Creative Kits
ACTIVITIES FOR KIDS
JANUARY 2021
“I NEED SOME SPACE!”
Welcome to your Creative Kit! Because the library is not yet open for programs, this kit includes a month’s worth of activities for you to complete at home. Inside, you’ll find craft projects, science experiments, games and activities, a book list, a reading challenge, and much more.

To make the most of your kit, tune in to videos and virtual programming hosted by the library (a full schedule is included). If you have any questions about your kit, please call the library at 224-7113, or email the Youth Services Librarian at juliana@bakerfreelib.org.

This month’s theme is I Need Some Space! All month long, we’ll explore the wide world of outer space, the night sky and constellations, wild weather, space travel and much more, with stops at the planets, stars and moon! In this kit, we'll learn about:

- The Phases of the Moon
- How Planets Orbit the Sun
- The Forces Involved in Space Flight
- How Telescopes Find Stars in the Sky
  ...And much more!

Register for programs and future kits at www.bowbakerfreelibrary.org.
Let's Explore!
Additional Information & Resources

Additonal Resources

**How To Smile**
Howtosmile.org is a repository of all things STEM-related. Access more than 3,000 free activities and experiments, while learning more about any scientific topic of interest. To access their space-related activities, visit www.howtosmile.org/topics/astronomy.

**NASA Space Place**
When it comes to space, NASA are the experts! Visit NASA’s exclusive portal for kids and families with NASA At Home, and check out dozens of crafts and activities at Space Place by visiting spaceplace.nasa.gov.

**Hubble Site**
View photographs and videos captured by NASA’s Hubble Telescope, which has been exploring the universe around us for more than 30 years. See galaxies, stars, and supernovas up close! Visit www.hubblesite.org to get lost in space.

Curious Questions

**How Does A Telescope Work?**
Telescopes are tools used by scientists and astronomers to observe the night sky. Because objects in space are so far away from us, a telescope helps bring them into focus! But how?

Most telescopes work by using **curved mirrors or lenses** to gather and focus light from the sky. The bigger the mirror, the farther it can “see,” which is why bigger telescopes are more powerful than smaller ones.

Telescopes that use mirrors are called **reflecting telescopes**. In order to gather light, the mirror must be curved in just the right way to bounce light back to the viewer, without blurring or distorting the image. Any scratches, smudges or dust on the mirror will make the image blurry.

**DID YOU KNOW?** The Library has a reflecting telescope! You can check it out anytime with your library card. It works just like the one in this image!
**JANUARY 2021**

**SUGGESTED CALENDAR**

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
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<tbody>
<tr>
<td>YOU CAN COMPLETE THE ACTIVITIES IN YOUR KIT AT ANY TIME. THIS CALENDAR SIMPLY SHOWS A PROPOSED SCHEDULE THAT SPREADS YOUR KIT’S CONTENTS THROUGHOUT THE MONTH, AND IS DESIGNED TO COORDINATE WITH VIRTUAL PROGRAMMING HOSTED BY THE LIBRARY. LIBRARY EVENTS ARE COLORED IN BLUE!</td>
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<tr>
<td><strong>ART EXPLORATION</strong> Tell your story! Try the Roll-a-story activity (3-7), or stretch your wings with our short story challenge (8-12).</td>
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<td><strong>DRAWING CHALLENGE</strong> Two of the worksheets in your kit will teach you to draw an astronaut and an alien -- try them today!</td>
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<tr>
<td><strong>PICTURE BOOK READ-ALOUD</strong> 10:30AM (Virtual)</td>
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<td><strong>HUBBLE SITE</strong> Visit NASA’s Hubble Site today to see real photos and videos of the planets and stars!</td>
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<td><strong>STEM EXPLORATION</strong> Assemble your homemade straw rocket today and watch it soar (3-7).</td>
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<td><strong>COLORING CONTEST</strong> Color and submit your coloring page for this month’s contest -- the deadline is Saturday.</td>
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<td><strong>ART EXPLORATION</strong> Today, put together your spaceship spinner and take a ride to the moon (or Mars!)</td>
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<td><strong>LEGO CHALLENGE</strong> Build your own project, inspired by the library’s monthly Lego Challenge!</td>
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<td><strong>READ CHALLENGE</strong> Can you complete one (or more) of the items on your reading challenge today?</td>
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<td><strong>READ CHALLENGE</strong> Stock up on some new books at the library, and check off an item on your monthly reading challenge!</td>
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<td><strong>STAR GAZING NIGHT</strong> Pack your moon map, constellation chart and a snack, and spend an hour gazing beneath the stars.</td>
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<td><strong>SIGN-UP FOR FEBRUARY’S KIT</strong> Don’t forget to register for February’s kit, available on the first of the month.</td>
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<td><strong>HOW TO SMILE</strong> Visit howtosmile.org to view hundreds of projects and experiments you can try from home.</td>
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<td><strong>GAMES AND WORKSHEETS</strong> Try out your space-inspired mazes and worksheets today.</td>
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<td><strong>SPACE PLACE</strong> Head to NASA’s Space Place to take part in virtual or printable projects designed by NASA.</td>
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<td><strong>BOOK TRACKER</strong> Look over all the books you finished this month. Can you complete one more reading challenge today?</td>
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<td><strong>REFLECTION</strong> What topics are you still curious about? Ask a librarian to help you learn more!</td>
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SUGGESTED BOOKS

AGES 3-7

The Darkest Dark
THINGS THAT GO: JP HADFIELD

Hey-Ho, To Mars We'll Go!
THINGS THAT GO: JP LENDROTH

Astro Bunnies
THINGS THAT GO: JP LOOMIS

Earth To Stella
THINGS THAT GO: JP PUTTOCK

I Want to Be An Astronaut
PEOPLE AND PLACES: JP BARTON

Mollie's Moon Mission
PEOPLE AND PLACES: JP BEEDIE

Rover Throws A Party
PEOPLE AND PLACES: JP GRAY

Penguinaut!
ANIMALS: JP COLLEEN

Rocket Says Look Up!
NATURE: JP BRYON

The Moon
NATURE: JP STEVENSON

Moon: Peek-Through Picture Book
NATURE: JP TECKENTRUP

Toys In Space
PLAY: JP GREY

Life On Mars
STORIES: JP AGEE

There’s An Alien In Your Book
STORIES: JP FLETCHER

Interstellar Cinderella
STORIES: JP UNDERWOOD

Zathura: A Space Adventure
STORIES: JP VAN ALLSBURG

AGES 8-12

The Library of Ever
Zeno Alexander
J ALEXANDER

CatStronauts: Race to Mars
Drew Brockington
J BROCKINGTON

Space Case
Stuart Gibbs
J GIBBS

Spaced Out
Stuart Gibbs
J GIBBS

Sal & Gabi Break the Universe
Carlos Alberto Hernandez
J HERNANDEZ

We Dream of Space
Erin Entrada Kelly
J KELLY

Blastaway
Erin Landers
J LANDERS

Space Taxi: Aliens on Earth
Wendy Mass
J MASS

Planet Earth is Blue
Nicole Pantaleakos
J PANTALEAKOS

We’re Not From Here
Geoff Rodkey
J RODKEY

Luciana: Out of This World
American Girl Series
J AMERICAN GIRL

The Rise and Fall of Darth Vader
Star Wars Series
J STAR WARS

NON-FICTION

The Kingfisher
Space Encyclopedia
J 520 GOLDSMITH

Space!
J 520 MORGAN

The Mysteries Of The Universe
J 523 GATER

Universe:
Journey Into Deep Space
J 523.1 GOLDSMITH

Earthrise: Apollo 8 and the Photo That Changed The World
J 525.022 GLADSTONE

Curiosity: The Story Of A Mars Rover
J 629.295 MOTUM

Rocket To The Moon!
J 629.45 BROWN

The Big Beyond:
The Story of Space Travel
J 629.45 CARTER

Moonshot: The Flight of Apollo 11
J 629.454 McREYNOLDS

Daring Dozen: The Twelve Who Walked On The Moon
J 629.454 SLADE

Comets, Stars, The Moon & Mars:
Space Poems and Paintings
J 811 FLORIAN

The Girl Who Named Pluto:
The Story of Venetia Burney
J 92 BURNESY

Hidden Figures: The Story of Four Black Women and the Space Race
J 920 SHETERLY
Read a book that is set in the snow, or features snow on the cover.

Choose a book from the library’s New Book Display, located next to the main entrance. Or, ask a librarian to choose one at random for you!

Read a book that features an owl or a bat.

Read a book while warming up! Sit next to a fireplace or heater while digging into a good story.

Read a book with a white cover.

Build a pillow fort, and read a book while sitting inside it.

Read a book about outer space or the night sky.

Read a book under the covers. Any time of day will do, but we recommend using a flashlight!*

Read a book about Martin Luther King, Jr., or Civil Rights, in honor of his birthday. Martin Luther King, Jr. Day is celebrated on January 18 this year.

*Challenge inspired by readbrightly.com.
New Year, New Books!
January Reading Log

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<tr>
<th>Books Finished</th>
<th>Challenge Completed</th>
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I Need Some Space
Short Story Challenge

The Challenge: Write a short story that includes the phrase “When I opened my eyes, I was flying.” The phrase can occur anywhere in the story. Be creative, and feel free to add pictures!

If you’d like to be featured on the library’s website, submit the completed story to juliana@bakerfreelib.org or bring it to the library on your next visit!

Space is provided below, but you can write or type your story anywhere you choose.
I Need Some Space
Roll a Story Activity

All you need for this activity is a single die and some imagination! Create a story that weaves together the character, place and problem you receive by randomly rolling the dice. Your story can be long or short, and take as many twists and turns as you choose.

<table>
<thead>
<tr>
<th>If You Roll A...</th>
<th>First Roll: Place</th>
<th>Second Roll: Character</th>
<th>Third Roll: Problem</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Inside of a spaceship</td>
<td>A porcupine</td>
<td>Tumbles into a black hole</td>
</tr>
<tr>
<td>2</td>
<td>On Mars</td>
<td>A group of little blue aliens</td>
<td>Gets caught in a windstorm</td>
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<tr>
<td>3</td>
<td>On the International Space Station</td>
<td>A group of stranded astronauts</td>
<td>Gets picked up by a UFO</td>
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<td>4</td>
<td>In a crater on the moon</td>
<td>A flock of flamingos</td>
<td>Run out of toilet paper</td>
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<tr>
<td>5</td>
<td>On the surface of Jupiter</td>
<td>A three-toed sloth</td>
<td>Crosses paths with Darth Vader</td>
</tr>
<tr>
<td>6</td>
<td>On top of a cloud</td>
<td>A lonely robot</td>
<td>Runs out of rocket fuel</td>
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</table>

If you’d like to be featured on the library’s website, submit the completed story to juliana@bakerfreelib.org or bring it to the library on your next visit!
Science Exploration
How Do Planets Orbit the Sun?

GETTING STARTED:
To learn how and why the Earth and other objects orbit the sun, begin by watching this short video from Crash Course Kids. You can scan the QR Code to the right for quick access, or enter the following link:
https://www.youtube.com/watch?v=aGVXyCrpUn8

MATERIALS NEEDED:
Pie tin
Playdough or clay
Marble or ball
Your hands!

All eight planets in our solar system orbit the sun in an ellipse shape (almost circle), and they all move counter-clockwise. With this simple experiment, you’ll recreate the way Earth (and other planets, comets and asteroids) orbit the sun! All you need are a few household items, and you’re ready to go.

STEP 1: Roll some playdough or clay into a ball, and place it in the middle of your empty pie tin. You can squish the ball down, so that it sticks to the middle of the tin. This ball represents the sun.

STEP 2: Place a marble, bouncy ball, or other round object on the edge of the tin to represent the Earth. It should stay along the edge of the pie tin.

STEP 3: To make your “Earth” orbit, carefully hold the pie tin in two hands and gently tip it forward and backward. You may need to experiment with the pressure and direction of movement. Once you have it right, your marble should roll all the way around the edge of the pie tin without crossing into the middle, and form a ring (orbit!) around the sun!
Explore the Night Sky

Head out after dark to explore the night sky! Find an area with a wide view of the sky (few trees/tall buildings around) and very little light. Bring the whole family along for a stargazing night!

- Take a look at the moon. How many craters do you see? Can you find any rays (bright lines) radiating from the craters?
- What phase is the moon in? When is the next full moon?
- How many constellations can you find in the night sky?
- Can you create your own constellations? Play a giant game of connect-the-dots, and draw your own shapes in the sky. What animals, creatures, objects or people can you make?
- Try to find the North Star (Polaris). The North Star is visible year-round, and seems to remain constant in the sky while other stars rotate around it. You’ll find The North Star at the tail end of “Ursa Minor,” or The Little Dipper.

- Did You Know? Polaris is actually three stars, orbiting very close to one another!

Free Resource

Visit google.com/sky (or use the free Google Sky app) to identify stars, constellations, and planetary bodies in real time! Simply point your phone at the sky to learn exactly what you’re looking at.

Don’t go empty-handed! Make sure to bring along your Stargazing Kit, which includes:

- (1) Constellation Chart
- (1) Moon Phase Worksheet
- (1) Cut-out Constellation Viewer

To learn more about constellations, visit: www.dkfindout.com/us/space/constellations

DON’T FORGET: THE LIBRARY HAS A TELESCOPE!
To borrow it before you venture out, call or email the library!
January Lego Challenge
SPACE HABITAT

Build a structure, habitat or space colony that astronauts could live in while visiting the moon or another planet!
January Coloring Contest!

To enter our coloring contest, color the included picture and bring it to the library with your name and age on written on the back. You can also scan and email your completed entry to juliana@bakerfreelib.org.

Prizes will be awarded to the best entries! Please send in your completed picture by January 19, 2020.