

**In the past, Girl Scouts of Alaska has created challenges for girls to explore the outdoors through outdoor activity, observing wildlife, and experiencing the natural wonders of Alaska.**

**If you have not already completed these challenges, we are bringing them back! This is a great opportunity for girls and their families to explore the outdoors together safely.**

**NEW!**

**We now have a new STEM Challenge patch, for all girls to work on. Activities for this patch are designed for girls to discover and build curiosity independently or with their families.**

**Patches:** All challenge patches can be ordered at <https://www.cognitofrms.com/Girlscoutsalaska/GSAKPatchOrderForm>.

We have a limited number of Outdoor Challenge, AK Wildlife Challenge, and Natural Wonders patches left. Availability can be seen on the order form. If we are out of a specific patch, please contact the shop at [shop@girlscoutsalaska.org](mailto:shop@girlscoutsalaska.org), and we can help you order a fun patch instead. If you have already completed the challenge, please do not request a second patch. Feel free to send us photos though and we can share all the great things our girls are doing outdoors!

**Photos:** Send your photos to [program@girlscoutsalaska.org](mailto:program@girlscoutsalaska.org). We want to share what our girls are doing and discovering. This way girls can see what others are doing across the council and get inspired to challenge themselves!



# STEM Challenge

Science, technology, engineering, and math are not just for school. STEM can happen at your house, with your family, outdoors, or online. STEM is all about experimenting, being curious, and trying out your ideas.

\*Items have a link on the next page to help you out.

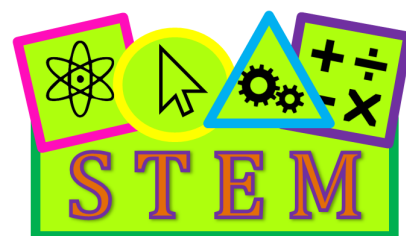
Complete **20** items to receive a STEM Challenge patch.

Submit a photo for a chance to be featured on the GSAK Facebook page! E-mail photos to [program@girlscoutsalaska.org](mailto:program@girlscoutsalaska.org)

1	Read about an Animal	11	Plant a seed and track its growth by drawing pictures or using measurements and graphing.	21	Ask a question. Find the answer. Share with a family member.	31	Find one way to make your home more environmentally friendly and take action!
2*	Take a National Park Virtual Tour	12	Discover geometry by building shapes out of marshmallows pretzels or other foods. Can you build a 3 D shape?	22*	Learn how much space is between planets.	32	Make a video to teach someone else a new skill. Bonus—share your video with GSAK
3	Plan a budget for a future family trip or outing.	13	Play a family game that involves math	23*	Build a Rocket	33*	Build a rubber band powered vehicle
4	Bake a recipe and experiment by changing the amount of one ingredient	14*	Make your own ice cream and learn the science!	24	Imagine a new animal and draw it in its habitat.	34*	Make water chimes and learn about vibrations and sound
5	Float or sink? Find out what items in your house are more dense (sink) or less dense (float).	15*	Make a paper airplane. Experiment different designs to see how you can make it fly further!	25*	Be an explorer. Visit an outdoor location and see what you can discover. You could even make your own binoculars.	35	Use a stopwatch to calculate your speed running, skipping, biking or doing another activity. Speed = distance/time.
6*	Make a Moon Journal	16*	Make Candy Lightning (static electricity)	26	Take apart (with permission) an old electronic device to see what is inside.	36	Do a blind taste test. Can you tell the difference between bottled water and tap water? How about Coke or Pepsi.
7	Try an Hour of Code Activity	17*	Build a terrarium to learn about ecosystems.	27*	Build your own website to share your ideas.	37*	Track the movement of the sun by creating your own sundial.
8	Invent something that helps you solve a problem	18*	Learn physics with pendulum painting	28*	Make ice grow—instant ice!	38*	Make Rainbow Paper
9*	Explore physiology by taking your heart rate before and after a family dance party (or another physical activity)	19	Use dice or cards to make your own game and share it with your family.	29	Build with Legos, K'Nex, other toys or even recycled materials. Can you build something tall? How about really strong?	39	Symbiotic relationships occur when plants or animals help each other in nature. Learn about one of these relationships and then help out a friend!
10*	Build a Rollercoaster	20	Hang out with friends or your Girl Scout Troop virtually using Zoom, Skype or other technology.	30	Create a song about a STEM topic. Bonus if you can record it and share it with GSAK.	40	Learn about a woman scientist who made history or impacted her field in a positive way.

Submit form with competed numbers circled or checked off here to order your patch :<https://www.cognitofirms.com/Girlscoutsalaska/GSAKPatchOrderForm>

Please also send any photos or videos to [program@girlscoutsalaska.org](mailto:program@girlscoutsalaska.org).



## Resources

Many of the activities can be done without further resources. For some activities a Google or YouTube search may reveal some useful information. For other activities, we have included a link below to give you some extra directions or guidance. The number corresponds with the activity number on the front.

2	Search National Park at <a href="https://artsandculture.google.com/">https://artsandculture.google.com/</a> for some park tour options
6	Moon Journal: <a href="https://moon.nasa.gov/resources/12/moon-observation-journal/">https://moon.nasa.gov/resources/12/moon-observation-journal/</a> ; Moon Phases: <a href="https://solarsystem.nasa.gov/resources/676/phases-of-the-moon/">https://solarsystem.nasa.gov/resources/676/phases-of-the-moon/</a>
7	Hour of Code: <a href="https://hourofcode.com/us/learn">https://hourofcode.com/us/learn</a>
9	How to measure pulse: <a href="https://www.cardiosmart.org/~media/Documents/Fact%20Sheets/en/zu1592.ashx">https://www.cardiosmart.org/~media/Documents/Fact%20Sheets/en/zu1592.ashx</a>
10	Many different materials will work. Here is one idea: <a href="https://frugalfun4boys.com/engineering-project-kids-build-straw-roller-coaster/">https://frugalfun4boys.com/engineering-project-kids-build-straw-roller-coaster/</a>
14	Check-out the Youtube for an ice cream science video here: <a href="https://www.youtube.com/watch?v=s1CpSrXa1EI">https://www.youtube.com/watch?v=s1CpSrXa1EI</a>
15	Paper airplanes: <a href="https://www.youtube.com/watch?v=SpYS5WtvNvQ">https://www.youtube.com/watch?v=SpYS5WtvNvQ</a>
16	Candy Lightning: <a href="https://www.scientificamerican.com/article/candy-lightning/">https://www.scientificamerican.com/article/candy-lightning/</a>
17	Terrarium instructions: <a href="https://www.fairchildgarden.org/portals/0/docs/education/downloadable_teaching_modules/elementary/terrarium%20activity.pdf">https://www.fairchildgarden.org/portals/0/docs/education/downloadable_teaching_modules/elementary/terrarium%20activity.pdf</a>
18	Pendulum Painting: <a href="https://kidssteamlab.com/pendulum-painting/">https://kidssteamlab.com/pendulum-painting/</a>
22	Solar System Spacing: <a href="https://www.jpl.nasa.gov/edu/teach/activity/solar-system-scroll/">https://www.jpl.nasa.gov/edu/teach/activity/solar-system-scroll/</a>
23	There are many ways to do this. Here is one: <a href="https://www.jpl.nasa.gov/edu/teach/activity/foam-rocket/">https://www.jpl.nasa.gov/edu/teach/activity/foam-rocket/</a>
25	DIY binoculars: <a href="https://www.kiwico.com/diy/Arts-and-Crafts-Ideas/1/project/Toilet-Paper-Roll-Binoculars/1747">https://www.kiwico.com/diy/Arts-and-Crafts-Ideas/1/project/Toilet-Paper-Roll-Binoculars/1747</a>
27	Try Doodlekit, Weebly or another free online website creator.
28	Instant Ice Video: <a href="https://www.youtube.com/watch?v=7o8moFSHrAQ">https://www.youtube.com/watch?v=7o8moFSHrAQ</a>
33	One example of a rubber band powered vehicle: <a href="https://www.jpl.nasa.gov/edu/teach/activity/roving-on-the-moon/">https://www.jpl.nasa.gov/edu/teach/activity/roving-on-the-moon/</a> Try other materials too!
34	How to make water chimes: <a href="https://www.dkfindout.com/us/video/science/how-to-make-water-chimes/">https://www.dkfindout.com/us/video/science/how-to-make-water-chimes/</a>
37	Sundial instructions: <a href="https://www.scientificamerican.com/article/its-about-time-to-make-a-sundial/">https://www.scientificamerican.com/article/its-about-time-to-make-a-sundial/</a>
38	Rainbow Paper: <a href="https://www.sciencekiddo.com/rainbow-paper-kid-color-science/">https://www.sciencekiddo.com/rainbow-paper-kid-color-science/</a>



# 101 Things To Do Outdoors Challenge

Girls can learn and grow through outdoor adventures, so we've created a list of fun activities to get you exploring the world around you. Here's 101 things to do outdoors!

Complete **50** items to receive a Great Outdoors patch. (limited quantities available)

Submit a photo for a chance to be featured on the GSAK Facebook page! E-mail photos to  
program@girlscoutsalaska.org

Go for a bike ride	Make mud pies	Go Bird watching	Jump rope
Go for a walk/run	Play flashlight tag	Play on a playground	Play tag with friends
Camp out in the yard	Read a book in the shade	Dance in the rain	Practice outdoor photography
Hula Hoop	Go swimming	Play four square	Look for spider webs
Visit 2 parks	Play baseball	Visit a fair or festival	Pan for gold
Draw on the sidewalk with chalk	Blow bubbles	Catch a frog	Look under rocks
Build a snowman	Visit a national park (and earn your ranger badge!)	Build an igloo/snow cave	Feed birds at a park
Work in the yard	Earn a GS outdoor badge	Watch the aurora	Have a yard sale
Make and sail a paper sailboat	Garden/Plant flowers	Find an animal track/scat	Watch the sunset
Walk a dog	Wash a car	Throw a snowball	Go dog sledding
Go Ice Skating	Participate in a fun walk/run	Write outside	Attend an outdoor sport event
Go skiing	Skip rocks on water	Play hide and seek	Play hopscotch
Go ice fishing	Roast marshmallows	Make leaf prints	Take a selfie outside
Build a fort	Tie dye something outside	Make a bird house	Have an outside dance party
Make a snow angel	Go berry picking	Make an obstacle course with friends	Have a picnic
Stargaze	Play I spy	Roller skate or skateboard	See how many different plants you can find
Go sledding	Walk barefoot on the grass/sand	Run around and get dizzy	Visit a Wildlife Refuge
Play ice hockey	Collect rainwater for indoor plants	Watch ants	Look for aquatic invertebrates
Look for bugs	Have a scavenger hunt	Take a hike	Roll down a hill
Watch a sunrise	Visit a waterfall, lake, river, creek	Go camping	Play Red Rover
Celebrate summer solstice	Go to a Farmers Market	Hold a lemonade stand	Play Simon Says
Collect seashells	Ride or paddle a boat	Fly a kite	Cook a meal outside
Look for cloud shapes	Go fishing	Attend a GS outdoor event	Look for mushrooms
Take a walk under the full moon	Start a kickball game	Clean up a park	Go snowboarding
Look at snowflakes	Visit a State Park	Collect rocks	Build a campfire
			Try to identify bird calls

Remember to send us your  
photos!

Submit form here: <https://www.cognitoforms.com/Girlscoutsalaska/GSAKPatchOrderForm>

Patches are limited and available on a first come first serve basis. E-mail  
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# Alaska Wildlife Challenge

Alaska is home to many different species of wildlife! Wildlife can be as large as a humpback whale or as tiny as a mosquito. Wildlife can be found in a National Park, the city, and even around your home. Get outside and see how many types of wildlife you can find!

Complete **50** items to receive a Alaska Wildlife patch. (limited quantities available)

Submit a photo for a chance to be featured on the GSAK Facebook page! E-mail photos to

Birds	Land Mammals	Bugs	Aquatic Inverts and Vertebrates
Black Capped Chickadee	Moose	Dragonfly	Caddisfly Larvae
Dark Eyed Junco	Sitka Black Tailed Deer	Mosquito	Water Boatman
Song Sparrow	Black Bear	Bumblebee	Leech
White Crowned Sparrow	Brown Bear	Lady Beetle	Wood Frog
Ruby Crowned Kinglet	Dall Sheep	Aphid	Midge
Bohemian Waxwing	Mountain Goat	Wollybear	Sea Star
Greater Yellowlegs	Arctic Ground Squirrel	Carpenter Ant	Hermit Crab
Spruce Grouse	Porcupine	Crane fly	Isopod
Common Goldeneye	Marmot	Grasshopper	Chiton
Trumpeter Swan	Red Squirrel	Stinkbug	Limpet
Great Horned Owl	Red Backed Vole	Honey Bee	Dog Whelk
Northern Hawk Owl	Santa's Reindeer	Hover Fly	Sea Urchin
Greater White Fronted Goose	Tundra Hare	Daddy Long Legs	Anemone
American Dipper	Ermine	Caddisfly	Tide Pool Sculpin
American Robin	Fox	Mayfly	Salmon
Common Loon	Little Brown Bat	Stonefly	Trout
Sandpiper	Snowshoe Hare	Lace Winged Moth	Burbot
Sandhill Crane	Caribou	Wolf Spider	Humpback Whale
Canada Goose	Coyote	Orb Weaver Spider	Steller Sea Lion
Tree Swallow	Beaver	Ground Beetle	Harbor Seal
Willow Ptarmigan	River Otter	Yellow Jacket	Walrus
Bald Eagle	Muskrat	Leaf Roller Caterpillar	Beluga
Common Redpoll	Mink	White-Spotted Sawyer	Sea Otter
Belted Kingfisher	MuskOx	Worm	Hooligan
Steller's Jay	Lynx	Slug	Orca



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# Alaska's Natural Wonders Challenge

Awe-inspiring natural beauty and outdoor adventure await as you explore Alaska's Natural Wonders in this challenge! From Alaska's dynamic landscapes, sky, wildlife, and natural phenomena you will encounter the breadth and beauty of a place we call home, Alaska.

Complete **50** items to receive a Alaska Natural Wonders patch. (limited quantities available)

Submit a photo for a chance to be featured on the GSAK Facebook page! E-mail photos to  
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A Frozen Waterfall	Shooting Stars	Tadpole	Animal Mated Pair
Alpenglow	Midnight Sun	Iceberg	North Star
Aurora	Double Rainbow	Fall Colors	Satellite
Mud Volcanos	Ice Field	New Spring Growth	Caribou Migration
Volcanic Flume	Gravity	Fossil	Food Chain
First Frost	Fog	Bone	Exoskeleton
Sunrise	Pollination	Antler	Shed Fur
Sunset	High Tide	Moose/Deer Bedding	Porcupine Quill
Lightening Strike	Low Tide	Cirrus Cloud	Feather
Hoar Frost	Hail	Bubbles in Ice	Life in an Unexpected Place
Sun Dog	Dust Devil	A Snowflake	Iridescence
Bore Tide	Light Pillar	Tarn	Defense Mechanism
Calving Glacier	Orion	Kettle Lake	Collective Noun (ex: swarm of bees)
Eroding Shore	Big Dipper	Animal in its Home	Braided Stream
Spitting Clam	Little Dipper	Beaver Engineering	Hot or Cold Spring
Ice Cave	Symbiotic Relationship	Alpine	Waterfall
Breaching Whale	Moon Dog	Tussocks	Conservation Effort
Denali	Willow Rose	Tide Pool(s)	Diving Bird
Mt. St. Elias	Fjord	Glacial Erratic	Historical Artifact
Jumping Fish	Bog Flower	Precipitation Shaft	Wild Edible
Bird Migration	Avalanche Path	Glacial Valley	Seasonal Adaptation
Spawning Salmon	Mt. Edgecumbe	Sun Beams	Milky Way
Baby Salmon	Berry Patch	Fireweed Bloom	Fill in your own!
Decay	Geode	Icicle	Fill in your own!
Bird's Nest	Glacial Moraine	Baby Animal	Fill in your own!



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