

SOLVE THIS! PUZZLES, SCAVENGER HUNTS, AND MYSTERIES

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STORYTIME BOOKS

Babies

I Can See You (2022) by Rosemarie Avrana Meyok and illustrated by Michelle Simpson. An inviting book with simple rhymes about a mother and baby playing peek-a-boo using all five senses. Adorable illustrations show aspects of Intuit culture. In English.

Peek-a-Bruce (2019) by Ryan Higgins. A humorous seek-and-find story, with Bruce the bear hiding in a new location on every spread. In English.

Go, Go, Pirate Boat (2019) by Katrina Charman. A fun pirate adventure board book that is sung to the tune of “Row, Row, Row Your Boat.” Good for a treasure hunt theme. In English.

Whose Toes Are Those? (2019) & *Whose Knees Are These?* (2019) by Jabari Asim and illustrated by LeUyen Pham. Board books with interactive rhymes. In English.

¡Cuántos, cuántos pies! (2019) by Dr. Suess. A new Spanish translation of *The Foot Book*, and a puzzle for the youngest among us. Separate Spanish and English editions.

¡Hola, Perrito! / Puppy Peek-a-Boo (2021) from Cottage Door Press and illustrated by Anna Jones. Peek-a-boo holes in a board book. Separate Spanish and English editions.

Toddlers

Hugo and the Impossible Thing (2021) by Renée Felice Smith and Chris Gabriel, and illustrated by Sydney Hanson. A great read-aloud about woodland animals that work together to solve a maze through the mountains. Kirkus starred review. In English.

What About X? An Alphabet Adventure (2021) by Anne Marie Houppert and illustrated by Daniel Wiseman. An energetic alphabet read-aloud where X marks the spot. Also good for preschoolers. In English.

Treasure Isle (2021) by Catherine Corcoran and illustrated by Natalie Lundeen. Catchy rhymes in this adventure story about a boy and his parrot on their way to find where X marks the spot. In English.

We're Going on a Treasure Hunt (2019) by Kelly DiPucchio and illustrated by Jay Fleck. A rollicking read-aloud about animal pirates off to fetch some gold. Toddlers and above. In English.

Milo Is Missing Something (2021) by Vern Kousky. An aquatic mystery about an octopus explorer on an undersea adventure; simple and heartwarming story. In English.

TIP:

Encourage caregivers to bring a stuffie from home (or have extras on hand) so children can bounce them on their lap to mimic parental interaction. This is especially helpful for families with more than one young child.

TIP:

For an older title, consider *Hide and Seek* (2013) by Taro Gomi. Colorful illustrations camouflage common objects. The board book is best for one-on-one reading.

TIP:

Who Done It? (2015) and *Who Was That?* (2018) by Olivier Tallec are visual mysteries better for one-on-one reads than storytime, but they're great in a whodunit-themed display.

TODDLERS

One-osaurus, Two-osaurus (2021) by Kim Norman and illustrated by Pierre Collet-Derby. Rhyming storytime gold. Nine dinosaurs play a sing-song game of hide-and-seek, but something isn't adding up. Where's number ten? In English.

Where Is My Balloon? (2019) by Ariel Bernstein and illustrated by Scott Magoon. Vibrant art and comical text about Monkey, who loses his friend Owl's balloon. In English.

Preschoolers

The Boy Who Loved Maps (2022) by Kari Allen and illustrated by G. Brian Karas. An enchanting story about a young mapmaker who gets stumped when asked to draw "the perfect place." Great for both storytime and map-making programs. In English.

Secret, Secret Agent Guy (2021) by Kira Bigwood and illustrated by Celia Krampien. A bedtime mission with the code name Operation Lollipop; text is set to the tune of "Twinkle, Twinkle, Little Star," which encourages singing along. Multiple starred reviews. In English.

The Fort (2020) by Laura Perdew and illustrated by Adelina Lirius. A prince and a pirate learn to share. Great for a treasure hunt theme. In English.

Hornswoggled!: A Wacky Words Whodunit (2021) by Josh Crute and illustrated by Jenn Harney. A silly, engaging read-aloud that builds preschoolers' vocabulary. SLJ starred review. In English.

Mapping Sam (2018) by Joyce Hesselberth. An engaging read-aloud about an adventurous cat; filled with a variety of maps. Multiple starred reviews. In English.

Not an Alphabet Book: The Case of the Missing Cake (2020) by Eoin McLaughlin and illustrated by Marc Boutavant. This highly emotive mystery features an unreliable narrator; a perfect read-aloud for eliciting giggles. Kirkus starred review. In English.

La sombrería mágica / The Magic Hat Shop (2016) by Sonja Wimmer. A mysterious hat shop and a portal to inner treasures. Separate Spanish and English editions.

¿De dónde eres? / Where Are You From? (2019) by Yamile Saied Méndez and illustrated by Jaime Kim. More of an interpersonal puzzle about how to answer common questions that dark-skinned people are asked. Kirkus starred review. Separate Spanish and English editions.

TIP:

Also consider *Where Oliver Fits* (2017) by Cale Atkinson. A puzzle piece searches for this place; good for small groups. In English.

TIP:

For long books, create a flannelboard for a small section of the story, and invite families to check out the book to read at home over multiple sessions.

STORYTIME SONGS

Rhyme: Who Has the Very Last Puzzle Piece?

Before storytime, give one caregiver/child pair a missing piece to hide. During storytime, complete a large-format jigsaw puzzle with one piece missing. Then say the rhyme to the rhythm of “Who Stole the Cookie from the Cookie Jar?” For subsequent rounds, ask everyone to close their eyes while you redistribute the missing piece.

Who has the very last puzzle piece?

_____!

Who me?

Yes you!

Couldn't be!

Then who?

_____!

Song/Riddle: I See You

To the tune of “This Old Man.” Sing verses in which you obscure the identify of an animal or object. After each verse, ask children to solve the riddle.

Piggyback lyrics by CSLP. Add your own verses to fit your theme!

I see you

You're black and white

You moo, moo, moo all day and night

With a moo moo moo and chew chew too

I see you, you're black and white

What are you? You're a....COW!

I see you

You're wet and yellow

You're such a soft and feathery fellow

With a quack quack quack and water off your back

I see you, you're wet and yellow

What are you? You're a....DUCK!

Song/Rhyme: Old MacDonald's Mystery Animals

Sing “Old Macdonald Had a Farm” while using puppets. Hide puppets in a pillow case and slowly bring each animal out, showing only the tail or foot, and have children guess who it is! Bonus tip: Include a surprise “guest” who doesn't belong on a farm.

Song/Rhyme: Opposite Day

A great song to sing after a discussion about opposites. From the album *Singing & Dancing Together*. Lyrics reprinted with permission. Listen here from Miss Nina on YouTube: <https://bit.ly/3NQt2L>

TIP:

Plan to be flexible, and try to have at least one backup of each storytime element (song, story, group activity). Allow yourself to deviate from your written plan to fit your audience.

TIP:

Incorporate basic American Sign Language. Even hearing babies understand words before they can speak them, and communicating through sign language improves communication during that stage.

STORYTIME SONGS

It is opposite day, it is a game that I play
 All that I say I mean the opposite today
 If I say black I mean white
 If I say loose I mean tight
 You get the hang of it; it's opposite day
 Tomorrow everything is back to normal
 Nothing fancy, everything's informal
 It's a fun way to spend the day
 Trying to say and do the opposite on opposite day.
 If I say day I mean night
 If I say wrong I mean right
 It's just that simple. It's opposite day.
 If I say fast I mean slow
 If I say hi I mean low
 Oh, no! It's opposite day today.
 Opposite day, everything okay. It's opposite day
 It is opposite day, it is a game that I play
 All that I say I mean the opposite today
 If I stay stop I mean go
 If I say yes, I mean no
 It's just that simply on opposite day.

Riddle: Cinco Varitas / Five Wands

A traditional riddle from Columbia. Listen on *Mama Lisa's World*: <https://bit.ly/3NoGnil>

Cinco varitas
 En un varital;
 Ni secas, ni verdes
 Se pueden cortar.
 Five wands
 In a wand grove;
 Neither dry, nor green
 They can be cut.
 (Answer: Los dedos! / fingers!)

STAY AND PLAY

Babies: Peek-a-Boo

Create a station with napkins or small towels, as well as items to place under them. Caregivers pull the napkin away and say "Peek a boo. I see a...!"

Babies/Toddlers/Preschoolers: Brown Bear ASL

Teach ASL for the colors and animals in the Bill Martin's *Brown Bear, Brown Bear* from ASL Kids Club on YouTube: <https://bit.ly/3NSCmoj>

Toddlers/Preschoolers: Parachute Games

Do parachute waves, then a mushroom cloud for children to peek under. Next, add safe items such as large pom-poms, leaves, or bean bags. Children guess which items will bounce the highest and see how many they can catch.

Toddlers/Preschoolers: Bubble Mysteries

Another bubble game. Hide the bubble machine and ask toddlers and preschoolers to guess where the bubbles are coming from. How long before a bubble hits the floor? How many bubbles can they see? How many bubbles can they pop?

Preschoolers: Sight Word Scavenger Hunt

Create a simple sight word (or letter) scavenger hunt, and send children to different corners of the library to find them.

THE GREAT BOOK CHASE

AGES

Children 5–8

PROGRAM DESCRIPTION

Create an outdoor obstacle course inspired by Indiana Jones (or any other fictional adventurer). Children hop on paper rocks to cross crocodile-infested water, crawl through a dark tunnel with fake bugs hanging, jump on the correct colors to cross the canyon, and/or solve puzzles and clues to proceed to the next obstacle. The possibilities are endless. This could also be run indoors; if you don't have a programming space, place the course between the stacks. Make it a timed race with individuals or teams, and offer prizes for those who complete the course. Suggested runtime: 45–60 minutes.

MATERIALS AND PREPARATION

Crocodile-Infested Waters

Materials:

- Gray paper or foam
- Crocodile images
- Floor tiles
- Laminator (optional)

Cut rock shapes from the gray paper or foam, and line them up on the floor. Place the crocodile images around the rocks. Children hop from rock to rock without bumping the crocodiles. You can also use stuffed crocodiles if you have them.

Creepy Cave

Materials:

- A large box or tube, or chairs with a blanket over them
- Fake bugs/snakes/rats
- String/yarn/fake spiderweb

Hang the creepy creatures from the top of the cave with string. Put up fake webs to tuck bugs into. The rats can be on the ground for adventurers to avoid.

Colorful Canyon

Materials:

- Sheets of colored paper
- Colored paper in pieces in a bowl

Place the sheets of colored paper on the floor in any pattern. Put small strips of the colors used in a bowl. Adventurers cross the canyon by jumping to the

ADAPTATION:

For older children, add Indiana Jones movie trivia. Also consider the Addison Cooke series.

ADAPTATION:

For a take-home activity, print out a few “adventure cards” with instructions. Encourage them to get creative with what they have at home and also to share pics with library of their adventures!

TIP:

Mix in mental challenges—such as puzzles or coded messages—with physical challenges. If any children cannot do the physical components, allow for alternative “routes” through the obstacle course.

TIP:

If you make the cave from a tube or cardboard box, you can keep it on site for additional play after the program.

TIP:

See Chapter 08: Standalone Printables for more options.

GAME/ACTIVITY | OUTDOORS

color a volunteer pulls out of a bowl.

Brain Challenges

Materials:

- Tables
- Pencils
- Puzzles
- Worksheets
- Ciphers
- Riddles etc

Set up stations between the physical challenges. Riddles, trivia questions, or tangrams are quick and fun. Or set up a code they have to decipher to move on.

Adventure Riddles

What is always in front of you but can't be seen?

The future

What is yours but mostly used by others?

Your name

I go all around the world, but never leave the corner. What am I?

A stamp.

I have cities, but no houses. I have forests, but no trees. I have water, but no fish. What am I?

A map.

What's something that, the more you take, the more you leave behind?

Footsteps.

What's really easy to get into, and hard to get out of?

Trouble.

When things go wrong, what can you always count on?

Your fingers.

UNIQUE SPACE AND/OR PERSONNEL NEEDS

At least one volunteer to monitor each station.

RESOURCES

Web

Indiana Jones party ideas from *Queen of Theme Party Games*: <https://bit.ly/3K02hs3>

"Indiana Jones Trivia" from *UsefulTrivia.com*: <https://bit.ly/3pvCiBG>

Tech tip: LogicLike is a free brain-teaser app that can be adjusted for age and skill level (and does not show ads). Available for Android and iOS devices.

Books

Picture Books for Children 5+

Little Captain Jack / El pequeño pirata Serafín (2017) by Alicia Acosta and illustrated by Mónica Carretaro. Separate Spanish and English editions.

Pirate Chicken / La gallina pirata (2021) by Brian Yanish and illustrated by Jess Pauwels. Separate Spanish and English editions.

GAME/ACTIVITY | OUTDOORS

Early Readers

Jolly-Rogers series (2017–19) by Jonny Duddle

Word Travelers series (2021–) by Raj Haldar and illustrated by Neha Rawat

Hidden Adventures (2021) by Lara Hawthorne

Tales of Ancient Worlds (2022) by Stefan Milosavljevich and illustrated by Sam Caldwell (NF)

Mia Mayhem series (2018–) by Kara West and illustrated by Leeza Hernandez

Middle Grade

The Marvelous Land of Snergs (2020) by Veronica Cossanteli and illustrated by Melissa Castrillón

The Artifact Hunters (2020) by Janet Fox

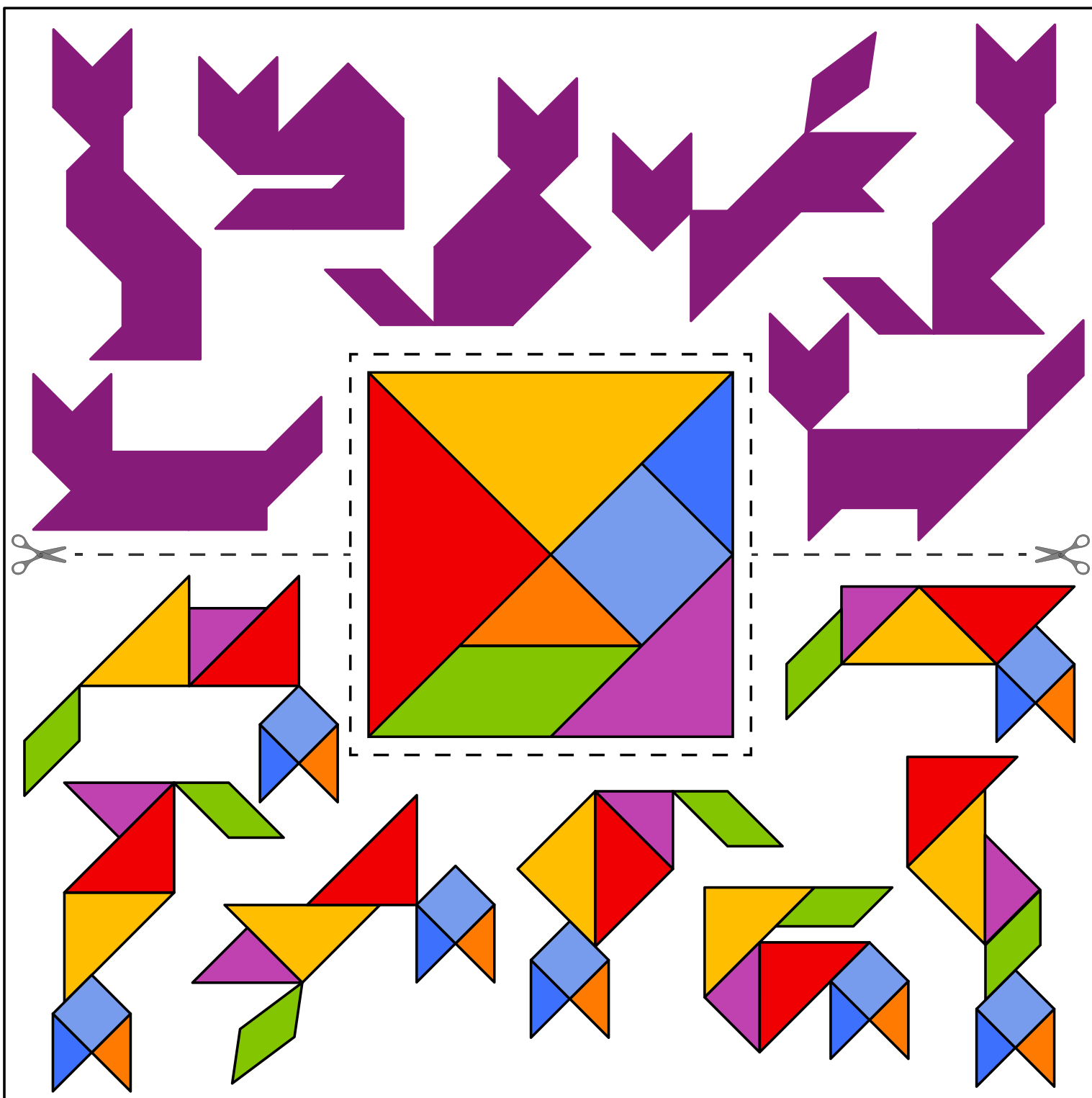
Adventurers series (2018–22) by Jemma Hatt

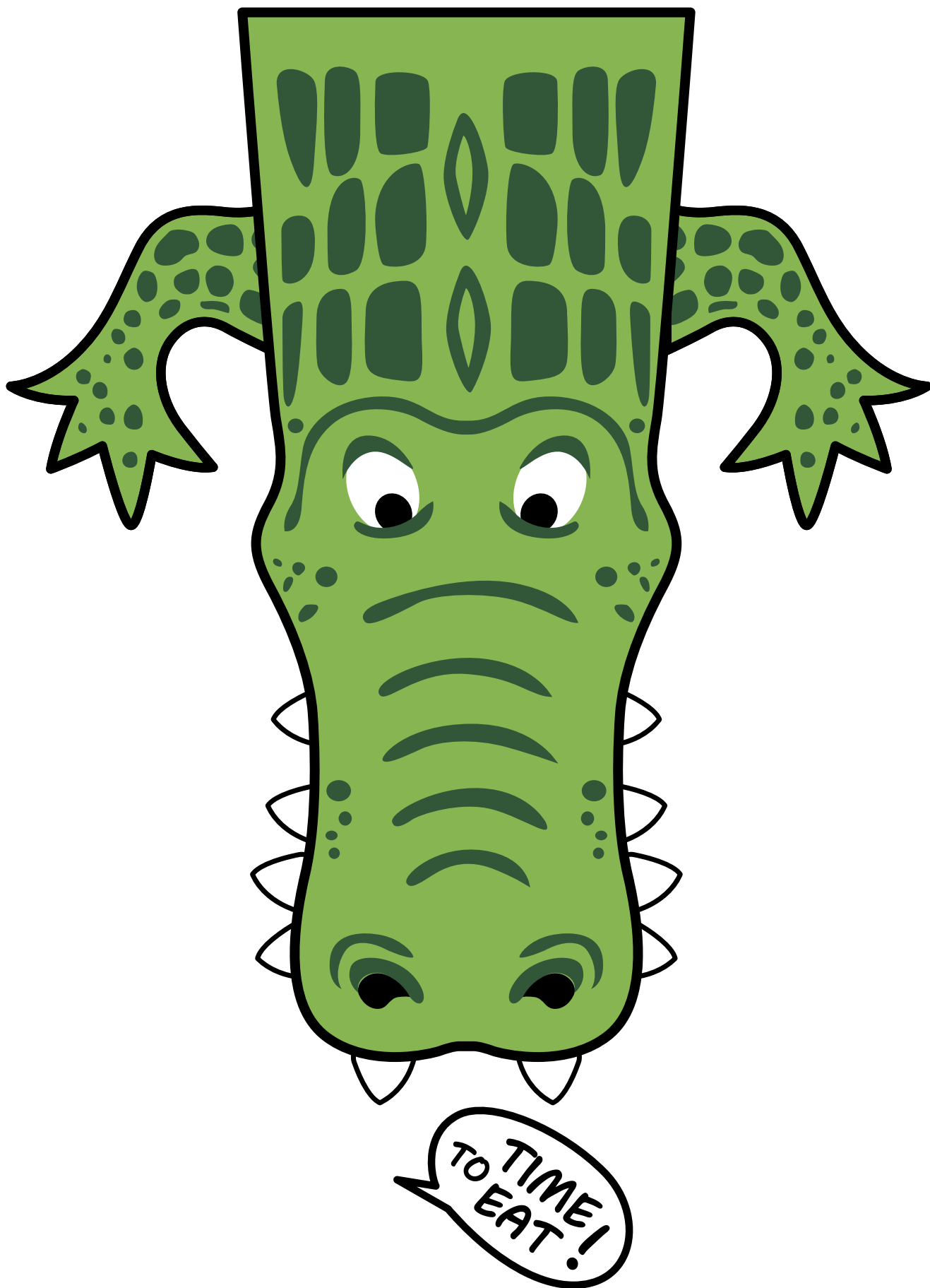
Train to Impossible Places series (2018–21) by P.G. Bell

Printables

Fox Tangram

Crocodile





ADVENTURE AWAITS, BUT WHAT WILL IT TAKE?

AGES

Children 5–8

PROGRAM DESCRIPTION

In this passive program, children help decide what to pack in a real suitcase. Create laminated photos of things that can be packed, and leave them around the children's area to be found and brought to the suitcase. Redistribute the photos frequently so the suitcase can be continually re-packed. For more complexity, add a clue for each item that needs to be packed. You could also have several different suitcases for different types of adventure: Desert, jungle, beach, hiking, picnic, bird-watching, etc. Suggested runtime: Passive.

MATERIALS AND PREPARATION

Materials:

- Bulletin board display with an image of a suitcase (or a real suitcase)
- Laminated images of things to pack
- Paper and pencils (optional)
- Suggestion box (optional)

Preparation:

- Decide on the theme for your suitcase(s)
- Create display
- Print and laminate images of things to pack
- Distribute images through the library or children's area
- Create clues for each item (optional)

UNIQUE SPACE AND/OR PERSONNEL NEEDS

Solo-librarian friendly. Display space required, whether a wall space or a table top.

RESOURCES

Books

Early Readers

Bad Kitty Goes on Vacation (2020) by Nick Bruel

Pete the Cat's Family Road Trip (2020) by James

TIP:

Inside the Suitcase (2021) by Clothilde Perrin is a good read-aloud to pair with this program.

TIP:

Be sure to include photos of silly items to pack...a kitchen sink, a dragon, a microwave, etc. so children get to make some decisions.

ADAPTATION:

Children submit ideas for what to pack in a suggestion box or directly to the librarian, who then adds them to the bulletin board (words and/or photos).

ADAPTATION:

Add braille to the laminated photos using a handheld braille labeler.



Image source: Shutterstock

DECORATION/DISPLAY | PASSIVE | LOW COST

Dean and Kimberly Dean

Mrs. Barr Has Gone Too Far! (My Weirder-est School #9) (2021) by Dan Gutman and illustrated by Jim Paillot

Dog Diaries: Ruffing It (Dog Diaries #5) (2021) by James Patterson

Mia Mayhem Rides the Waves (Mia Mayhem #11) (2021) by Kara West and illustrated by Leeza Hernandez

InvestiGators series (2020–) by John Patrick Green

SENSORY SCAVENGER HUNT

AGES

Children 5–8

PROGRAM DESCRIPTION

Children go on a sensory scavenger hunt around your library! This program can be run indoors or outdoors, and it is easy to adapt to the space and items you have available. It also makes a great take-home activity. If running this outdoors, be sure there are no dangerous plants nearby before you encourage children to touch things (e.g., poison ivy, stinging nettles, etc.) Fidget toys or scratch-and-sniff stickers make for good sensory prizes. Suggested runtime: 45 minutes.

MATERIALS AND PREPARATION

Materials:

- Printed scavenger hunt lists (make a version specific to your library)
- Sensory stations as needed

Indoor Scavenger Hunt Ideas

Touch

- Wind (from a fan)
- Something wet (water in a tub)
- Something soft (a plushie)
- Something gritty (bin of sand)

Smell

- Cut flowers
- Grass clippings
- Old books

Sound

- Pages turning
- Laughing or talking
- Singing (recording)

Taste

- Sweet (candies)
- Salty (chips)

Sight

- View from a window
- An optical illusion
- Specific colors

ADAPTATION:

Instead of providing only a written list, include images next to words and/or read the lists out loud, a few items at a time.



Outdoor Sensory Scavenger Hunt Ideas

Touch

- Something bumpy
- Something soft
- Something warm

Smell

- A flower with a scent
- A smell you like

Sound

- A sound made by an animal
- Something loud
- Something that crunches

Taste

- Something humans could eat
- Something an animal would eat

Sight

- Something green
- Something tiny
- Something long

RESOURCES

Web

Sensory scavenger hunt from *The Pragmatic Parent*: <https://bit.ly/3PBWwEd>

“Sensory Nature Scavenger Hunt” from *Racheous*: <https://bit.ly/3pkRhhP>

Books

Picture Books

I Spy: A Book of Picture Riddles (2022) by Jean Marzollo and illustrated by Walter Wick (picture book NF)

Stop and Smell the Cookies (2022) by Gibson Frazier and illustrated by Micah Player (picture book)

Listen (2021) by Gabi Synder and illustrated by Stephanie Graegin (picture book)

Detective Mole (2021) by Camilla Pintonato

Early Readers

You Can't Taste a Cat with a Pickle in Your Ear (2022) by Harriet Ziefert and illustrated by Amanda Haley

The Tasty Treat (Nocturnals series, Early Reader Level 1) (2019) by Tracey Hecht and illustrated by Josie Yee

The Barnabus Project / El proyecto Barnabus (2020) by The Fan Brothers. Separate Spanish and English editions.

Paige Proves It series (2021–) by Amy Marie Stadelmann

Harper series (2020–) by Cerrie Burnell and illustrated by Laura Ellen Anderson

Super Detectives! series (2021–) by Cale Atkinson

The Secret Signs of Nature (2022) by Craig Caudill and illustrated by Carrie Shryock (middle grade NF)

BOOK CAPSULES: WHAT BOOK AM I?

AGES

Tweens 9–12

PROGRAM DESCRIPTION

In this program, tweens decode book capsules that relate to specific books in your collection. Each capsule include various hints about the main character, culture or setting, plot, genre, etc. You can emphasize library research skills by providing only partial book information (which requires tweens to use the library catalog), or you can make it multiple choice by providing three book options for each time capsule. This program can be modified to suit any theme, and it's great for sparking interest in new books. Be sure to have extra copies of the time capsule book(s) for tweens to check out! Easy to age up or down. Includes a handout for tweens curious about making a time capsule of their own. Suggested runtime: Passive.

MATERIALS AND PREPARATION

Materials:

- Capsule containers
- Written hints and/or objects
- Extra copies of books

Choose your book(s), read them, and take notes on prominent objects, locations, and clues about the main character. Choose a few key clues and hints. Consider multiple book capsules that vary in terms of clue difficulty and reading age.

UNIQUE SPACE AND/OR PERSONNEL NEEDS

Solo-librarian friendly.

RESOURCES

Books

Time Capsule (2022) by Lauren Redniss (picture book F)

Chester Keene Cracks the Code (2022) by Kekla Magoon (middle grade F)

The Book Scavenger series (2016–19) by Jennifer Chambliss Bertman and illustrated by Sarah Watts (middle grade F)

Shirley and Jamila Save Their Summer (2020) by Gillian Goerz (middle grade F)

Printables

My 2024 Time Capsule (in English and Spanish)



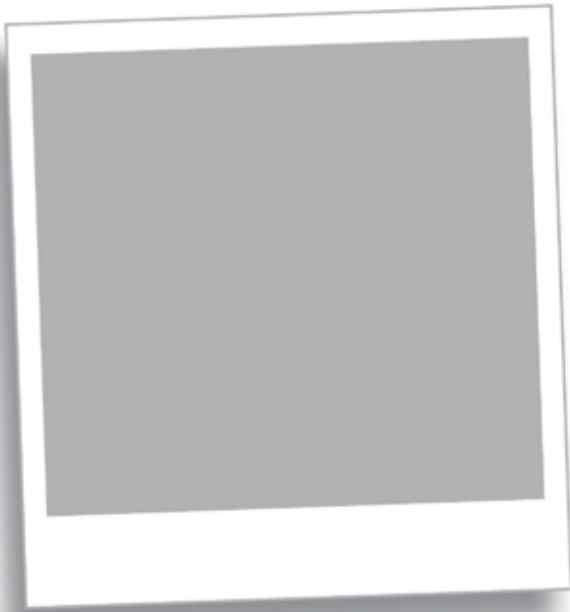
Image source: Shutterstock

ADAPTATION:

Make this into an in-person program where tweens make book capsules of their favorite books for other tweens to decode.

TIP:

See Printables for a worksheet that tweens can use to create a time capsule of their own lives. Encourage them to mail it to themselves (so they have a date stamp) but not to open it for at least 10 years.



MY 2024 TIME CAPSULE

Name _____

Date _____

Age _____ Height _____

Grade in school _____

Address _____

My Friends _____

My Favorite color _____

My favorite school subject _____

My favorite food _____

My favorite song _____

My favorite TV show _____

My favorite movie _____

My favorite game _____

My favorite sport or team _____

My favorite book _____

When I grow up I want to _____

In my free time, I like to _____

The best thing about this year has been _____

My goal for next year is _____

GAME/ACTIVITY | LOW COST

DETECTIVE DRESS-UP SOCIAL HOUR

AGES

Tweens 9–12

Teens 13–18

Adults

Multigenerational



Image source: Shutterstock

PROGRAM DESCRIPTION

Participants come dressed as their favorite detectives from mystery series! They mingle, eat snacks, and browse whodunit book displays while giving each other clues about their characters. Prepare some mystery trivia, vocabulary words, and/or games to keep participants engaged. Whoever guesses the most characters correctly wins a prize! For a multigenerational program, have different prizes and displays for different age groups. The book displays are a big part of this program, so be sure to create compelling displays for browsing. You can even ask people to recommend their favorite mysteries beforehand, then display their reviews on placards in front of each book. Easy to modify for any age group, including adults. Suggested runtime: 60 minutes.

MATERIALS AND PREPARATION

Materials:

- Mystery/whodunit book displays
- Decorations
- Snacks
- Character guessing sheets and a ballot box
- Prepared trivia
- Prizes

Prize ideas: Magnifying glasses, pen and notebook set, puzzle books, etc.

Preparation:

- Create displays
- Solicit reviews (optional)
- Require sign-ups with the name of the character they will come dressed as (for your own reference)

RESOURCES

Books

[Middle Grade Mysteries and Whodunits](#)

The Tangled Mysteries series (2021–) by Merrill Wyatt

TIP:

Place ciphers and puzzles around the room, and include a puzzle that points to the location of the snacks (in a semi-hidden area).

TIP:

Ask patrons to sign up and submit their favorite characters in advance; that way, you can be sure to have the books on hand.

GAME/ACTIVITY | LOW COST

Sleuth and Solve series (2019–20) by Ana Gallo and illustrated by Victor Escandell
 A Murder Most Unladylike series (2016–20) by Robin Stevens
 Spy School series (2013–) by Stuart Gibbs
 Mañanaland (2020) by Pam Muñoz Ryan
 When You Trap a Tiger (2020) by Tae Keller
 Hello, Universe (2020) by Erin Entrada Kelly and illustrated by Isabel Roxas
 The Swifts: A Dictionary of Scoundrels (2023) by Beth Lincoln and illustrated by Claire Powell
 The Superteacher Project (2023) by Gordon Korman
 To Catch a Thief (2023) by Martha Brockenbrough
 Epic Ellisons: Cosmos Camp (2023) by Lamar Giles and illustrated by Morgan Bissant
 Lost in NYC / Perdidos en NYC (2015) by Nadja Spiegelman and illustrated by Sergio Garcia Sanchez.
 Separate Spanish and English editions.
 Charlie Hernández series (2018–) by Ryan Calejo
 Mañanaland (2020) by Pam Muñoz Ryan. Separate Spanish and English editions.
 Supernatural Investigations series / Investigadores sobrenaturales (2020–) by B. B. Alston, Separate Spanish and English editions.
 Amanda Black series (2022) by Juan Gómez-Jurado and Bárbara Montes. Separate Spanish and English editions.

Young Adult Mysteries and Whodunits

Firekeeper's Daughter (2023) by Angeline Boulley
 White Smoke (2022) by Tiffany D. Jackson
 The Girls I've Been (2021) by Tess Sharpe
 Murder of Crows (2023) by K. Ancrum
 We'll Never Tell (2023) by Wendy Heard
 Promise Boys (2023) by Nick Brooks
 Este corazón venenoso / This Poison Heart (2021) by Kalynn Bayron
 Lobizona / Lobizona (2021) by Romina Garber

Adult Mysteries and Whodunits

The Villa (2023) by Rachel Hawkins
 Trust (2022) by Hernan Diaz
 The Storyteller's Death (2023) by Ann Dávila Cardinal
 Jackal (2023) by Erin E. Adams
 The Last Party (2023) by Clare Mackintosh
 The Resemblance (2023) by Lauren Nossett
 A World of Curiosities (2023) by Louise Penny
 I Have Some Questions for You (2023) by Rebecca Makkai
 Scorched Grace (2023) by Margot Douaihy
 Vera Wong's Unsolicited Advice for Murderers (2023) by Jesse Q. Sutanto
 A Death in Tokyo (2023) by Keigo Higashino
 The Starless Sea / Un mar sin estrellas (2019) by Erin Morgenstern
 Mexican Gothic / Gótico (2021) by Sylvia Moreno-Garcia

THE UNBREAKABLE CODE

AGES

Teens 13–18

PROGRAM DESCRIPTION

Teens use declassified Navajo code to send messages to each other. Libraries can foster language-learning and cultural competence by demonstrating fundamental Navajo language principles and increasing knowledge about the Navajo veterans who developed the unbreakable code in WWII. Several tribes worked as code talkers in both world wars. Include a YA book display of recent titles by Native American authors. Expand the program to more codes and ciphers if teens are interested. Suggested runtime: 45–60 minutes.

MATERIALS AND PREPARATION

Materials:

- Printed copies of the Navajo code (or computer access)
- Paper and pencils/pens
- During the program:
 - Ask teens to write a one-sentence message to translate into code.
 - Give them access to the Navajo Code Talker Dictionary.
 - Using the code alphabet, have teens rewrite the message by translating the words available in the code. The remaining words they must translate letter-by-letter. (The encoded message will be long!)
- Have teens exchange messages to decode.

Using the code this way is simplified cryptography. The code was unbreakable because of the fluency of the code users in Navajo. Because Navajo is not a written language, the Axis forces could not learn the patterns from reading about the Navajo or reading their literature.

There is also an element of double encryption. On one level, the English word is transcribed. The next layer is that each letter was represented by a Navajo word. For example: The word "tank" was broken into "t," "a," "n," and "k", then each letter is substituted by a Navajo word, rendering the spoken message "D-ah; wol-la-chee; tsah; ba-ah-ned-tinin." Unless the encoder and decoder is a fluent Navajo speaker, there will be imperfections to the code. Individually, each letter would make no sense since it would translate literally to "tea," "ant," "nose," and "key." Even if the interceptor were fluent in Navajo, unless he knew the code he would be unable to make sense of the message.

RESOURCES

Web

"Navajo Code Talker Dictionary" from *Naval History and Heritage Command*: <https://bit.ly/3XyCJra>
"US Navy Navajo Code" from *WWII database*: <https://bit.ly/432ZjcU>

Books

Fiction

Healer of the Water Monster (2021) by Brian Young (middle grade F)

GAME/ACTIVITY | STEM

Two Roads (2019) by Joseph Bruchac (YA F)
 Peacemaker (2021) by Joseph Bruchac (YA F)
 Red, White, and Whole (2021) by Rajani LaRocca (YA F)
 The Last Cuentista (2021) by Donna Barba Higuera (YA F)
 The Floraverse series (2021–23) by Wab Kinew (YA F)

Nonfiction

Chester Nez and the Unbreakable Code (2018) by Joseph Bruchac and illustrated by Liz Amini-Holmes (early reader)
 Code Breaker, Spy Hunter: How Elizebeth Friedman Changed the Course of Two World Wars (2021) by Laurie Wallmark (early reader)
 Tales of the Native Code Talkers (2019) by Lee Francis IV et al. (middle grade)
 Top Secret: Spies, Codes, Capers, Gadgets, and Classified Cases Revealed (2021) from National Geographic (middle grade)
 The First Code Talkers: Native American Communicators in WWI (2022) by Meadows (adult)
 Code Talker: The First and Only Memoir by One of the Original Navajo Code Talkers of WWII (2012) by Chester Nez and Judith Schiess Avila (adult)

TIP:

Teens can learn Dine or Navajo on Duolingo!

KNOT YOUR AVERAGE ADVENTURE

AGES

Multigenerational

PROGRAM DESCRIPTION

From sailing to rock climbing, knots are an integral part of any adventure. But did you know you can make fun knot puzzles as well? Set up stations throughout the room, and put instructions for tying a different knot (or solving a particular knot puzzle) at each station. Stations could emphasize different uses (safety, art, pulleys) or materials (rope, twine, string), or you could group stations by difficulty. This program also includes several detailed puzzle ideas. Consider running competitive knot-tying or puzzle-solving races or relays, and give out prizes. Suggested runtime: 60–90 minutes.

MATERIALS AND PREPARATION

Materials knot tying:

- Rope cut into different lengths
- A lighter (to melt the ends of nylon rope)
- Duct tape (to secure the ends of cotton or twine rope)
- For a half hitch or noose knot station, a post or an upturned table leg
- For a pulley station, a 2x4, two chairs, a pulley, and a stack of books
- For tug-of-war station, long ropes with different kinds of knots.

Preparation for knot-tying stations:

- Choose which knots to demonstrate and practice them
- Gather examples of how the knots are used
- Set up and test all stations
- Create instructions for every station
- Create a take-home handout (optional)

See Printables for step-by-step knot puzzles.

UNIQUE SPACE AND/OR PERSONNEL NEEDS

Larger groups will need several volunteers to help troubleshoot knot tying.

ADAPTATION:

Create take-and-make kits for simple knot-tying projects, such as a macrame keychains or paracord bracelets.



Image source: Yun-Yi Lin of Princeton Public Library, Princeton, NJ



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RESOURCES

Web

“Tie Essential Scouting Knots” from Scouting Magazine: <https://bit.ly/3XAeGbt>

Bead puzzle from *Instructables*: <https://bit.ly/44l5Jol>

Diamond knot puzzle from CbyS Paracord on YouTube: <https://bit.ly/3CRa9rx>

Two rings puzzle from Paracord Planet on YouTube: <https://bit.ly/3NAIAJ4>

Books

Knots for Kids (2022) by Buck Tilton and illustrated by Christine Connors
(middle grade NF)

Printables

Bead Puzzle

Diamond Knot Puzzle

Two Rings Puzzle

ADAPTATION:

Make it a craft program where everyone makes a rope puzzle to take home. Show everyone how to make the same one, or if you have enough volunteers, give participants a few to choose from.

TIP:

The knot puzzles have to be assembled in the exact right order. It may take more than one try to assemble them, so be patient.

TIP:

Puzzle size can be scaled smaller or larger. Just remember to adjust the rope/string length accordingly.

TIP:

You can also buy inexpensive rope puzzle kits on Amazon.

BEAD PUZZLE

MATERIALS

- Reused flat material, such as cardboard or plastic
- Ruler
- Pencil
- At least 24 inches of yarn or string
- A hole punch
- A pony bead

INSTRUCTIONS

1. Make a flat rectangle that is 1 by 5 inches. Round the edges if they are too sharp.
2. Lay the rectangle vertical and punch two centered holes: One inch from the top, and one inch from the bottom.
3. Fold the string in half and thread the two ends into a pony bead. Tie a knot to secure the bead to the string.

4. Thread the looped end front to back through the bottom hole.
5. Now thread the same looped end from front to back through the top hole.
6. Now thread the same looped end back through the bottom hole from back to front.
7. Loop the end over the bead, then pull the beaded end taut against the hole.
8. Pull the secured loop backwards into the first hole to finish assembling. The puzzle is now ready to solve.

PUZZLE GOAL:

Extract the bead and string from the rectangle.

SOLUTION:

Reverse the order of the puzzle assembly to solve it.



Image source: Yun-Yi Lin of Princeton Public Library, Princeton, NJ

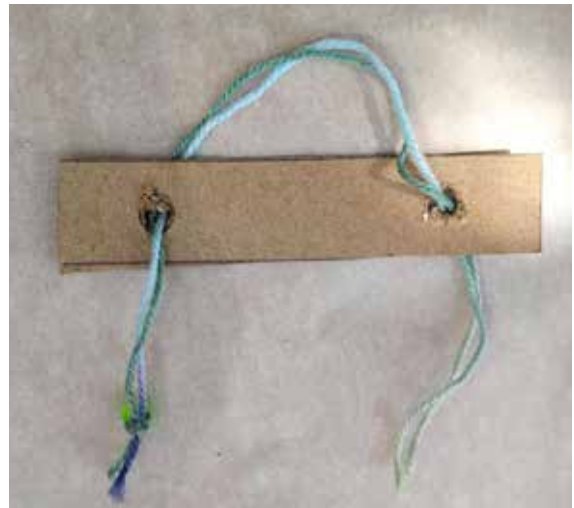


Image source: Yun-Yi Lin of Princeton Public Library, Princeton, NJ



Image source: Yun-Yi Lin of Princeton Public Library, Princeton, NJ

DIAMOND KNOT PUZZLE

MATERIALS

- 6-inch length of 2x4
- Ruler or measuring tape
- Pencil
- 2 eye screws, with holes big enough for chopstick or doweling
- A ¾ inch or shorter regular screw or an eye screw
- 24–26 inches of paracord
- Power drill and drill bits
- 1 chopstick or piece of doweling
- Optional: Sandpaper, matches or lighter, hacksaw

INSTRUCTIONS

1. Arrange the wood vertically.
2. Measure ½ inch below the top and draw a line. Then mark the line ½ inch from each edge. You will have two marks for drilling.
3. On the bottom, mark one spot 1 inch from the bottom in the middle of the width.
4. Pre-drill the three holes.
5. Twist an eye screw into each of the two top holes, with the eyes facing each other.
6. Use the paracord to follow STEP-BY-STEP DIAMOND KNOTS on the next page.
7. Trim and burn the end of the paracord to melt it and keep it from unraveling
8. Use a screw to secure the unknotted end of the rope to the bottom hole.

TO ASSEMBLE

1. Thread the chopstick through two eye screws. Place the knot side of the rope under the threaded chopstick with the knot away from the bottom. Pull the knot towards the chopstick to check that the knot does not slip through. Saw off the excess chopstick.

2. Move the paracord outside of the chopstick (you may need to remove and rethread one end of the chopstick to release). Follow the pictures in DIAMOND KNOT PUZZLE ASSEMBLY to prepare the puzzle (steps 11–13).
3. Fold the paracord in half and feed the middle under the chopstick in position.
4. Thread the knot over the chopstick, through and under the middle loop.
5. Grab the three strands of rope and gently pull them towards the secured end of the rope, bringing the knot closer to the chopstick while pulling the intersecting loops underneath the chopstick.
6. Once the puzzle is assembled, adjust the rope so it lays evenly along the wood.

PUZZLE GOAL:

Without moving the doweling itself, move the knot to the other side of the doweling.

SOLUTION:

See DIAMOND KNOT PUZZLE SOLUTION



STEP-BY-STEP DIAMOND KNOTS

1.



2.



3.



4.



5.



6.



7.

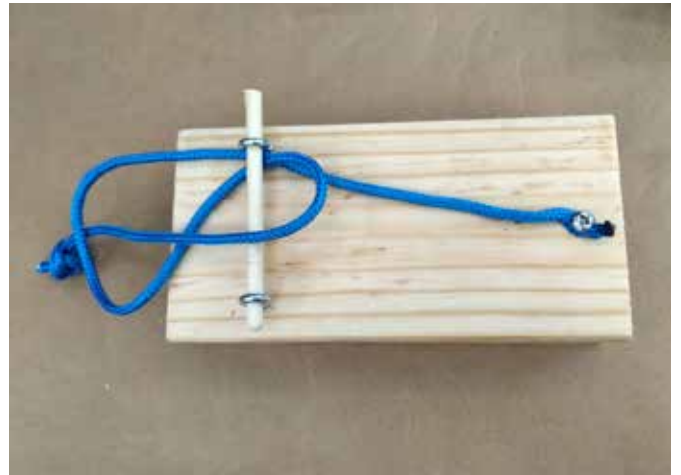


DIAMOND KNOT PUZZLE ASSEMBLY

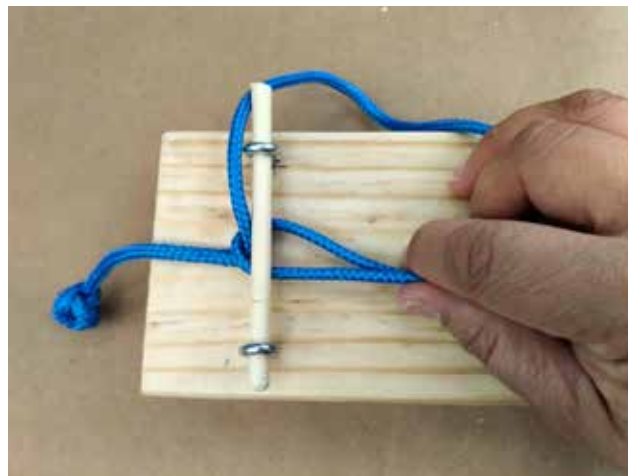
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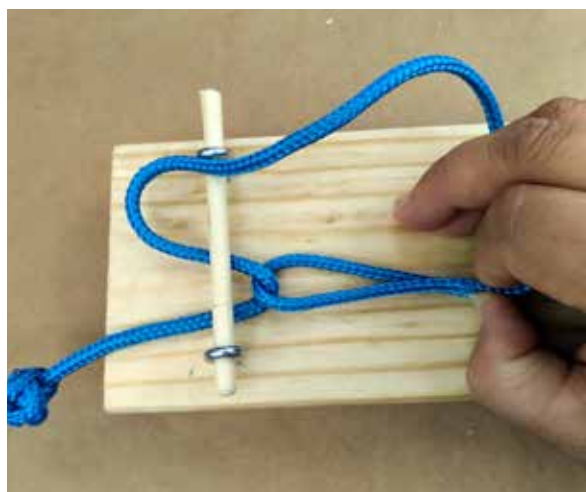
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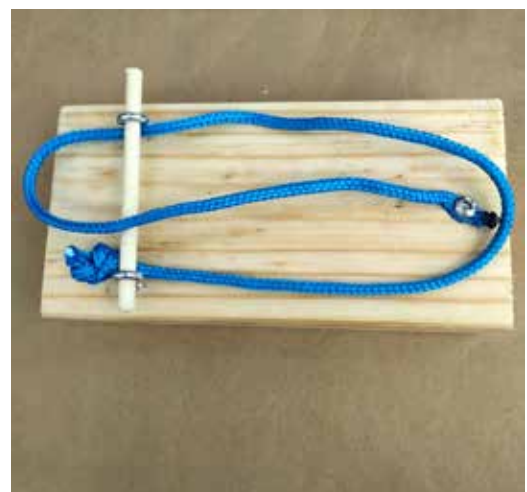
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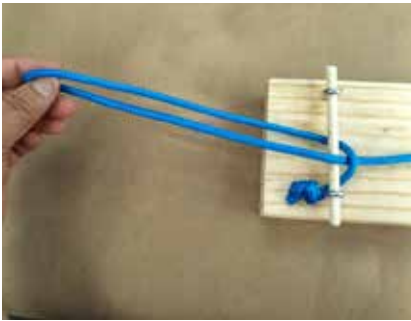


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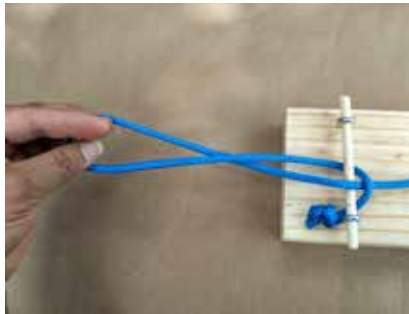


DIAMOND KNOT PUZZLE SOLUTION

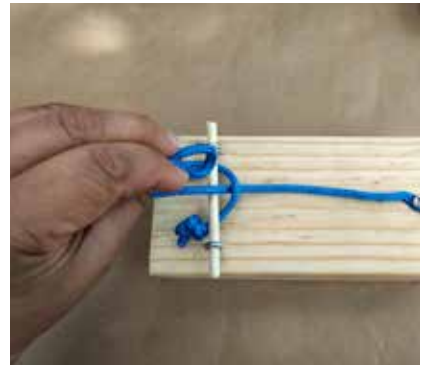
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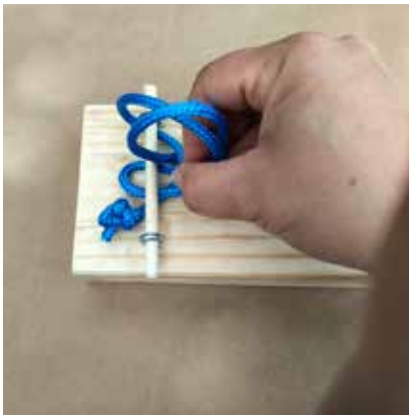
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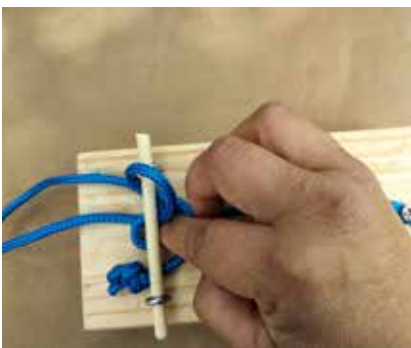
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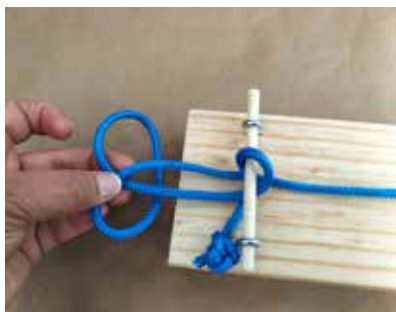
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7.



8.



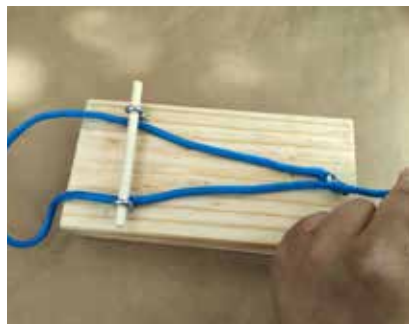
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10.



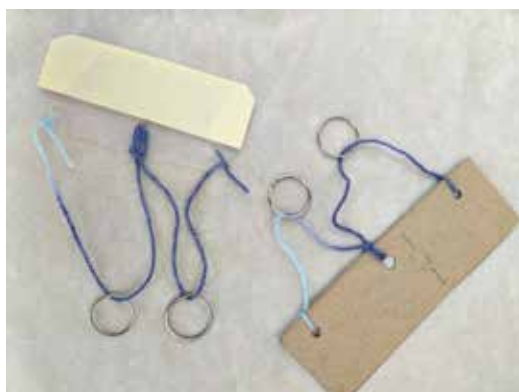
11.



TWO RINGS PUZZLE

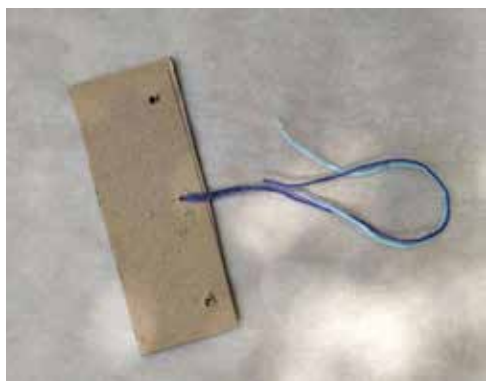
MATERIALS

- Reusable flat material, such as cardboard or plastic
- Ruler
- Pencil
- At least 24 inches of yarn or string
- Hole punch
- 2 keyrings or washers



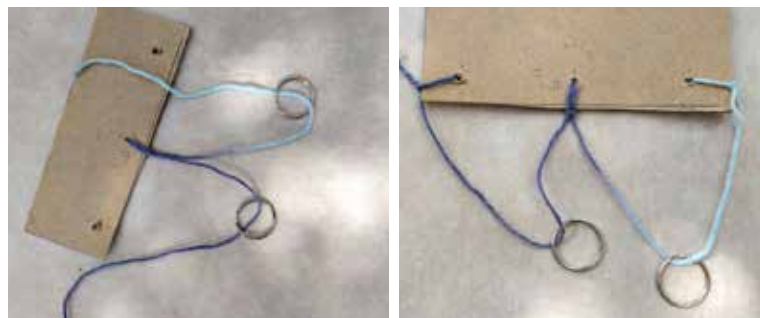
INSTRUCTIONS

1. Create a 2x6-inch rectangle, rounding the edges if desired.
2. Lay the rectangle horizontal and draw a horizontal line one inch from the bottom. Punch three holes along this line: One inch from the left, one inch from the right, and one in the middle
3. Fold the yarn or string in half and thread the middle of the yarn into the middle hole going from front to back. Turn the loop towards the bottom and front. Then pull the ends through the middle loop from top to bottom, make any adjustments necessary so you have equal lengths of rope on each side.



Step3

4. Thread the left side of the loose yarn through one ring, through the left hole, and tie the end into a knot onto itself. Do the same for the right. You have assembled the puzzle.



Step 4

PUZZLE GOAL:

Move the rings so they are on the same side.

SOLUTION:

Follow these instructions for the solution:

1. Pull the middle loop towards the front, loosening it so that the knot in the middle is wide enough to fit a ring through. Select a ring to move to the other side.
2. Lead the moving ring towards the loose middle and push the ring from back to front of the middle loop following the string's path towards the other side. Do not adjust the other side of the yarn or string yet. Move the ring and just enough yarn or string for the ring to go through the middle loop.
3. Gently pull the two threads towards the front, and pull the middle loop through the middle hole from the back to the front. The middle loop is now in the front.

