hold for 10-15 seconds.
4. Relax, switch legs, and then repeat 2-3 times per leg.

Aligator Breath
INSTRUCTIONS
1. Stand with legs hip-width apart.
2. Spread arms out wide and inhale as you reach outward.
3. When you exhale, clap your hands together as many times as possible like baby alligator jaws.

Cloud Watching
INSTRUCTIONS
1. Find a day where there are a lot of clouds in the sky.
2. Lay down on your back on the grass or in the grass and look up into the sky.
3. Watch and admire all the different clouds. Look at the different shapes they make, how fast/slow they’re moving, and where they are moving to!
This page was left blank to cut out the activity on the other side.
1. Fold paper in half the long way and reopen.

2. Fold the top two corners into the center spine of the paper.

3. Refold lengthwise and rotate the paper to lay on the table like this:

4. Fold the top left corner down to lay parallel to the bottom spine. Repeat this step on the other side.

5. Turn the paper over and repeat the last two steps. Your airplane should look like this!

6. Now, try to fly it to the moon! How far can you make the airplane fly?

For more games and activities, visit pbskidsforparents.org
**EXPLORE: Be a Bat!**

Students model how bats and other pollinators help plants by spreading pollen from flower to flower.

**Materials:**
- Cups
- Pompoms or cotton balls
- Colored sugar or confetti
  - Add food coloring to sugar or make confetti with a hole punch and tissue paper.
- Kid-friendly tweezers
- 60 second timer

**Instructions:**
1. Coat the inside of several cups, each with a different color of sugar. These are your flowers.
2. Fill the cups halfway with small pompoms (nectar) that match the color of the sugar in that cup and place around the room.
3. Give each student a pair of kid-friendly tweezers to be their pollinator “nose” and their own cup where they can collect pompoms.
4. Start a timer for 60 seconds. Students need to collect as many different colored pompoms as they can by visiting all the cups around the room. Have each “pollinator” pick up the pompoms one at a time with their tweezers, lift them out of the flowers, and drop them in their own cups.
5. After 60 seconds, check the flower cups to see if any pollen (sugar) traveled from one flower to another. If the colors got mixed together, that means the flowers were pollinated.
Bernoulli’s Pressure Challenge

My Design Ideas:

Great Community, Great Schools

Traverse City Area Public Schools

What other materials could you find and use?

- Strip of Paper
- Ping Pong Ball
- Bendable Straw
- Round Cheese Puff
- Thin Garbage Bag
- Aluminum Cans
- String
- Clean Funnel
- Hair Dryer

- Strip of Paper
- Ping Pong Ball
- Bendable Straw
- Round Cheese Puff
- Thin Garbage Bag
- Aluminum Cans
- String
- Clean Funnel
- Hair Dryer

Bernoulli’s principle explains the reason why airplanes are able to fly.

Between 1725 and 1749 alone, Daniel Bernoulli received 10 prizes from the Paris Academy of Sciences.

How could I improve on my design for next time?

Bernoulli’s principle explains the reason why airplanes are able to fly.

Between 1725 and 1749 alone, Daniel Bernoulli received 10 prizes from the Paris Academy of Sciences.

Learning Standards: 3rd grade; Engineering Design

3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

www.mlearning.org
ACTIVITY GUIDE

Episode 202: Up in the sky! and A Narrative Story

Read It

Think of ideas for a narrative story about a time when the daytime or nighttime sky was an important part of the story. Write your ideas on the lines below.

1. ______________________________________________________________
2. ______________________________________________________________
3. ______________________________________________________________
4. ______________________________________________________________
5. ______________________________________________________________

Write It

Reread the list of topics that you made above. Before choosing a topic to write about, use the questions below to help you decide which topic is the best fit for your story. Cross out the topics that don’t meet your needs.

1. Which topics have important parts that are related to the daytime or nighttime sky?
2. Which topics have something to do with the sky and why it was that way during that time of year?
3. Which topics do I remember well enough to write a story about? Do I remember who was there, how I felt, what it looked like? Will the sky be an important part of the story?
4. Which story am I excited to write about that will help me think about the importance of the daytime or nighttime sky? Who will I share it with?
Landforms are natural features on the Earth's surface. Look at the numbers on the picture below. Write a word from the *Words to Know* box to label each number with the correct landform.

1. __________ 2. __________ 3. __________ 4. __________

What types of landforms do you have where you live?

**Words to Know**

- **mountain** - a high raised landform that has sloping sides that form a peak.
- **hill** - a high raised landform that is smaller than a mountain with a rounded top.
- **valley** - an area found between raised landforms such as mountains or hills.
- **plains** - large, flat areas of land usually covered in grasses.
Phonics Skills

Read the passage out loud. Underline the words with the prefix fore- and trans-.

Did you know the Blackpoll Warbler bird weighs less than a pencil? And yet it takes a transoceanic trip every winter! Before using a GPS, scientists didn't foresee this tiny bird flying across the ocean. They were surprised! Scientists think the foremost goal of the Warbler is to migrate quickly.

Write It

Break each word into syllables and write the word parts in the blanks provided.

<table>
<thead>
<tr>
<th>word</th>
<th>syllables</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>foresee</td>
<td>fore</td>
<td>see to see before it happens</td>
</tr>
<tr>
<td>forewarn</td>
<td></td>
<td>to warn before something happens</td>
</tr>
<tr>
<td>foremost</td>
<td></td>
<td>most important</td>
</tr>
<tr>
<td>transoceanic</td>
<td></td>
<td>to go across the ocean</td>
</tr>
<tr>
<td>transfix</td>
<td></td>
<td>to make something motionless</td>
</tr>
<tr>
<td>transplant</td>
<td></td>
<td>to move something from one place to another</td>
</tr>
</tbody>
</table>

Words to Know

A prefix is a word part added to the beginning of a word that changes the meaning of the word.

The prefix trans- means “across” or “beyond”.

The prefix fore- means “before” or “in front of”.

Look for the trans- and fore-prefixes in your own reading.
10 Frame Shake!
Shake a cup with 10 two-sided counters and dump it out. Count how many of each color you have and record it in the number sentence and number bond. Keep going until you have all 9 combinations for 10.

\[
\begin{align*}
\text{ } + \text{ } & = 10 \\
\text{ } + \text{ } & = 10 \\
\text{ } + \text{ } & = 10 \\
\text{ } + \text{ } & = 10 \\
\end{align*}
\]
# 5 Way Challenge

Write the number 5 ways.

<table>
<thead>
<tr>
<th>356</th>
<th>Only Tens and Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A Base Ten Diagram</td>
</tr>
<tr>
<td></td>
<td>Word Form</td>
</tr>
<tr>
<td></td>
<td>Compose a Different Way</td>
</tr>
<tr>
<td></td>
<td>Expanded Form</td>
</tr>
</tbody>
</table>

Math Mights 2nd Grade #302 | © Strategic Intervention Solutions, LLC | mathmights.org
Reading and Writing Fractions

Directions: Label each part of the pictures and practice reading the fraction.

Example:

\[
\begin{array}{ll}
\frac{1}{4} & \frac{1}{4} \\
\frac{1}{4} & \frac{1}{4}
\end{array}
\]

Practice reading: one fourth
**Week 2: Under Water**  
**June 27 – July 3**

Dive deep into oceans, rivers, and our own Great Lakes to discover what it takes to live beneath the waves.

Use the sheet below to mark off this week’s activities as you complete them. See if you can get a BINGO!

**Playlists this week: www.michiganlearning.org/underwater**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
<th>Activity</th>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make a pond viewer (pg. 29)</td>
<td>60 mins. of activity</td>
<td>Read a deep sea fish (pg. 28)</td>
<td>Watch Read, Write, ROAR!</td>
<td></td>
</tr>
<tr>
<td>Read 20 minutes</td>
<td></td>
<td>Watch Live from the Opera House</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch Math Mights</td>
<td></td>
<td>Go fishing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Try the Glorious Great Lakes Challenge (Free Space)</td>
<td>60 mins. of activity</td>
<td>Go swimming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch Read, Write, ROAR!</td>
<td></td>
<td>Read 20 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch an ice cube change over time (pg. 31)</td>
<td></td>
<td>Watch Math Mights</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch Math Mights</td>
<td></td>
<td>Watch InPACT at Home</td>
<td>Watch Wimee’s Words</td>
<td></td>
</tr>
<tr>
<td>Watch InPACT at Home</td>
<td></td>
<td>Start a paper tracker (pg. 32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tidy up the kelp forest! (pg. 27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tidy up the Kelp Forest!

Instructions: Tyke the Pacific Harbor Seal has hidden items that don’t belong in the ocean. Can you help Tidy the Garibaldi Fish clean up? Circle the eight items that don’t belong.

Reeftown Ranger Tip:
Never throw trash in the street. Rain can wash it down the storm drain and into rivers and streams. All rivers lead to the ocean!

Find more games and activities at pbskidsforparents.org
Can you draw a deep sea fish with BIG EYES, a BIG MOUTH, and LONG TEETH?

Fin Fact!

Creatures that live in the deep typically have large mouths, long teeth and hinged jaws to eat large quantities of scarce food. Many deep sea creatures also have very large eyes to capture scarce light.
A POND WITH A VIEW

DIFFICULTY: EASY

While there is action all around a pond, what do you think is happening in the water? Ponds are filled with animal and plant life that have special qualities that help them spend all or most of their lives underwater. Make this pond viewer to bring on your next pond exploration!

MATERIALS

- One-half gallon milk carton
- Scissors
- Waterproof, strong tape (e.g. duct tape) or a sturdy rubber band
- Heavy, clear plastic wrap

LET’S MAKE A POND VIEWER!

1. Have an adult cut off the very top of the milk carton and the very bottom to create a rectangular tube.
2. Tear off a sheet of plastic wrap and place it over one of the open ends. Fold down the plastic wrap... make sure wrap is smooth and tight for clear viewing.
3. Using the tape or the rubber band, secure the plastic wrap in place. Keep the plastic wrap as tight as possible so you have a flat viewing surface.

pbskids.org/naturecat

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**POND VIEWING TIPS**

1. Splashing and stirring up mud will make it difficult to see into the pond. Be as still as possible when using your viewer.

2. Despite what NatureCat says, it is noble and fun to get wet! If the shoreline is murky, slowly wade out to your knees before using your viewer where it may be less murky.

3. Other ways to view: on a dock, over the side of a canoe, or in a stream, lake or tide pool!

---

**LET’S TAKE A CLOSER LOOK**

Describe a plant or animal that you see. Draw a picture of it, and ask an adult to help you identify and label your picture.
Instructions:
1. Fill one plastic, clear cup with water and a second plastic, clear cup with ice.
2. Find a piece of chalk, a pencil, and take the two cups and this paper and go outside.
3. Pour a small amount of water on the ground. Outline the water puddle with chalk. In the first column, draw what you notice about the water.
4. Next, place one of your ice cubes on the ground and outline it with chalk. Leave one ice cube in a clear cup. After 30-minutes, in the second column, draw what you observe about the ice.
5. When another 30-minutes pass, write or draw a question you are interested in.

During my investigation I noticed this about the water...

When I first poured the water on the ground, the water looked like this...

After 30-minutes, the water I poured looked like this...

I observed this about the ice...

When I first placed the ice on the ground, the ice looked like this...

After 30-minutes, the ice looked like this...

What do you notice about how liquid water changed?

What do you notice about how solid water (ice) changed?

A question I still wonder about is...

I made the connection in my mind when I observed the water and ice that...
The paper you use at home comes from trees. Find out how much paper you use in a month.

1. Every time you go to throw away or recycle a piece of paper or cardboard, put it aside in a bag or box instead.
2. Then recycle any clean paper and compost or throw away any food-stained paper.
3. Repeat this every week for a month.
4. At the end of the month, add up the number of pounds of paper you threw away each week. Put the total in the box in the chart below.

El papel que usas en casa viene de los árboles. Averigua cuánto papel utilizas en un mes.

1. Cada vez que vayas a tirar o reciclar un trozo de papel o cartón, guárdalo en una bolsa o caja.
2. Luego recicla el papel limpio y desecha el papel manchado de comida.
3. Repite esto cada semana durante un mes.
4. Al final del mes, suma la cantidad de libras de papel que desechaste cada semana. Pon el total en el cuadro de la tabla a continuación.

If 100 people all used this much paper each month, how much paper would they use all together?

Si 100 personas usaran esta cantidad de papel cada mes, ¿cuánto papel usarían todos juntos?

100 people x total pounds of paper per person = total pounds of paper per person

100 personas x total de libras de papel por persona = total de libras de papel por persona

To find out how many trees it takes to make that much paper, use a calculator to multiply the total by .012.

Para saber cuántos árboles se necesitan para hacer esa cantidad de papel, utiliza una calculadora para multiplicar el total por 0.012.

pounds of paper x .012 = trees per pound

libras de papel x .012 = árboles por libra

Write down one thing you can do at home to use less paper.
Escribe una cosa que puedas hacer en casa para utilizar menos papel.
My Design Ideas:

- Great Community, Great Schools
- Traverse City Area Public Schools

What other materials could you find and use?

• Peninsula
• Lake
• Fresh Water

How could I improve on my design for next time?

The five Great Lakes - Superior, Huron, Michigan, Erie and Ontario - span a total surface area of 94,600 square miles, making them the largest freshwater system in the world. More than 20% of the world’s freshwater is in the Great Lakes!

Learning Standards: 2nd grade

Develop a model to represent the shapes and kinds of land and bodies of water in an area.

2-ESS2-2 MI Develop a model to represent the state of Michigan and the Great Lakes, or a more local land area and water body.
(Activity Guide)

**Episode 204: Day and Night and Fun with -sh-, -th-, and -ch-**

**Read It**

Read the following poem out loud with someone you live with. Underline the words with the **sc** and **sk** blends.

Look up at the sky,  
Do you see the clouds skip?  
Sketch the night sky,  
Do the stars seem to flip?  
I have my book in hand to sketch all that I see,  
Scoop up your markers or crayons and try to join me!

*By Shernita Rodgers*

**Read It**

Some words have two consonants that blend together at the beginning of words but still produce their own sounds. You will find this in the **s** blends **sc** and **sk**.

The **s** and **c** blend together to say */sc/**.  
The **s** and **k** blend together to say */sk/**.

Sound out the words below. Then blend the **sc** and **sk** sounds together.

**s c a n** scan  
**s k i p** skip

**Write It**

Think about the story that you have been writing. What might be a good **lead sentence** to hook your readers? Remember to include the four w’s.

**Who** _______________  **Where** _______________  **What** _______________  

**When** _______________  

_________________________________________________________________________________  
_________________________________________________________________________________  
_________________________________________________________________________________
**ACTIVITY GUIDE**

**Episode 204:** Earthquakes, Eruptions and “thr” words  
**Book:** Earthquakes, Eruptions, and Other Events that Change Earth by Natalie Hyde

---

### Write It

**Thr-** is a blend that usually comes at the beginning of a word. It makes the /thr/ sound like in *throb*. Use a **thr-** word from the word box to complete each sentence.

| through | throw | throat | thrill | three | thread | throne |

1. To pitch a ball, you _______________ it.
2. This is the number that comes next in this sequence. one, two, ________.
3. A king has a special chair that he sits in. It’s called a ________________.
4. An airplane can fly ________________ a cloud.
5. Someone who is sewing is most likely going to use a needle and __________ to stitch the sweater up.
6. It was such a ______________ to ride on that big roller coaster.
7. I was nervous and had to clear my __________, before I began my speech.

---

### Draw It

**Alliteration** is when two or more words close together in a group of words all start with the same letter or sound. Read the following sentence out loud. Draw a picture to go with the sentence.

Shelly shows sheep how to shine shoes.
A suffix is a word part added to the end of a word to change a word and its meaning.

-ous
full of, having

-en
to cause to be or have

We often drop the -e on base words when we add suffixes that start with vowels.

Combine each base word with the given suffix. Write the new word in the space provided and read each definition. Try using the new words in a sentence, and share them with a family member.

<table>
<thead>
<tr>
<th>base word</th>
<th>suffix</th>
<th>new word</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>danger</td>
<td>ous</td>
<td></td>
<td>full of danger</td>
</tr>
<tr>
<td>fame</td>
<td>ous</td>
<td></td>
<td>full of fame</td>
</tr>
<tr>
<td>fright</td>
<td>en</td>
<td></td>
<td>to cause to be afraid</td>
</tr>
<tr>
<td>sharp</td>
<td>en</td>
<td></td>
<td>to cause to become sharp</td>
</tr>
</tbody>
</table>
Add & Subtract with Teen Numbers with Value Pak

<table>
<thead>
<tr>
<th>Equation</th>
<th>Solve by drawing base ten blocks or model in a double ten frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>$13 = 10 + \Box$</td>
<td></td>
</tr>
<tr>
<td>$10 + 6 = \Box$</td>
<td></td>
</tr>
<tr>
<td>$17 = \Box + 7$</td>
<td></td>
</tr>
<tr>
<td>$10 + \Box = 15$</td>
<td></td>
</tr>
<tr>
<td>$2 = 10 - \Box$</td>
<td></td>
</tr>
<tr>
<td>$14 - 10 = \Box$</td>
<td></td>
</tr>
<tr>
<td>$\Box = 18 - 10$</td>
<td></td>
</tr>
</tbody>
</table>
Plot and Compare

**Directions:** Plot the numbers given on the number line and use <, >, or = to compare the two numbers (example: 3 < 13).

1. 

```
| 600 | 610 | 620 | 630 | 640 | 650 | 660 | 670 | 680 | 690 | 700 |
```

Plot: 681, 618
Compare (use <, >, or =): __________ __________

2. 

```
| 300 | 310 | 320 | 330 | 340 | 350 | 360 | 370 | 380 | 390 |
```

Plot: 315, 366
Compare (use <, >, or =): __________ __________

3. 

```
| 400 | 500 | 600 |
```

Plot: 560, 460
Compare (use <, >, or =): __________ __________
**Fraction Match Up**

**Directions:** Cut out all the cards. Scatter the cards face down in two piles, one with the fraction cards and one with the shape cards. 2 players take turns flipping over one card from each pile, trying to make a match. If you make a match, keep the pair next to you. If you don’t make a match, flip both cards over and it’s the other player’s turn. The player with the most matching pairs wins!
**Week 3: Heroes**

July 4-10

Celebrate our nation’s birthday and the people we call heroes, whether they are veterans, everyday helpers, or the kind who wear capes.

Use the sheet below to mark off this week’s activities as you complete them. See if you can get a BINGO!

**Playlists this week: [www.michiganlearning.org/heroes](http://www.michiganlearning.org/heroes)**

<table>
<thead>
<tr>
<th>Activity 1</th>
<th>Activity 2</th>
<th>Activity 3</th>
<th>Activity 4</th>
<th>Activity 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design a gadget (pg. 43)</td>
<td>60 mins. of activity</td>
<td>Read 20 minutes</td>
<td>Make bubble mix (pg. 44)</td>
<td>Watch Read, Write, ROAR!</td>
</tr>
<tr>
<td>Read 20 minutes</td>
<td>Watch Math Mights</td>
<td>Spot a mail truck outside</td>
<td>Do a good deed</td>
<td>60 mins. of activity</td>
</tr>
<tr>
<td>60 mins. of activity</td>
<td>Try the Cyberchase planting puzzle</td>
<td>HAVE FUN! (Free Space)</td>
<td>Watch Meet the Helpers</td>
<td>Watch 20 minutes</td>
</tr>
<tr>
<td>Watch Read, Write, ROAR!</td>
<td>Do a good deed</td>
<td>Watch Math Mights</td>
<td>Watch InPACT at Home</td>
<td>Make superhero wrist cuffs (pg. 41)</td>
</tr>
<tr>
<td>Watch InPACT at Home</td>
<td>Read 20 minutes</td>
<td>Try a new food</td>
<td>60 mins. of activity</td>
<td>Spot a fire truck outside</td>
</tr>
</tbody>
</table>
Recycled Superhero Wrist Cuffs

AJ Gadgets uses his Superpowers of Science to engineer cool new gadgets from recycled materials. Join Sparks’ Crew by making your own HERO ELEMENTARY superhero wrist cuffs from empty toilet paper rolls.

**Directions:**

1. Find two empty toilet paper rolls and make a cut down the length of each one so that you can slip one over each wrist.
2. Decorate your superhero wrist cuffs! You can use paint, markers, glitter, yarn, fabric or your favorite art supplies.
3. Color and cut out the images below and affix one to each wrist cuff. Can you find other recycled materials from around your house to add to your cuff?
4. Wear your wrist cuffs and remember you can be a superhero by being kind and helping others!
This page was left blank to cut out the activity on the other side.
Create a gadget! AJ Gadgets makes super tools from everyday items. You can too! Create a gadget from recyclables. Think about AJ’s greatest gadgets: Arm-O-Matic, Rope Launcher, Twigcam, Dragonfly Drone, Launcher, Lacer Racer, Tooth Brushing Gadget, Night Vision Goggles. Next, take some time to think about what you would like to build. Draw your ideas below. Then, gather objects to complete your design! Be sure to ask a grownup for help if you need it.

What you need:
- **Pencil and eraser**
- **Recyclables:** cardboard boxes, plastic bottles, tin cans, newspapers/magazines, old toys, or other old objects (don’t use if there are sharp edges)
- **Joiners:** tape, glue, string, wire, pipe cleaners
- **Decorators:** paint, crayons, markers, stickers, and other craft supplies
- **Cutters:** scissors, hole punchers, etc. Be sure to use a grownup helper!

For more games and activities, visit pbskids.org/heroelementary

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Bubble Up!

Make a bubble mix at home for some outdoor fun!

What you need:
• 1/2 cup liquid dish soap
• 1/4 cup glycerin (from a pharmacy) or corn syrup (from a grocery)
• 2 cups water
• Bowl (or bucket)
• Spoon or chopstick

What to do:
Pour water, dish soap, and glycerin (or corn syrup) into the bowl or bucket. Stir slowly to mix the liquids, but to keep bubbles from forming. Dip the wand you created (see below) into the mixture and blow bubbles!

Create a Wand!

What you need:
• Pipe cleaners
• Your choice of the following:
  - wire coat hanger
  - cookie cutters
  - old sandbox or beach toys
  - kitchen utensils (ask a parent first!)
  - fly swatter

What to do:
AJ Gadgets makes tools from everyday things and you can too! Create a bubble wand – small or supersized. The larger the bubble wand, the larger the bubbles!

A bubble wand has two parts:
1. A shape (circle or square) with a hole in the middle
2. A handle

Use pipe cleaners or wire to attach the two parts of the bubble wand. Dip the wand into the bubble mixture you created (see above) and blow bubbles!

Find more games and activities at pbskids.org/heroelementary
My Summer Adventure

Dot, Dee and Dell love to explore and learn together. Write down or draw the places or things you’d like to explore this summer.

Find more games and activities at pbskids.org
Heroes are definitely in the medical field, but there are heroes everywhere! Police officers, teachers, scientists, firefighters, and soldiers are all heroes. And that’s not all! Who in your community is a hero?

Learning Standards: 3rd grade

3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.
Placing Puzzle

El Rompecabezas de la Siembra

Flowers, like trees, help clean our air and make cities more beautiful. Help the CyberSquad plan out a community garden for a new Cyber Site, using these rules:

- Every green flower must be directly above, below, or to the side of a yellow flower.
- Every green flower must also be directly above, below, or to the side of a pink flower.
- Pink flowers can’t be directly above, below, or to the side of another pink flower.

Cut out the flowers on the last page. Use a crayon or marker to color in:

- 5 green flowers
- 8 yellow flowers
- 5 pink flowers
- 7 blue flowers

Use the grid on the next page to make your plan. Move the flowers around until you find a plan that follows all three rules above. Once you have them in place, glue them down to plant your garden.

Las flores, como los árboles, ayudan a limpiar nuestro aire y a embellecer las ciudades. Ayuda al CyberSquad a diseñar un jardín comunitario para un nuevo Cyber Site siguiendo estas reglas:

- Cada flor verde debe estar justo arriba, abajo o al lado de una flor amarilla.
- Cada flor verde también debe estar justo arriba, abajo o al lado de una flor rosa.
- Las flores rosas no pueden estar justo arriba, abajo o al lado de otra flor rosa.

Recorta las flores que aparecen en la última página. Usa un crayón o marcador para colorear:

- 5 flores verdes
- 8 flores amarillas
- 5 flores rosas
- 7 flores azules

Usa la cuadrícula de la página siguiente para hacer tu plano. Cambia las flores de lugar hasta que encuentres un plano que siga las tres reglas anteriores. Una vez que las tengas en su lugar, págalas para plantar tu jardín.
Use a crayon or marker to color in:
Utiliza un crayón o marcador para colorear:

5 GREEN
8 YELLOW
5 PINK
7 BLUE
VERDE
AMARILLO
ROSA
AZUL

PLANTING PUZZLE
EL ROMPECABEZAS DE LA SIEMBRA
This page was left blank to cut out the activity on the other side.
GROW YOUR OWN GARDEN

Delicious, healthy vegetables don’t just come from the store. You and your family can grow them from seeds at home! You don’t need a big farm to grow vegetables. Even a small space can be home to a garden.

Use old newspapers to make a pot for planting seeds.

Materials:
- masking tape
- newspaper
- seeds for vegetables or herbs
- potting soil
- a can or jar

1. To make a newspaper pot:
   a. Tear two strips of newspaper the width of your hand (about 4” wide).
   b. Lay the two strips on top of each other.
   c. Place the can on its side at one end of the strip. Leave a little extra paper hanging off the bottom of the can.
   d. Roll the newspaper strips tightly around the can.
   e. When you get to the end, tape it down. Then fold up the extra newspaper over the bottom of the can and tape it down too.
   f. Pull the can out of the pot.

2. Fill the pot ½ full of soil.

3. Sprinkle some seeds on the soil. Cover the seeds with another layer of soil. Check the seed packet to see how much soil to add on top.

4. Place your pots on a plate or dish and put them by a window where they will get some light.

5. After the plant grows a few leaves, plant the whole pot in the ground or in a bigger pot. Over time, the newspaper will biodegrade (break down) in the soil.

---

CULTIVA TU PROPIA HUERTA

Las verduras deliciosas y saludables no solo vienen de la tienda. ¡Tu y tu familia pueden cultivarlas a partir de semillas en casa! No necesitas una gran granja para cultivar verduras. Incluso un espacio pequeño puede albergar una huerta.

Usa periódicos viejos para hacer una maceta para plantar semillas.

Materiales:
- cinta de enmascarar
- periódico
- semillas para verduras o hierbas
- tierra de macetas
- una lata o un frasco

1. Para hacer una maceta de periódico, debes:
   a. Cortar dos tiras de papel de periódico del ancho de tu mano (alrededor de 4 pulgadas de ancho).
   b. Pon las dos tiras una encima de la otra.
   c. Pon la lata de lado en un extremo de la tira. Deja un poco de papel extra colgando del fondo de la lata.
   d. Enrolla las tiras de periódico con firmeza alrededor de la lata.
   e. Cuando llegues al final, ponle la cinta. Luego dobla el periódico extra sobre el fondo de la lata y pégalo con cinta también.
   f. Sacas la lata de la maceta.

2. Llena la maceta hasta la mitad con tierra.

3. Esparraca algunas semillas en la tierra. Cubre las semillas con otra capa de tierra. Revís el paquete de semillas para ver cuánta tierra agregar en la parte superior.

4. Pon las macetas en un plato o una fuente y colócalas junto a una ventana donde reciban algo de luz.

5. Después de que crezcan algunas hojas, planta toda la maceta en la tierra o en una maceta más grande. Con el tiempo, el periódico se biodegradará (se descompondrá) en el suelo.
Use the words from above to fill in the blanks.

The ___________________________ separates the northern and southern ___________________________(s). We have day and night because the Earth ___________________________(s) on its axis. We have the seasons because the Earth is ___________________________(ed). If it is summer in the northern hemisphere then it is winter in the southern hemisphere. That is because the northern and southern hemispheres have ___________________________ seasons.

**Words to Know**

- **equator** - The imaginary line around the middle of the Earth
- **hemisphere** - a half of a sphere or ball
- **opposite** - completely different or located at another side or end
- **rotate** - to move or spin from the center or axis in a circular motion
- **tilt** - when an object is a little bit higher on one side than it is on the other side
Foundational Skills

Read the words in the Word Bank. These are all processes that change the Earth’s surface. Write a word from the Word Bank on the line that matches each picture and key word in the same row.

<table>
<thead>
<tr>
<th>earthquake</th>
<th>volcano</th>
<th>tsunami</th>
<th>landslide</th>
</tr>
</thead>
</table>

- wave
- slide
- erupt
- shake
**Read It**

Read the paragraph out loud. Circle the words with the after- and under-prefixes.

Piping Plovers are hard to spot! These endangered, sandy-colored birds are almost invisible on the beach. It is easiest to see plovers when they sprint toward worms and insects that hide just underground. When plovers chase their afternoon snack, you might see their white underside and orange legs.

**Foundational Skills**

A **prefix** is a word part added to the beginning of a word to change a word and its meaning.

- **after-** later or after
- **under-** below or less

**Try It**

Combine each base word with the given prefix. Write the new word in the space provided and read each definition. Try using the new words in a sentence, and share them with a family member.

<table>
<thead>
<tr>
<th>base word</th>
<th>prefix</th>
<th>new word</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>effect</td>
<td>after-</td>
<td>effect</td>
<td>result that happens after some time has passed</td>
</tr>
<tr>
<td>eat</td>
<td>over-</td>
<td>eat</td>
<td>eat less than you should</td>
</tr>
<tr>
<td>thought</td>
<td>after-</td>
<td>thought</td>
<td>something you think about later</td>
</tr>
<tr>
<td>ground</td>
<td>under-</td>
<td>ground</td>
<td>below ground</td>
</tr>
</tbody>
</table>
Make a 10 With D.C.

Directions: Use the ten frames to make 10. Solve the addition problem.

7 + 5 = □

9 + 8 = □
Materials:
• spinner (poke a paperclip through the template to the right)
• place value board (one for each partner)

Directions:
1. Work with a partner to try to make the greatest 3-digit number you can.
2. Player 1 spins. Player 1 decides if the number should go in the ones, tens, or hundreds place to make the largest 3-digit number. (ex: I rolled a 2 and I think it should go in the ones place because it is a low number. In the hundreds place, it would only be 200.) Use the place value board to build your number.
3. Player 2 repeats step 2. Continue taking turns spinning until both players have built their 3-digit number. Record your numbers on the chart below.
4. Work with your partner to compare the 2 numbers and fill in <, >, =. The player with the greater number wins! Play 5 rounds and the best out of 5 wins!

<table>
<thead>
<tr>
<th>Round</th>
<th>Player 1</th>
<th>Symbol</th>
<th>Player 2</th>
<th>Winner</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Place Value Boards

<table>
<thead>
<tr>
<th>hundreds</th>
<th>tens</th>
<th>ones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>hundreds</th>
<th>tens</th>
<th>ones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Directions: Partition each number line. Locate and label each fraction.

1. 1/4
   0   1

2. 1/8
   0   1

3. 1/3
   0   1

4. 1/4
   0   1   2

5. 1/6
   0   1   2

6. 1/8
   0   1   2   3   4
Week 4: Creatures

From the prehistoric to the present, learn about the fascinating features of creatures near and far.

Use the sheet below to mark off this week’s activities as you complete them. See if you can get a BINGO!

**Playlists this week:** www.michiganlearning.org/creatures

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
<th>Activity</th>
<th>Duration</th>
<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invent a creepy cool creature</td>
<td>60 mins.</td>
<td>Read 20 minutes</td>
<td>60 mins.</td>
<td>Catch a firefly</td>
<td></td>
</tr>
<tr>
<td>(62)</td>
<td></td>
<td></td>
<td></td>
<td>Watch Read, Write, ROAR!</td>
<td></td>
</tr>
<tr>
<td>Read 20 minutes</td>
<td></td>
<td>Watch Math Mights</td>
<td></td>
<td>Make bird observations (pg. 64)</td>
<td></td>
</tr>
<tr>
<td>Read 20 minutes</td>
<td></td>
<td>Make tracks with clay (pg. 63)</td>
<td></td>
<td>Move like a dinosaur (pg. 60)</td>
<td></td>
</tr>
<tr>
<td>Make a Rube Goldberg Machine</td>
<td>60 mins.</td>
<td>HAVE FUN! (Free Space)</td>
<td></td>
<td>Write a creature adventure (pg. 61)</td>
<td></td>
</tr>
<tr>
<td>60 mins. of activity</td>
<td></td>
<td>Track the weather</td>
<td></td>
<td>Move like a dinosaur (pg. 60)</td>
<td></td>
</tr>
<tr>
<td>Watch Read, Write, ROAR!</td>
<td></td>
<td>Read 20 minutes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go fishing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch InPACT at Home</td>
<td></td>
<td>Write a creature adventure (pg. 61)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make a leftover recipe (pg. 66)</td>
<td></td>
<td>Move like a dinosaur (pg. 60)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Instructions: Can you move like a dinosaur? Here’s a list of movements to get you and your child started! To play, have your child stand at one end of the room and move towards you using one of the prompts below.

- **WALK** like a Theropod (a bipedal dinosaur that walked on two legs)
- **MOVE** like a Brachiosaurus (a quadrupedal dinosaur that walked on all fours)
- **SPRINT** like an Ornithomimus (a dinosaur with long thin legs for sprinting or running really fast)
- **GLIDE** like a Microraptor (a small bird-like dinosaur that could move smoothly through the air)
- **SLITHER** like a Sanajeh (a prehistoric snake that slithered or slid around on its belly)
- **STOMP** like a T. rex! (a powerful dinosaur who walked around with loud, heavy steps)
- **DIVE** like a Hesperonis (a dinosaur that was good at diving deep underwater for fish)
- **FLY** like a Pteranodon (like Tiny, Shiny, and Don, Pteranodons could fly through the air very easily)
- **SWIM backwards** like a Michelinoceras (a squid-like creature who lived in the ocean and swam backwards)
- **HOOT** like a Corythosaurus (a dinosaur with a large crest on top of its head that made a hooting sound like a horn)
Instructions: It’s time to write a creature adventure! To get started, choose a creature and a setting (where the adventure takes place). Then, decide on the plot (what happens to the creature in the setting). Use the space below to begin the story.
Invent A Creepy Cool Creature

Think about what features make a creature creepy. Draw the creepiest creature you can invent, then make a cool Creature Power® suit for Martin to wear.

Find more games and activities at pbskids.org/wildkratts
MAKIN’ TRACKS WITH PLAY DOUGH!

DIFFICULTY: EASY

When you walk in wet sand, snow or mud, you leave behind a footprint. Animals do, too! We call those prints, “tracks.” Next time you’re exploring, look for tracks on the ground!

You can also make your own tracks to compare with friends, your pet, or one of the Nature Cat gang! Using play dough, make YOUR nature tracks to create an artistic masterpiece!

MATERIALS

- Play dough
- Rolling pin
- Washable paint and paintbrush (optional)

CAPTURE YOUR TRACKS

1. Make two balls with your dough.
2. Roll out each dough ball on a flat surface until it is a little bit bigger than your foot.
3. Ready? Press your hand into one piece of the dough.
4. Now repeat with a foot (or a patient pet.)
5. Let it dry and add some color with paint!

Find more games and activities at pbskidsforparents.org
My Bird Observations

Look out a window and draw a bird that you see.
Tell someone else about the bird. Share what you notice — for example, the colors of the feathers or the shape of its beak. What was it doing?
How could I improve on my design for next time?

My Design Ideas:

Great Community, Great Schools
Traverse City Area Public Schools

What other materials could you find and use?

- Dominos or Blocks
- Ball
- Cardboard
- Duct Tape
- Balloon
- Push Pin

Learning Standards: Kindergarten: Forces and Interactions: Pushes and Pulls
K-PS2-1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.
K-PS2-2 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.

Engineers usually design or build things. Some engineers also use their skills to solve technical problems. There are different types of engineers that design everything from computers and buildings to watches and websites.
LEFTOVER RECIPE CHALLENGE
DESAFÍO DE LA RECETA DE SOBRAS

Getting creative with leftovers helps waste less food! Can you help Jackie use her leftover foods to make an exciting new recipe? Pick three of the foods in Jackie’s refrigerator below to combine into a new recipe. Draw your leftover creation on the recipe card on the next page. Be sure to add a name for your new dish!

¡Al usar las sobras de forma creativa, se desperdicia menos comida! ¿Puedes ayudar a Jackie a usar las sobras de comida para crear una receta nueva? Escoge tres alimentos del refrigerador de Jackie para combinarlos en una receta nueva. Dibújalo lo que creaste en la tarjeta de recetas de la página siguiente. ¡No olvides escribir un nombre para tu plato nuevo!
LEFTOVER RECIPE CHALLENGE
DESAFÍO DE LA RECETA DE SOBRAS

MY NEW RECIPE
MI RECETA NUEVA

Try the same thing with leftovers at home! Make a list of the leftover food in your refrigerator, so that everyone in the family knows what you have. Challenge the whole family to use those leftovers to make new recipes. Don’t forget to use “ugly” fruits and veggies too!”

¡Intenta hacer lo mismo con las sobras que tienes en casa! Haz una lista de las sobras de comida que tienes en tu refrigerador para que todos en tu familia sepan lo que hay. Desafía a toda la familia a usar esas sobras para crear recetas nuevas. “¡No olvides usar frutas y verduras que estén ‘feas’, también!”

Our Leftovers
Nuestras sobras
**Sort It**

**Blends** are created when two consonant letters blend together at the beginning of words, but we can still hear each of their sounds.

Read the words in the word box below. Write each word under their correct S-blend.

<table>
<thead>
<tr>
<th>star</th>
<th>spend</th>
<th>swam</th>
<th>spin</th>
<th>sweater</th>
<th>storm</th>
<th>swim</th>
<th>spot</th>
<th>stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>sp</td>
<td></td>
<td>sw</td>
<td></td>
<td></td>
<td>st</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Read It**

Read the following sentences out loud. Underline the words with the **sp**, **sw**, and **st** blends.

1. We looked for a spot on the crowded beach.
2. “A storm is coming!” said Matt.
3. Other people continued to swim.

**Draw It**

Draw a picture to match the sentence.

I wore a sweater during the winter storm.

Look out for words with the **sp**, **sw**, and **st** blends when reading your favorite books.
Read, Write, ROAR™ 2nd Grade Episode 208

**Think About It**

Read the following statements, Which are true and which are false?

It's impossible to recycle a soda pop can. _____________

Over half of the garbage we throw out can be recycled. _____________

Plastic garbage often ends up in the sea. _____________

**Words to Know**

**Recycling** is when we take materials that we were going to throw away and put them through a process so they can be made into something else.

These symbols are found on **plastic** items that can be recycled.

[Symbols for recycling]

**Draw It**

Look at each object. Decide if it can be recycled or if it should be thrown in the garbage. Draw a line from each object to where it belongs.

[Drawings of various objects with arrows pointing to trash cans and recycling symbols]
A syllable is a word part that has one, and only one vowel sound. Sometimes a syllable will have more than one of these vowels, but they work together to make only one sound.

A closed syllable is a special kind of syllable. Closed syllables have ONLY one vowel that is followed by one or more consonants. Closed syllables usually have vowels that make their short vowel sound.

One strategy readers can use to read a word more accurately is to break it into syllables, or word parts.

Rules for Dividing Syllables

- Every syllable has one vowel or vowel team.
- Place a dot under each vowel
- Underline any vowel teams,
- Divide between two consonants

Try It

Use the rules for dividing syllables above to break the words into word parts.

plastic

landfill
Near Doubles with Abracus

**Directions:** Use the ten frames to solve the problems.

<table>
<thead>
<tr>
<th>Ten Frame</th>
<th>Double</th>
<th>Double + 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 + 7 = ___</td>
<td>7 + 8 = ___</td>
</tr>
<tr>
<td></td>
<td>4 + 4 = ___</td>
<td>4 + 5 = ___</td>
</tr>
<tr>
<td></td>
<td>8 + 8 = ___</td>
<td>8 + 9 = ___</td>
</tr>
<tr>
<td></td>
<td>3 + 3 = ___</td>
<td>3 + 4 = ___</td>
</tr>
<tr>
<td></td>
<td>6 + 6 = ___</td>
<td>6 + 7 = ___</td>
</tr>
</tbody>
</table>
Describe the Shape

Directions: Fill in the blanks. (Example: The rectangle is made up of 3 squares.

The ________ is made up of ___   ____________.

The ________ is made up of ___   ____________.

The ________ is made up of ___   ____________.

The ________ is made up of ___   ____________.
Guess the Fraction

**Directions:** Guess which fraction is displayed with a dot on the number line. Label the fraction.

1. 
2. 
3. 
4. 
5.
Week 5: Engineering  
July 18-24

Meet the people who design bridges, cars, and video games and learn how to think like an engineer.

Use the sheet below to mark off this week’s activities as you complete them. See if you can get a BINGO!

Playlists this week: www.michiganlearning.org/engineering

<table>
<thead>
<tr>
<th>Watch Live from the Opera House</th>
<th>60 mins. of activity</th>
<th>Read 20 minutes</th>
<th>Act out Structures (pg. 79)</th>
<th>Watch Read, Write, ROAR!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read 20 minutes</td>
<td>Watch Math Mights</td>
<td>Try the hexagon challenge! (pg. 75)</td>
<td>Travel the Food Miles Maze (pg. 80)</td>
<td></td>
</tr>
<tr>
<td>60 mins. of activity</td>
<td>Watch Meet the Helpers</td>
<td>HAVE FUN! (Free Space)</td>
<td>Build and balance an object (pg. 78)</td>
<td>60 mins. of activity</td>
</tr>
<tr>
<td>Watch Read, Write, ROAR!</td>
<td>Watch Meet the Helpers</td>
<td>Watch Math Mights</td>
<td>Watch InPACT at Home</td>
<td>Draw a family member’s car</td>
</tr>
<tr>
<td>60 mins. of activity</td>
<td>Watch InPACT at Home</td>
<td>Read 20 minutes</td>
<td>Try the Amazing Animals Challenge</td>
<td>Watch ArchiTreks</td>
</tr>
</tbody>
</table>

Playlists this week: www.michiganlearning.org/engineering
The Hexagon Challenge

Use your Odd Squad agent skills to solve
The Hexagon Challenge. Print out the two pages.

1. Cut out all the shapes from the Shape Box.
2. On the next page, mix and match your shapes to make a hexagon.
3. Record how you did it by drawing the lines of each shape you used like in the example at the top.
4. Reuse your shapes again and again to make more hexagon patterns.
   Try to find 8 different ways to make a hexagon.

Here’s a hexagon made with 4 triangles and a rectangle.

For more printables, go to pbskidsforparents.org
This page was left blank to cut out the activity on the other side.
The Hexagon Challenge

Example

When you are finished with the challenge, check out some possible solutions at www.fredrogers.org/odd-squad-hexagon-solution/

For more printables, go to pbskidsforparents.org
Balance Build

Students will explore symmetry and the properties of balance in this open-ended STEM challenge.

Materials: You can use anything that sparks imagination! Here are some examples.

- Paper
- Scissors
- Craft Sticks
- Beads
- Straws
- Clear Tape
- Masking Tape

Did you know?

Have you ever balanced a pencil or a ruler on your finger? If you have, you helped it reach a state of equilibrium. In order to balance an object, you have to find its center of gravity. In the case of your pencil, the center of gravity is the same as its midpoint. This is because pencils (and rulers) are symmetrical and have equal mass along its length.

Procedure:

1. First, select your materials to create a balancing object. We suggested a few above, but use what you have around your home and challenge your family members to engineer their own design!
2. Creating a symmetrical object, or something that is equal on both sides, will help you in your design process.
3. Once you are satisfied with your design, test it out! See if you can find your new inventions center of gravity to balance it on your finger.
4. What part of your design worked really well in order to achieve balance? Did you experience any failures during your build? What improvements could you make?

Keep Exploring:

Try creating an asymmetrical object that can balance on your finger, or try to create a build to balance on your nose!
Acting Out Structures

COLUMN

ARCH

COLUMN AND BEAM

DOME

TENSION

CANTILEVER

LOAD AND SUPPORT

VAULT / TUNNEL

COMPRESSION

FLYING BUTTRESSES

How does your house stay standing? Architects use structures like columns, beams, and arches to make buildings strong and be sure they last for many years. Grab a grown-up or a friend and try to make columns, beams, and arches with your body!
Sometimes food travels a long way to get from the farm to our table.

Draw a line to get the cherries from the farm to chef Digit in the maze below. Notice all the different types of transportation you use along the way. Add up the numbers from each type of transportation to see how many miles the cherries had to travel to get to Digit. Do it again and take a different path. Try to find the path with the lowest number of miles!

A veces la comida hace un gran recorrido para ir de la granja a nuestra mesa.

Dibuja una línea para llevar las cerezas desde la granja hasta el chef Digit a través del laberinto. Presta atención a los distintos tipos de transporte que usas en el camino. Suma los números de cada tipo de transporte para ver cuántas millas tuvieron que recorrer las cerezas para llegar a Digit. Luego, hazlo de nuevo, pero toma un camino diferente. ¡Intenta encontrar el camino que tenga menos millas!
My Design Ideas:

- Great Community, Great Schools
- Traverse City Area Public Schools

What other materials could you find and use?

- Various Boxes
- Foam Blocks, Cubes & Balls
- Form Board
- Fun Fabrics
- Masking Tape
- Small Bag of Bird Seeds
- Pipe Cleaners
- Wiggly Eyes

Animals are truly amazing. Did you know that to hover, hummingbirds may beat their wings up to 200 times per second? Or that a jaguar can see in the dark six times better than a human?

How could I improve on my design for next time?

Learning Standards: 2nd Grade

2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
High Frequency Words

High frequency words are words that show up a lot when we are reading and writing.

Or When What

Label It

Start at the bottom of the ladder. Say the word. Follow the instructions to change each word. Write the new word in the space provided.

Change the nd to a mp
Add a t after the s
Change the h to a s
Add an n before the d

Words to Know

We build a word ladder by starting with a word and using what we know about letters and sounds to make a new word by changing one or two letters at a time. We start at the bottom and build up, just like when you climb up a ladder.

Read It

Read the poem out loud. Underline the high frequency words.

The Noise by Amy Posey

Clang! Clap! Bump!
What is it?
Stomp! Ding! Thump!
Is it the cat or the dog?
Yes! That is when I saw the cat jump on the lamp!
What a bang!

Draw a picture to go along with the poem above.
Phonics Skills

Spelling Pattern o-u-g-h

When a word contains the spelling pattern o-u-g-h, those letters put together can represent seven different sounds. The chart on the right has words with four of the most common sounds.

Read the word on the left side of the chart. Listen to the ending sound. Read the word on the right side of the chart using the same ending sound from the first column for the o-u-g-h spelling pattern in the word.

<table>
<thead>
<tr>
<th>Matching sounds</th>
<th>Words with o-u-g-h</th>
</tr>
</thead>
<tbody>
<tr>
<td>no</td>
<td>although</td>
</tr>
<tr>
<td></td>
<td>dough</td>
</tr>
<tr>
<td></td>
<td>though</td>
</tr>
<tr>
<td>you</td>
<td>through</td>
</tr>
<tr>
<td>off</td>
<td>cough</td>
</tr>
<tr>
<td></td>
<td>trough</td>
</tr>
<tr>
<td>stuff</td>
<td>enough</td>
</tr>
<tr>
<td></td>
<td>rough</td>
</tr>
<tr>
<td></td>
<td>tough</td>
</tr>
</tbody>
</table>

Reuse It


Michigan Learning Channel

Read, Write, ROAR!™ 2nd Grade Episode 210
An open syllable is a special kind of syllable. Open syllables have one WRITTEN vowel that is NOT followed by one or more consonants. Open syllables USUALLY have vowels that make their long vowel sound.

Rules for Dividing Syllables

- Every syllable has one vowel or vowel team.
- Place a dot under each vowel
- Underline any vowel teams,
- Divide between two consonants

A few years ago, lead was found in Flint’s drinking water. Many kids got sick because they had been drinking the water for a long time. Some kids had skin issues and even changes to their brains, making it hard for them to learn. Furthermore, it’s happening in Benton Harbor and many cities in Michigan right now!

Michigan needs to check its water to make sure kids are not being hurt from their drinking water. One child in one family is too many!

Go through and underline each sentence in the text above according to the color code below:

- **Green** = topic sentence
- **Yellow** = important information (story telling parts)
- **Blue** = details (thoughts; feelings; description sentences

Look at this word. Each syllable is written in a different color. Which syllable in this word is not “closed in” by a consonant or consonants at the end?

newspaper

The second syllable ends with the vowel Aa. It is an open syllable.
Compare the Length

**Directions:** Put the objects in order from shortest to longest. Label the shortest object 1, label the middle object 2, and label the longest object 3.

Directions: Compare the 3 objects below. Fill in the blanks to complete the sentence.

The ____________ is taller than the _________ and _____________.

Math Mights 1st Grade #311 | © Strategic Intervention Solutions, LLC | mathmights.org
Split the Shape

Materials:
1. spinner (you will need a pencil and paperclip to create the spinner)
2. recording sheet
3. 2 players

Directions:
1. Player 1 spins and splits their shape.
2. Compare the shapes.
3. If you made equal parts, name the parts using halves, thirds, or fourths on the recording sheet.
4. Player 2 repeats steps 1-3. Continue taking turns until the recording sheet is filled in.
### Recording Sheet

<table>
<thead>
<tr>
<th>Player 1</th>
<th>Player 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Rectangle" /></td>
<td><img src="image2.png" alt="Rectangle" /></td>
</tr>
<tr>
<td><img src="image3.png" alt="Rectangle" /></td>
<td><img src="image4.png" alt="Rectangle" /></td>
</tr>
<tr>
<td><img src="image5.png" alt="Circle" /></td>
<td><img src="image6.png" alt="Circle" /></td>
</tr>
<tr>
<td><img src="image7.png" alt="Rectangle" /></td>
<td><img src="image8.png" alt="Rectangle" /></td>
</tr>
</tbody>
</table>

---

Math Mights 2nd Grade #311 | © Strategic Intervention Solutions, LLC | mathmights.org
### Equivalent Fraction Roll

**Materials:** 6 dice

**Directions:**
1. Player 1 rolls 2 die and makes a fraction with the 2 amounts shown on the dice. If you roll any fives, they count as a wild card and can be any number you'd like.
2. Player 2 rolls 6 dice and tries to create a fraction that is equivalent to Player 1’s fraction. (remember fives are wild)
3. If you cannot, re-roll as many number dice as you’d like. You can re-roll twice.
4. If you can make equivalent fractions, record your statement and show or explain how you know the fractions are equivalent.
5. You get 1 point for each pair of equivalent fractions you write.
6. Repeat steps 1-5 starting with Player 2. Play 8 rounds.

<table>
<thead>
<tr>
<th>Round</th>
<th>Equivalent Fractions</th>
<th>If an equivalent fraction was created, circle the player who gets the point.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Player 1 or Player 2</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Player 1 or Player 2</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Player 1 or Player 2</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Player 1 or Player 2</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Player 1 or Player 2</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Player 1 or Player 2</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Player 1 or Player 2</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Player 1 or Player 2</td>
</tr>
</tbody>
</table>
Week 6: Great Outdoors  

July 25-31

Explore the world outside your door and the incredible parks and waters that belong to us all.

Use the sheet below to mark off this week's activities as you complete them. See if you can get a BINGO!

Playlists this week: www.michiganlearning.org/greatoutdoors

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
<th>Activity</th>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make a bird feeder (pg. 93)</td>
<td>60 mins. of activity</td>
<td>Read 20 minutes</td>
<td></td>
<td>Watch Read, Write, ROAR!</td>
</tr>
<tr>
<td>Read 20 minutes</td>
<td></td>
<td>Watch Math Mights</td>
<td></td>
<td>Visit a new place</td>
</tr>
<tr>
<td>Search for Textured Treasures (pg. 91)</td>
<td></td>
<td>HAVE FUN! (Free Space)</td>
<td></td>
<td>Try a new food</td>
</tr>
<tr>
<td>60 mins. of activity</td>
<td></td>
<td>Go swimming</td>
<td></td>
<td>Read 20 minutes</td>
</tr>
<tr>
<td>Draw a pollinator (pg. 95)</td>
<td></td>
<td>Watch Math Mights</td>
<td></td>
<td>Watch InPACT at Home</td>
</tr>
<tr>
<td>Watch Read, Write, ROAR!</td>
<td></td>
<td>Watch InPACT at Home</td>
<td></td>
<td>Make leaf rubbings (pg. 94)</td>
</tr>
<tr>
<td>Watch the sunset</td>
<td></td>
<td>60 mins. of activity</td>
<td></td>
<td>Watch Live from the Opera House</td>
</tr>
<tr>
<td>Read 20 minutes</td>
<td></td>
<td>Watch the sunrise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch InPACT at Home</td>
<td></td>
<td>60 mins. of activity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Get the free Summer Fun Activity Book app from the App Store or find it at www.michiganlearning.org/activities.
Search for Textured Treasures!

From a prickly pinecone to a soft sweater, everything we touch has texture. How many textures can you find inside or outside of your house? Race the clock or race a friend with this printable scavenger hunt!

**Instructions:**

1) Look at the scavenger hunt table on the following page.

2) Begin hunting for textures on your list.

3) When you find something, draw a picture or write the object’s name next to its matching texture.

TEXTURE describes the feel or appearance of an object or the material an object is made of.

**More Ways to Play:**

- Instead of drawing or writing, snap photos with a digital camera or camera phone.
- In the spaces on your sheet, make crayon rubbings of the textures you find.
- Target your scavenger hunt. Look for objects in nature, in your kitchen, or a specific room.
- Explore other senses. Find things with different colors, smells, or even tastes. (Tastes found in the kitchen, of course.)

Find more games and activities at pbskidsforparents.org
<table>
<thead>
<tr>
<th>I’m looking for something...</th>
<th>I found a...</th>
</tr>
</thead>
<tbody>
<tr>
<td>smooth</td>
<td></td>
</tr>
<tr>
<td>rough</td>
<td></td>
</tr>
<tr>
<td>bumpy</td>
<td></td>
</tr>
<tr>
<td>prickly</td>
<td></td>
</tr>
<tr>
<td>sticky</td>
<td></td>
</tr>
<tr>
<td>fluffy</td>
<td></td>
</tr>
<tr>
<td>glossy</td>
<td></td>
</tr>
</tbody>
</table>
Make a Bird Feeder

What to Do:

1. **Select a bird feeder base**: Pinecones are a popular foundation for a bird feeder, but you may also use an empty paper towel roll or a stale piece of bread.

2. **String it up**: Run a wire, dental floss or cotton string through your bird feeder. Secure the two ends together to make a loop.

3. **Make it sticky**: Coat the base with peanut butter. If you know someone who has peanut allergies, use honey instead.

4. **Add some goodies**: Roll the feeder in raisins, cranberries, unsalted and unbuttered popcorn, sunflower seeds, shelled plain peanuts or mixed birdseed.

5. **Hang it up**: Place your bird feeder on a hook or on a tree branch outside your window. Discover which birds are popular in your neighborhood, research what they like to eat, and make a bird feeder for them.

6. **Keep a wildlife journal**: Record what kind of birds and other animals come to visit your feeder!

What You Need:

- Pinecone, paper towel holder or piece of bread
- Peanut butter or honey
- Your choice of the following:
  - Raisins
  - Cranberries
  - Plain popped popcorn
  - Sunflower seeds
  - Shelled plain peanuts
  - Mixed birdseed
- Safety scissors
- Wire, dental floss or cotton string

Find more games and activities at pbskidsforparents.org
Make Leaf and Bark Rubbings

Instructions

1. You’ll need one or more crayons with the labels removed, some cardboard or a clip board and some masking tape to help hold leaves or bark in place.

2. When you’re walking outside, collect a few fallen leaves, some bark or other natural materials. It’s best if you find leaves or bark where you can feel bumps or ridges.

3. Once you’ve found your leaves, bark or other items, use tape to secure the edges of the leaves, bark or other materials to the clipboard or cardboard so that they will stay in place while you make your rubbing.

4. Place this paper over the leaves and bark and lightly rub the side of the crayon over the surface of the paper, just hard enough so that the texture shows.

5. Write a list of words to describe how the leaf or bark feels or looks like.

What You’ll Need:
- Trees
- Plain white paper
- Crayons with label removed
- Masking tape (optional)
- Cardboard or clipboard
- Paper bag for collecting leaves

Find more games and activities at pbskidsforparents.org
Pollinators help plants with flowers to grow. Go on a pollinator scavenger hunt! Take a walk around your neighborhood or in a local park. Look for the pollinators below. Draw a circle around each one that you see.

Bats / Murciélagos
Bees / Abejas
Butterflies / Mariposas
Hummingbirds / Colibríes
Moths / Polillas
Beetles / Escarabajos

In the box below, draw a picture of one of the pollinators you saw. If there were plants nearby, put them in your drawing too! What kinds of plants do pollinators seem to like?
Growing Seeds

My Design Ideas:
Great Community, Great Schools
Traverse City Area Public Schools

What other materials could you find and use?
- Cardboard Egg Carton
- Scissors
- Potting Soil
- Used Coffee Grounds
- Seeds
- A Waterproof Plate or Tray

Humans use more than 2000 different types of plants to create various delicious food items in our meals!

Seeds can be as tiny as a grain of sand or bigger than a fingernail.

Learning Standards: Kindergarten
K-LST-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.
K-ESS3-3: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
Try It

Write or draw things in the diagram that you see in the Daytime on the left, and things you see in the Nighttime on the right. Things that you see in both day and night can go in the middle.

Daytime

Both

Nighttime

Draw It

In the story Astronaut Training by Aneta Cruz, Astrid dreams of becoming an astronaut.

Draw something that you dream of being when you grow up.

High Frequency Words

do

find

Be on the lookout for these words out and about and when reading or listening to a story. When you are writing, try to remember how you learned to spell them.
**ACTIVITY GUIDE**

**Episode 211:** Repurposing Metal and Simple Compound Words  
**Book:** *Metal Eco Activities* by Louise Nelson

---

**Read It**

A compound word is two smaller words that are joined together to make a new word.

\[ \text{out + side} = \text{outside} \]

Pick two of the words from this word bank in order to create the compound word that matches the picture.

- butter
- bath
- rain
- coat
- tub
- fly

---

**Think About It**

**Properties of Metal:**
- Can be thick or thin
- Made by people from a natural material
- Hard and strong
- Waterproof
- Opaque / NOT see-through
- Can be made into many shapes and colors

Take a look around you to see what materials made of metal you can find. Collect these materials and share them with someone in your home.

---

**Try It**

Create your own tin can telephone.

---

*Michigan Learning Channel  
Read, Write, ROAR!™ 2nd Grade Episode 211*
ACTIVITY GUIDE

Episode 212: Even More Closed and Open Syllables
Book: Coyote’s Soundbite: A Poem for our Planet by John Agard

Read It
An accurate reader pays close attention to every letter in a word.

Look at each word below. Think about the sounds that the letters make. Read the word out loud.

pan
pant
plant

Think About It
As you are reading a book, you may have different reactions to the words on the page. Sometimes you may feel happy while other times you may feel sad, angry, or confused.

After reading a book and experiencing different feelings, you can respond by writing a sentence that provides evidence from the book to backup your reaction.

Try It
Start at the bottom of the ladder. Follow the instructions to change each word. Write the word in the space provided.

Add a \textbf{d} at the end
dive
Change the \textbf{f} to a \textbf{t}
Change the \textbf{v} to a \textbf{r}
Change the \textbf{d} to a \textbf{f}

Write It
Use the sentence starters below to write about a book that you have read.

This book made me happy because

This book made me think because
Measuring with a Tool

Directions:
1. Choose an object to measure. Record the object on the chart below.
2. Choose a length measuring tool. You can use paperclips, cubes, etc.
3. Measure the length of the object with your tool and record the length on the chart below.
4. Repeat steps 1-3 five more times.

<table>
<thead>
<tr>
<th>Object</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: pencil</td>
<td>6 paperclips</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Object</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Sierra wakes up in the morning at 7:15. Show this time on the clock face below. Circle a.m. or p.m.

a.m. or p.m.

2. Sierra goes to bed at 8:45. Show this time on the clock face below. Circle a.m. or p.m.

a.m. or p.m.
Write the time for each clock face.

3. __ : __

4. __ : __

5. __ : __

6. __ : __
Materials: make a spinner with a pencil and paperclip, 2 different color crayons, recording sheet

Directions:

1. Player 1 chooses a denominator for the first round: 2, 3, 4, 6, or 8.
2. Each player spins for the numerator of their fraction.
3. Use the recording sheet. Each player, locate and label your fractions on the same number line.
4. The greatest fraction wins and picks the denominator for the next round.
5. Repeat for 5 rounds. The player who wins the most rounds, wins the game.
<table>
<thead>
<tr>
<th>Round</th>
<th>Locate and label your fraction (each player use a different color.)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td><img src="image1" alt="Fraction Diagram" /></td>
<td></td>
</tr>
<tr>
<td>Round 2</td>
<td><img src="image3" alt="Fraction Diagram" /></td>
<td></td>
</tr>
<tr>
<td>Round 3</td>
<td><img src="image5" alt="Fraction Diagram" /></td>
<td></td>
</tr>
<tr>
<td>Round 4</td>
<td><img src="image7" alt="Fraction Diagram" /></td>
<td></td>
</tr>
<tr>
<td>Round 5</td>
<td><img src="image9" alt="Fraction Diagram" /></td>
<td></td>
</tr>
</tbody>
</table>
**Week 7: When I Grow Up**  
**August 1-7**

All summer we'll learn about different careers—this week, think about all the exciting possibilities in your future!

Use the sheet below to mark off this week’s activities as you complete them. See if you can get a BINGO!

### Playlists this week: www.michiganlearning.org/growup

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
<th>Activity</th>
<th>Duration</th>
<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learn about a family member’s job</td>
<td>60 mins.</td>
<td>Read 20 minutes</td>
<td></td>
<td>Watch Read, Write, ROAR!</td>
<td></td>
</tr>
<tr>
<td>Read 20 minutes</td>
<td></td>
<td>Watch Math Mights</td>
<td></td>
<td>Practice ballet positions (pg. 106)</td>
<td></td>
</tr>
<tr>
<td>60 mins. of activity</td>
<td></td>
<td>Watch Live from the Opera House</td>
<td></td>
<td>60 mins. of activity</td>
<td></td>
</tr>
<tr>
<td>60 mins. of activity</td>
<td></td>
<td>HAVE FUN! (Free Space)</td>
<td></td>
<td>Read 20 minutes</td>
<td></td>
</tr>
<tr>
<td>Watch Read, Write, ROAR!</td>
<td></td>
<td>Learn about a family member’s job</td>
<td></td>
<td>Read 20 minutes</td>
<td></td>
</tr>
<tr>
<td>Watch Meet the Helpers</td>
<td></td>
<td>Watch Math Mights</td>
<td></td>
<td>Fill in the compost fractions (pg. 110)</td>
<td></td>
</tr>
<tr>
<td>Read 20 minutes</td>
<td></td>
<td>Practice Fact Families (pg. 109)</td>
<td></td>
<td>Invent an instrument (pg. 108)</td>
<td></td>
</tr>
<tr>
<td>Watch InPACT at Home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Playlists this week: www.michiganlearning.org/growup
In 2015, Misty Copeland became the first Black principal ballerina with the American Ballet Theater. Learn the five basic foot positions used in ballet. Create a dance using the positions and add leaping and twirling to your moves just like Misty!

The Five Ballet Positions

1 2 3 4 5
Bianca’s Body Math

Did you know that for a lot of people, their foot is the same length as their forearm? Find out if it’s true for you!

YOU NEED
piece of string (a little longer than your height)
black marker

DIRECTIONS
First, start at the end of your string and mark off seven of your foot-lengths.

Now use the string to measure the body parts listed below. Have a friend help. Be sure to measure from one black mark on the string to the next.

Who Knew?
A person’s height is often the same as his or her arm span (arms out to side, middle fingertip to middle fingertip). Is yours?

Measure
From wrist to elbow (forearm) 
Around widest part of your fist 
Around your forehead 
From head to toe

About how many foot lengths?

[Diagram of feet marked with seven foot-lengths]

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Music to Our Ears!
Help! Hacker stole all the musical instruments from the borgs in R-Fair City on the day of their big parade! Can you invent a musical instrument to save the parade?

Make Your Instrument

1. Play with the materials. Find sounds that you like by shaking, striking, or spinning objects.

2. Use the “My Invention Design” handout to plan your Music Maker. Make a sketch to show what it looks like.

3. Make your instrument and try it out. Does it work the way you planned?

4. What changes can you make to your instrument to improve how it sounds?

How Am I Inventing?
Inventors take time to plan an invention before they start building. They start with an idea of what they want their invention to do and make a plan. When they stick to that plan, they can build an invention that works the way they want. This is called designing for function. When you design your instrument to make a particular sound, you’re designing for function, too.

Materials
For your Music Maker:
- plastic and paper cups, paper plates, beans, beads, jingle bells, paper towel rolls, pipe cleaners, paper straws, waxed paper, combs, rubber bands, balloons, craft sticks, plastic salad bar containers, aluminum foil, and other found objects
- Masking tape
- Stapler
- “My Invention Design” handout
- Pencil

Get inventive with CYBERCHASE on PBS KIDS GO!
Check local listings or visit www.pbskids.org/cyberchase.

CYBERCHASE is produced by Thirteen / WNET New York and Nelvana Limited.
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CYBERCHASE © 2006 Educational Broadcasting Corporation. All rights reserved.
The Odd Squad Mobile Unit must stop a group of villains from causing oddness! Help the agents solve the fact family problems shown in the triangles below and on the next page. A fact family is a group of numbers related to one another. Use addition and subtraction to find the answers and help end the oddness that is taking over the city!

Here’s a fact family using the numbers 1, 2, and 3.

\[
\begin{align*}
3 & \quad 2 + 1 = 3 \\
2 & \quad 3 - 2 = 1 \\
1 & \quad 3 - 1 = 2
\end{align*}
\]

This example shows the fact family for the numbers 3, 4, and 7.

\[
\begin{align*}
7 & \quad 4 + 3 = 7 \\
4 & \quad 7 - 3 = 4 \\
3 & \quad 7 - 4 = 3
\end{align*}
\]

Can you finish this fact family?

\[
\begin{align*}
5 & \quad 2 + \square = 5 \\
2 & \quad 5 - 2 = \square \\
\square & \quad 5 - \square = 2
\end{align*}
\]

Create another fact family with the number 5, but don’t use the numbers 0, 2, or 3 in the triangle.

\[
\begin{align*}
\square & \quad + \square = 5 \\
\square & \quad + \square = 5 \\
\square & \quad 5 - \square = \square \\
\square & \quad 5 - \square = \square
\end{align*}
\]
Composting is the process of changing food waste (and grass and leaves) into new soil. To compost, you need to use 1/3 “green” material (fruit and vegetable scraps) and 2/3 “brown” material (dried leaves and recycled paper).

1. Count the squares below. Each one is 1/3 of the total rectangle.
2. Color 1/3 of the rectangle below (or 1 square) with a green crayon or marker.
3. Color 2/3 of the rectangle below (or 2 squares) with a brown crayon or marker.

Let’s find more ways to show this rule. If you had three balls, how many green balls and how many brown balls would you need?

What if you had six balls?

Veamos más formas de mostrar esta regla. Si tuvieras tres pelotas, ¿cuántas pelotas verdes y cuántas pelotas marrones tendrías?

¿Y si tuvieras seis pelotas?
**Storytime Challenge**

**Protect Your Egg**

**REUSE Toolbox**

- A Raw Egg
- Foam
- Duct tape
- Masking tape
- White paper
- Colored Pencils
- Crayons

**My Design Ideas:**

- Great Community, Great Schools
- Traverse City Area Public Schools

**What other materials could you find and use?**

**Iteration**

- Kinetic energy
- Potential energy

**A sports engineer focuses on preventing injury while enhancing the performance of the athletes. That includes what the athlete wears and uses, but also the sporting environment and the tools for analyzing the athlete’s performance!**

**How could I improve on my design for next time?**

**Learning Standards: 3rd-5th Grade**

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
Help us climb the word ladder! Follow the directions and write each word on the rungs of the ladder. Read each word you write.

Step 6: Take away the \( p \)

Step 6: Change the \( i \) to a \( u \)

Step 5: Take away the final \( e \)

Step 4: Add an \( s \) before the \( p \)

Step 3: Change the \( m \) to a \( p \)

Step 2: Change the \( d \) to an \( e \)

Step 1: Change the \( w \) to an \( m \)

Start here → wind
**Compare It**

Choose two fiction books to read and then fill in the chart below.

<table>
<thead>
<tr>
<th>Comparing Literature</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title of Book 1</strong></td>
<td><strong>Title of Book 2</strong></td>
</tr>
<tr>
<td>Story Elements</td>
<td></td>
</tr>
<tr>
<td>Setting</td>
<td></td>
</tr>
<tr>
<td>Characters</td>
<td></td>
</tr>
<tr>
<td>Problem</td>
<td></td>
</tr>
<tr>
<td>Solution</td>
<td></td>
</tr>
</tbody>
</table>

**Phonics Skills**

Let’s make and read words as we move up the word ladder. Start at the bottom. Read the word **sister**. Remember that we can split words with more than one syllable between consonants (**sis/ter**) to make them easier to read. Follow the directions to see how to change the first syllable in each word as you move up the ladder. Each time you make a new word, practice reading and writing it before moving further up the ladder.

- Change **crit** to **chap**
- Change **af** to **crit**
- Change **win** to **af**
- Change **sis** to **win**

**Think About It**

Using the information you filled out in the chart above, answer the following questions.

How are the two books alike?
How are the two books different?
**Foundational Skills**

Asking questions while reading a book can deepen your understanding of the story. Use the chart below to write questions as you are reading. Go back and reread parts of your book to answer your questions. Write your answers below your question. Be sure to include the page number where you found your answer.

<table>
<thead>
<tr>
<th>Who</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>What</td>
<td></td>
</tr>
<tr>
<td>Where</td>
<td></td>
</tr>
<tr>
<td>When</td>
<td></td>
</tr>
<tr>
<td>Why</td>
<td></td>
</tr>
<tr>
<td>How</td>
<td></td>
</tr>
</tbody>
</table>
Sort Solid Shapes

Directions:
1. Cut out the labels below. Figure out which box represents each label. Glue down the labels in the correct box.

- round
- flat
- shapes with straight sides
- shapes with NO straight sides
- shapes that are tall
- shapes that are short
- shapes that roll
- shapes that don't roll

[Diagram of solid shapes with labels:]
- Paste label here
- Paste label here

Math Mights 1st Grade #401 | © Strategic Intervention Solutions, LLC | mathmights.org
This page was left blank to cut out the activity on the other side.
Measure to the Nearest Half or Quarter Inch

Directions:

1. Label one ruler with halves and cut it out.
2. Find 5 objects and use this ruler to measure the objects to the nearest half-inch.
3. Record your measurements on the recording sheet.
4. Label the second ruler with fourths (quarters) and cut it out.
5. Find 5 objects and use this ruler to measure the objects to the nearest quarter-inch.
6. Record your measurements on the recording sheet.
This page was left blank to cut out the activity on the other side.
# Math Mights 3rd Grade #401
© Strategic Intervention Solutions, LLC | mathmights.org

## Object Measurement to the nearest half-inch.

<table>
<thead>
<tr>
<th>Object</th>
<th>Measurement to the nearest half-inch.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Object Measurement to the quarter half-inch.

<table>
<thead>
<tr>
<th>Object</th>
<th>Measurement to the quarter half-inch.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Coin Compare

**Materials:** money cards (cut out)

**Directions:**
1. Put all the cards in one pile face down.
2. Player 1 and Player 2 each turn over a card from the top of the pile.
3. Each player finds the value of the collection of coins shown on their card.
4. Both players compare their cards. The player with the greatest coin value takes both cards.
5. Continue to play until all the cards have been taken from the pile.
6. The player with the most cards wins!

<table>
<thead>
<tr>
<th>Player 1</th>
<th>Player 2</th>
<th>Which player has the greatest value?</th>
</tr>
</thead>
<tbody>
<tr>
<td>________¢</td>
<td>________¢</td>
<td></td>
</tr>
<tr>
<td>________¢</td>
<td>________¢</td>
<td></td>
</tr>
<tr>
<td>________¢</td>
<td>________¢</td>
<td></td>
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<tr>
<td>________¢</td>
<td>________¢</td>
<td></td>
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<tr>
<td>________¢</td>
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<td>________¢</td>
<td>________¢</td>
<td></td>
</tr>
<tr>
<td>________¢</td>
<td>________¢</td>
<td></td>
</tr>
</tbody>
</table>
This page was left blank to cut out the activity on the other side.
Week 8: Shoot for the Stars

August 8-14

Look up at the night sky and into outer space and meet people who risked everything to follow their dreams.

Use the sheet below to mark off this week’s activities as you complete them. See if you can get a BINGO!

Playlists this week: www.michiganlearning.org/stars

<table>
<thead>
<tr>
<th>Star</th>
<th>Read 20 minutes</th>
<th>Watch Live from the Opera House</th>
<th>Watch Read, Write, ROAR!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stargaze</td>
<td>60 mins. of activity</td>
<td>Try Luna’s word find (pg. 128)</td>
<td>60 mins. of activity</td>
</tr>
<tr>
<td>Read 20 minutes</td>
<td>Watch Math Mights</td>
<td>Watch the sunset</td>
<td></td>
</tr>
<tr>
<td>60 mins. of activity</td>
<td>Make a poster (pg. 129)</td>
<td>Look at the clouds</td>
<td>Read 20 minutes</td>
</tr>
<tr>
<td>Watch Read, Write, ROAR!</td>
<td>Draw a space creature (pg. 124)</td>
<td>Watch InPACT at Home</td>
<td>Visit a new place</td>
</tr>
<tr>
<td>Watch InPACT at Home</td>
<td>Read 20 minutes</td>
<td>Stargaze</td>
<td>Make flashlight constellations</td>
</tr>
</tbody>
</table>
SPACE CREATURE

Have a friend draw its body here.

Then you draw its legs and feet here.

Draw a space creature’s head here!
Flashlight Constellations

A constellation is a series of stars that form a picture in the sky. Astronomers use it today to help pinpoint the locations of other stars. Ask an adult to help cut out the four constellations and punch small holes on each star. These points are the locations of the stars in each constellation.

**URSA MAJOR**

Ursa Major is also known as The Great Bear. Ancient Greeks tell the story about a beautiful girl named Callisto who was turned into a bear by a mean goddess. A tracker tried to catch the bear, but the Greek God Zeus saved Callisto by placing her up in the night sky where she was safe.

**URSA MINOR**

The story of Ursa Minor, or The Little Bear, comes from the Ancient Greeks. Arcas was a great hunter. One day while hunting in the woods, he came across a great bear. Little did he know that was actually his mother, Callisto, who was under a spell. Arcas was about to catch the great bear, but the Greek god Zeus, stopped him just in time and turned Arcas into a little bear so he could be with his mom. Zeus placed the two bears into the sky to keep them safe and protected.

**LEO THE LION**

In Greek myths, Leo the Lion lived outside an ancient city called Nemea. For many years, Leo would scoop up people from Nemea and no one would stop him. One day, Hercules went to stop the lion and won. Everyone who the lion had caught was set free. Zeus made Leo a constellation in the night sky to remind people of the story of Hercules and Leo.

**TAURUS THE BULL**

The Ancient Greeks tell the story of a wild bull named Taurus who had a bad temper. One day he trampled a field of wild flowers and Persephone, the Goddess of Spring, got very sad. Taurus apologized and they soon became good friends. From then on, every spring, Persephone would ride on Taurus’ back and the two of them would make the flowers bloom as they walked by.

Find more games and activities at pbskidsforparents.org
This page was left blank to cut out the activity on the other side.
Flashlight Constellations

**Constellation Key**

<table>
<thead>
<tr>
<th>URSA MAJOR</th>
<th>URSA MINOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Great Bear</td>
<td>The Little Bear</td>
</tr>
</tbody>
</table>

![Diagram of The Great Bear constellation](image1)

![Diagram of The Little Bear constellation](image2)

<table>
<thead>
<tr>
<th>LEO</th>
<th>TAURUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Lion</td>
<td>The Bull</td>
</tr>
</tbody>
</table>

![Diagram of The Lion constellation](image3)

![Diagram of The Bull constellation](image4)

Find more games and activities at [pbskidsforparents.org](https://pbskidsforparents.org)
Word Find

Andy, Carmen, and Leo are traveling the world! Can you find all of these words?

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

WORLD LUNA FRIENDS TRAVEL MOON GLOBE

Find more games and activities at pbskids.org/luna

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Big Finale

BIG IDEA
There is a lot that we can do to impact the environment. What issues are important to you? Think about what you have learned and take the time to share things you can do to support and protect nature in our communities.

WATCH
Watch the clip from Space Waste Odyssey where the CyberSquad and Motherboard share what they’ve learned about creating less trash with the citizens of Cyberspace.

- Remember that the CyberSquad noticed a lot of trash was building up in “trash patches” in Cyberspace. They examined the trash to find out what was causing the problem.
- After watching, think about what environmental issue was important to the CyberSquad and what they did about it:
  - What was the problem that the CyberSquad saw?
  - What was one way that they thought people in Cyber-space could fix that problem?
  - How did they spread the word about making less trash to other people?
  - Why is it important for the CyberSquad to share what they’ve learned with other people?

EXPLORE: Use Your Voice

Materials:
- Research materials to learn more about a topic
- Art materials for posters or digital materials (like a cell phone camera or a blog post)

Instructions:
1. What is an environmental problem that exists in your school, neighborhood, or at home? Which issues are less well-known by your family, friends, or neighbors?
2. Decide on one (or a few) key issues for your community.
3. Brainstorm ways to share the information you’ve learned with as many people as possible. Examples include short video Public Service Announcements (you can use a cell phone camera), a page for the school website, articles for a school newspaper or blog, or posters for public spaces.
4. Create! Focus on including information about why the issue matters and what people can do to help. Then show off what you made!
Balloon
Bagpipe

REUSE Toolbox
What other materials could you find and use?

My Design Ideas:

• Large Balloon
• Plastic Bottle Top
• Plastic Tube
• Scissors

DID YOU KNOW
All musical instruments create sound through vibrations! Those vibrations create sound waves. Slower sound waves make a lower pitch, faster waves make a higher pitch!

Learning Standards: 1st Grade
1-PS4-1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

How could I improve on my design for next time?

Balloon
Bagpipe

Power Up Words
• Vibration
• Pitch
• Waves

Career Lift-Off
• Musician
• Sound Engineer
• Music Director
• Teacher
• DJ

Great Community, Great Schools
Traverse City Area Public Schools
**Mystery Word**

A **noun** identifies a person, place, thing or idea.

A **singular** noun names one person, place, thing or idea, while a **plural** noun names more than one person, place, thing or idea.

*Most singular nouns need an 's' at the end to become plural.*

For example,

**Singular** (1): dog

**Plural** (more than 1): dogs

Regular singular nouns ending in 's', 'ss', 'sh', 'ch', 'x', or 'z' need an 'es' at the end to become plural.

For example,

**Singular** (1): glass

**Plural** (more than 1): glasses

**Try It**

- **s or -es?**
  Practice making the following nouns plural by adding -s or -es. Remember to look at the ending to decide.

*Words ending with 's', 'ss', 'sh', 'ch', 'x', or 'z' need an 'es'*

- brush___
- can___
- tent___
- bus___
- hand___
- mess___
- pen___
- lunch___
- box___
- pin___

**Try It**

**Observation** means to notice or see, or watch or listen carefully.

Find somewhere where you can use your senses to make some observations. Write what you hear 👂👂, see 👀👀, smell👃👃, or feel✋.

______________________________________

______________________________________

______________________________________

______________________________________

______________________________________

A **constellation** is a group of stars that forms a shape or picture.

Connect the dots to see the Big Dipper Constellation shape.
Read It

Read the following passage out loud. Underline the compound words.

Yesterday, in art class, we were making posters out of cardboard. We used markers, magazines, and watercolor paints. Our posters were all about reducing, reusing, and recycling. We brainstormed ideas on the whiteboard and on notebook paper. When we finished, we posted our classwork in the hallways, the lunchroom, and on the playground.

Words to Know

Compound Word - a word that is made up of two or more smaller words

Types of Compound Words:

A simple compound word has two syllables
sun + shine = sunshine

A complex compound word has more than two syllables.

after + noon = afternoon

Try It

Choose one compound word that you underlined above. Write each word that makes up the compound word on a blank below. Rewrite the word from the paragraph on the next line.

_______________ + ________________

word                     word

_______________________

Is this word a simple or complex compound word?
Think About It

When you are reading a story, think about the way the characters act. What patterns and behaviors do they display?

A character's behaviors and patterns help us make predictions and infer the kind of person they are using our schema (background information).

Foundational Skills

Character theory is the name of the character + your thoughts about the character + evidence in the book that provides support for your thoughts.

Try It

Use the graphic organizer below to create a character theory about a character in a book that you are reading.

Who is the character?

How does the character act? (patterns and behaviors)

__________________ is ________________ because _____________________________________.
__________________ is ________________ because _____________________________________.
__________________ is ________________ because ______________________________________.

Michigan Learning Channel | Read, Write, ROAR!™ 3rd Grade Episode 215
Draw Triangles, Rectangles, and Squares

Draw 3 triangles.

Draw 3 non-triangles.
Draw 3 rectangles.

Draw 3 non-rectangles.
Draw 3 squares.

Draw 3 non-squares.
The Toy Store

Look at the prices of the toys, then answer the questions on the following page.

- soccer ball: $1.00
- puzzle: 15¢
- airplane: 25¢
- castle: 99¢
- boat: 20¢
- fidget spinner: 30¢
- bear: 39¢
- robot: 75¢
<table>
<thead>
<tr>
<th>I bought three robots and a soccer ball. How much did I spend?</th>
<th>I bought two toys and spent 40¢. What might I have bought?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I bought a castle and a fidget spinner and gave the shopkeeper 6 quarters. How much change did I receive?</td>
<td>You buy a boat and four airplanes. How much do you spend?</td>
</tr>
<tr>
<td>Ben buys 2 robots and a puzzle. How much change will he get from a 5 dollar bill?</td>
<td>I buy one bear and two castles. How much do I spend?</td>
</tr>
<tr>
<td>Choose any one item from the store. Show what coins you could use to pay the exact cost.</td>
<td>Choose any two items from the store. Show what coins you could use to pay the exact cost.</td>
</tr>
<tr>
<td>You buy five puzzles. How much change do you get from a one dollar bill?</td>
<td>I spent $1.19 at The Toy Store. What might I have bought?</td>
</tr>
</tbody>
</table>
Interpret Data From a Line Plot

Directions: Select **ALL** of the statements that are true about the measurements in the line plot below.

A. 5 paper airplanes had a length of \( \frac{1}{2} \) inches.

B. 6 paper airplanes had a length of \( \frac{9}{2} \) inches.

C. There were 12 paper airplanes measured.

D. There were 20 paper airplanes measured.

E. The shortest paper airplane was 5 inches.

F. The shortest paper airplane was \( \frac{4}{2} \) inches.
SPECIAL THANKS TO OUR
MICHIGAN LEARNING CHANNEL FUNDERS:

Elaine and Leo Stern Foundation

The Donald and Mary Kosch Foundation

The State of Michigan
WHAT IS MEET UP AND EAT UP?
Meet Up and Eat Up provides FREE nutritious meals for children and teens 18 years and younger.

HOW DO I SIGN UP?
No application or sign-up needed, just come and join us!

WHERE IS IT?
To find a location near you
Visit: www.michigan.gov/meetupeatup
Call: 211
Text: Food to 304-304
Mande por texto “Comida” al 304-304