
JUNIOR RANGERS
ALPINE
ACTIVITY
BOOK
Parks
VICTORIA
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Nature's
Stories

AMAZING ALPS

Alpine habitats are home to towering rocky peaks, lush valleys and high plains called plateaus. These mountains, also called the Alps, are found through eastern Victoria, from the border of New South Wales down into Central Gippsland.

The climate, landscapes and plants of the Alps change the higher up the mountains you go. At lower altitude, trees grow in wide spaces, allowing sunlight onto the forest floor. In higher mountain areas, heathlands, grasslands and alpine bogs thrive because they are well adapted to cold, exposed and windy conditions.

Alpine environments are known for their changeable weather. Summer days are warm and nights are cool. Winter and spring bring large amounts of rain, hail, sleet and snow.

At higher altitudes, snow falls and settles on the cold mountain peaks for many months. The plants and animals that live in these harsh conditions rely on their superpowers to survive.

The Alps and Traditional Owners

Traditional Owners are the first scientists, first storytellers, first farmers and First Peoples of Country. They describe Country as the lands, seas, waterways, plants, and animals that they are connected to.

The Alps are just one of the places that Traditional Owners have an ongoing connection with. They care for Country and keep sensitive and fragile ecosystems like the Alps in balance. The knowledge and skills to care for Country has been passed down from Elders for thousands of generations.

When visiting new places, find out whose Country you are exploring. Use the QR code to visit the ACHRIS map.

WHERE ARE THE ALPS?

Have you visited an alpine resort before? Below are the names of alpine resorts found in Victoria. Unscramble the names to find them on the map.

1. llaFs kCere

__a__ls __r__ __k

2. mHohta

__o__ __ __m

3. unoMt iStrgnli

__ __ __n__

__t__rl__ __ __

4. uMont erlluB

__o__ __t B__l__ __ __

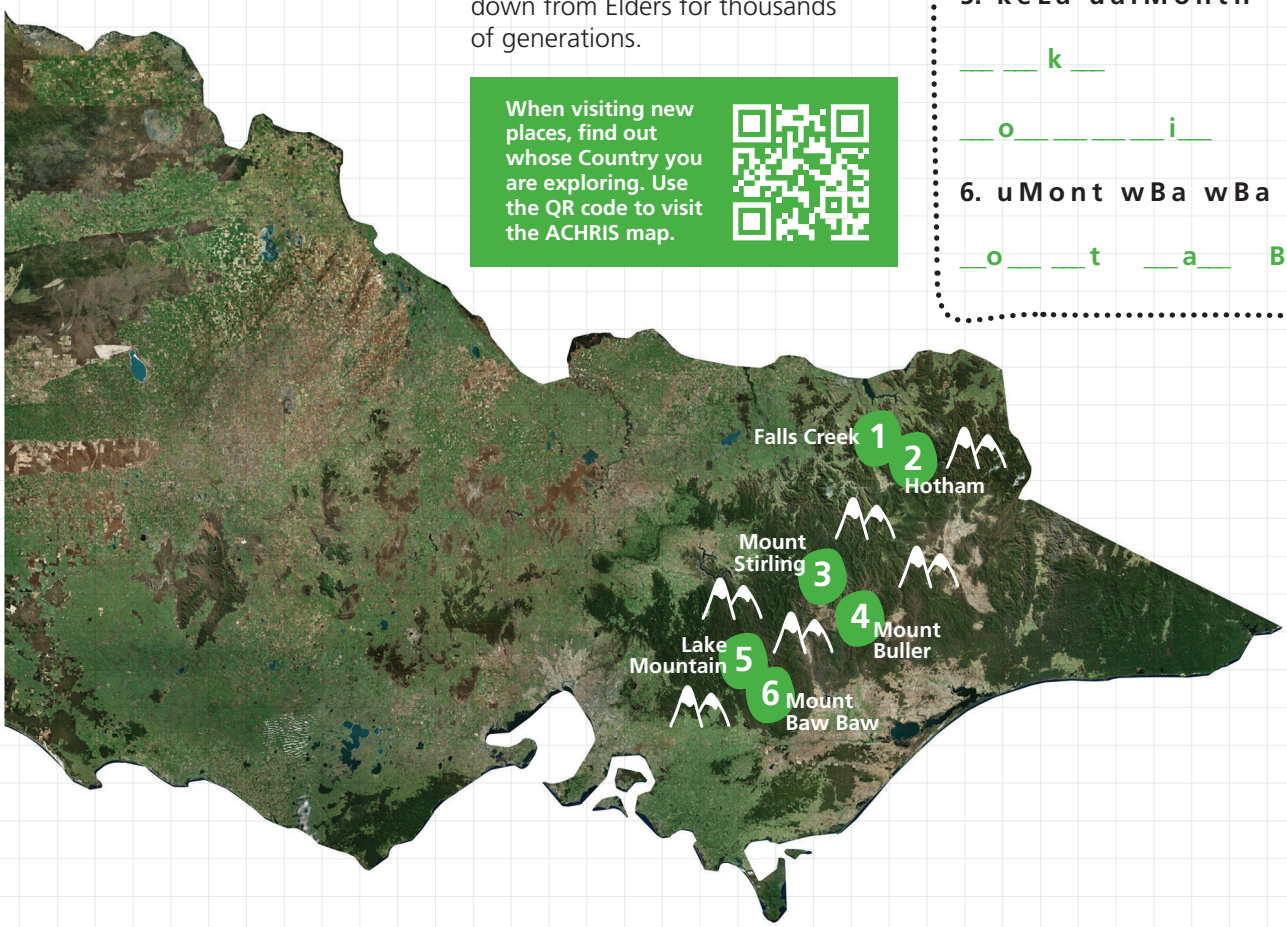
5. keLa uaiMontn

__ __k__

__o__ __ __ __i__

6. uMont wBa wBa

__o__ __t __a__ B__w



WATER TOWERS OF THE WORLD

Australia is one of the driest continents on Earth, so it's lucky that we have mountains that act as huge water towers. The Alps store large amounts of water during winter and release it slowly during summer.

Winter brings lots of rain and snow to the Alps. When the snow and ice melts, water runs down the mountains through alpine streams and creeks. Water can also be stored in alpine wetlands, called bogs, peatlands or moss beds.

The water is slowly released from the alpine wetlands during the warmer months. We rely on this water for drinking and everyday life. If we didn't have water from the mountains, Victoria would be a very dry place.

Match the steps of the alpine water cycle. The first one has been done for you. You can colour in the picture when you are finished.

a. Rain and snow fall on mountain peaks.

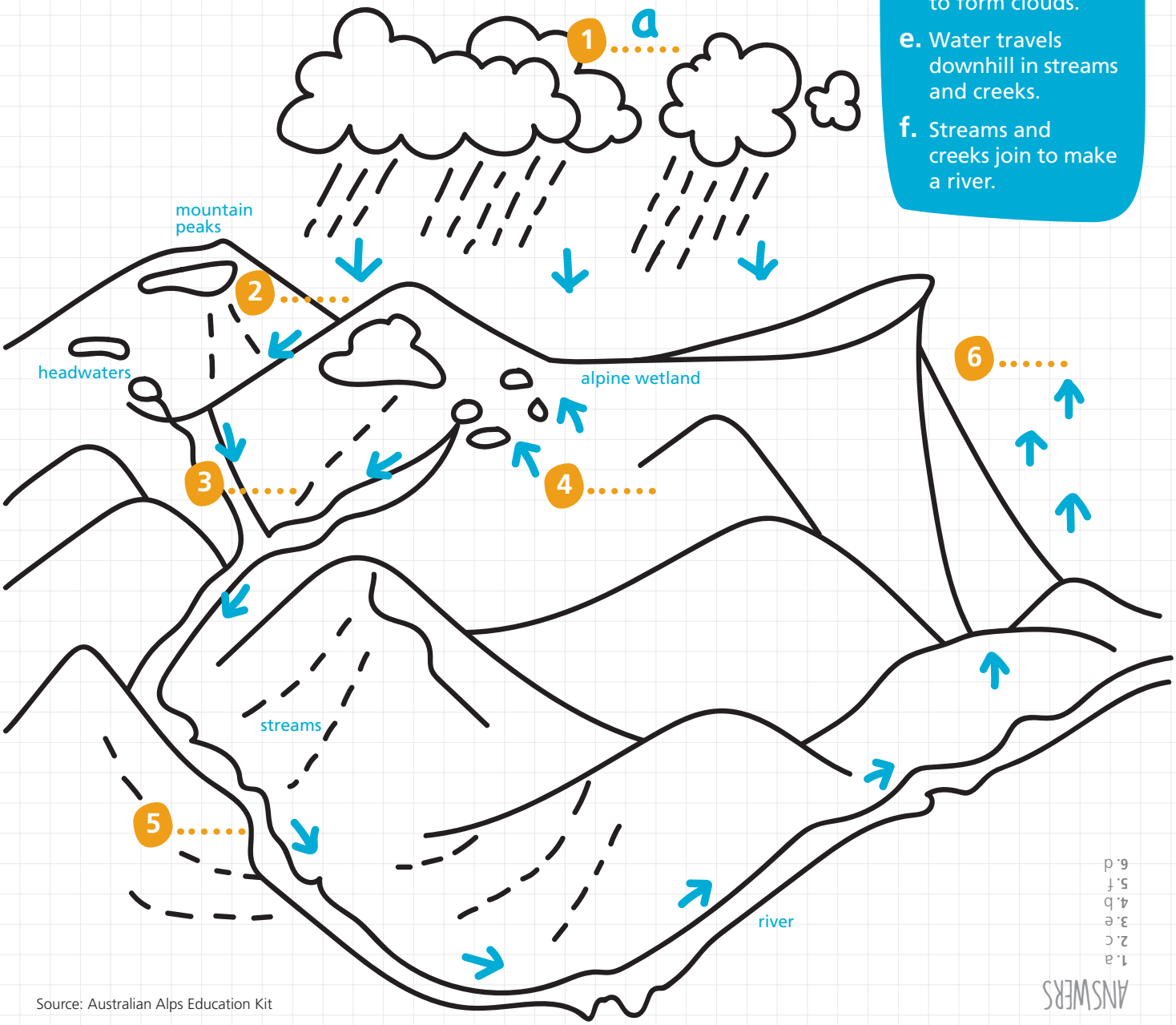
b. Water collects in alpine wetlands.

c. Water begins its journey downhill at the headwaters of the river.

d. Water travels from the river to the sky to form clouds.

e. Water travels downhill in streams and creeks.

f. Streams and creeks join to make a river.



Source: Australian Alps Education Kit

ANSWERS

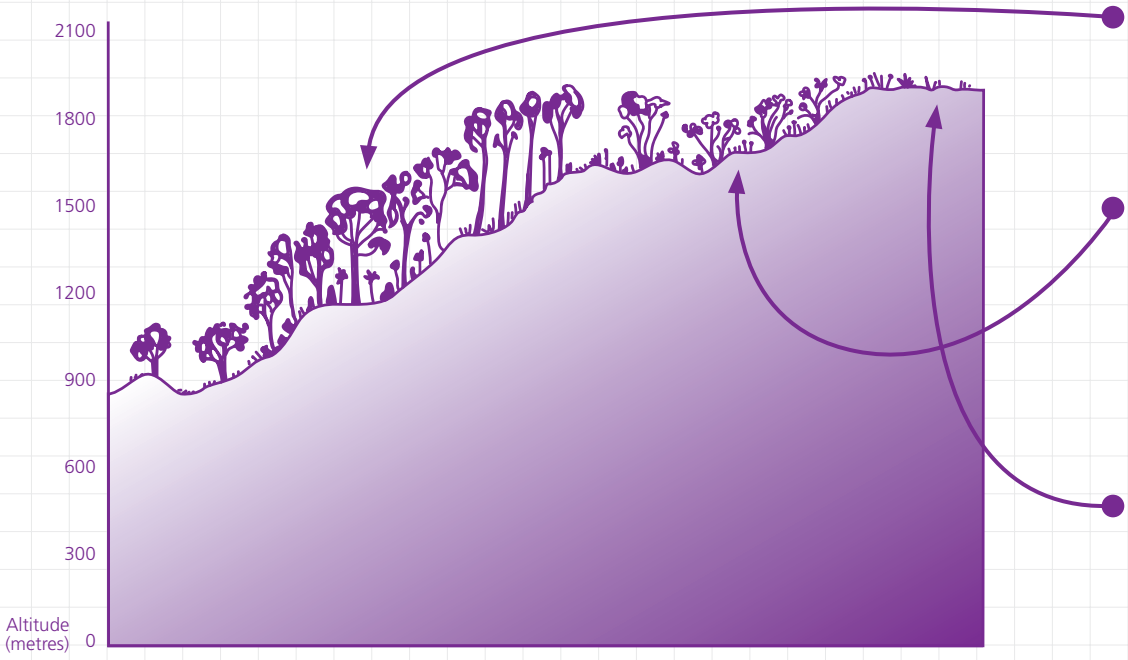
1. a
2. c
3. e
4. b
5. f
6. d

MOVING UP THE MOUNTAIN

FLORA FACT

Many plants in the Alps are endemic. This means they are so specialised they are not found anywhere else in the world.

Plants that thrive in the Alps look a little different to the plants you might see at home. They have adaptations, or special changes, that makes them better suited to harsh environments.



In the montane zone, it rains a lot. Tall eucalypts grow close together and make the forest dark. There is a thick understory of smaller plants and ferns.

In the subalpine zone, it is very cold all year round. The only trees that grow here are Snow Gums. The snow, ice and strong winds in this zone stunt their growth, making the trees short and twisted.

The alpine zone is also called the treeless zone. It is too cold here for even Snow Gums to grow. Only low-growing plants like grasses and herbs are found. They hug the ground where it's warmer to survive.

Look at the photos and read the clues below. Can you match the plant names to the alpine zone they are adapted to?

ALPINE ASH

Tall and straight trunks

SNOW GRASSES (POA)

Short plant with leaves that bend in the snow

SNOW GUM

Stunted and twisted trunks

ALPINE MARSH-MARIGOLD

Short plant that can live and flower under the snow

Subalpine zone | Montane zone | Alpine zone | Alpine zone

LIFE WITH FIRE

Towering white tree skeletons stand watch across the mountains. These Alpine Ash trunks are evidence of fire that has previously moved through the landscape. The environment here is always changing, and with fire comes new life.

While we might think of the Alps as a cold place, the plants here have also adapted to a life with fire. When cool fires burn slowly and not too often, plants in the Alps can use a few adaptations to help them survive.

Lignotubers

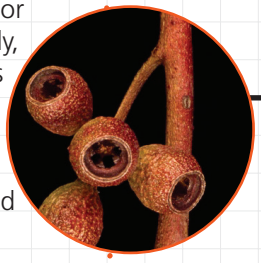
Snow Gums have lignotubers at their base. When most of the tree is burnt, lignotubers provide energy for the tree to sprout new growth.

Epicormic buds

Some plants can sprout new leaves from their burned trunk and branches. The leafy shoots grow from special spots called epicormic buds that only wake up when part of the canopy is lost to fire or an insect attack.

Activating seeds

Really hot fires trigger Alpine Ash to drop seeds. With the help of rain, the seeds start to grow in the nutrient-rich ash on the forest floor. The seedlings need to survive for the forest to regenerate properly, but the going is tough. It takes about 20 years for these seedlings to be old enough to make their own seeds. It is important they are not disturbed by another fire in this time.



Colour in the alpine bush scene. What fire adaptations can you see in this picture?

LIFE ON THE EDGE

Don't let the name 'winter wonderland' fool you – alpine living conditions are tough! Winter in the Alps is long: food is scarce, temperatures are low, and the ground is covered in snow. So, how do animals survive in such extreme conditions?

Marvellous migrating moths

DK Images – UIG / Auscape

Bogong Moths are insects that migrate from northern New South Wales and southern Queensland to the Alps each summer. They fly to the mountains to **aestivate**. This means they hibernate during summer rather than winter. During winter and before aestivation begins, they eat non-stop to store enough energy to make it through the summer. When Mountain Pygmy Possums come out of their long winter hibernation, they are very hungry! They search for Bogong Moths resting in the boulder fields of the Bogong High Plains, Mt Hotham and Mt Buller.

How many snowy superpower words can you find hidden in the grid below?

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

- Aestivate
- Air gap
- Altitude
- Birds
- Boulders
- Conserve
- Crevice
- Energy saving
- Hibernation
- Insects
- Insulation
- Mammals
- Migration
- Nest
- Refuge
- Reptiles
- Shut down
- Warmth

Snow season superpowers

Jiri Lochmann/Lochmann LT

Life under snow-blanket

When snow falls, it leaves small air gaps between the ground, plants, rocks and boulders. This protects everything from the rain and wind. Small mammals like the rare Broad-toothed Rat shelter in this warmer space.

Jiri Lochmann/Lochmann LT

Rest it off... with no snacks

When it is really cold, some animals like the Mountain Pygmy Possum slow down their breathing and heart rate so they don't need to leave their shelter or even eat food. This adaptation is called hibernation. They eat a lot of food to fatten up beforehand.

Zoom away on a holiday

Some birds and insects leave their alpine homes over winter, searching for warmer temperatures and more food. Flame Robins fly down the mountains, where Satin Flycatchers migrate north for the winter.

THE LITTLE FROG WHO LOVES A BOG

FANTASTIC FROG FACT

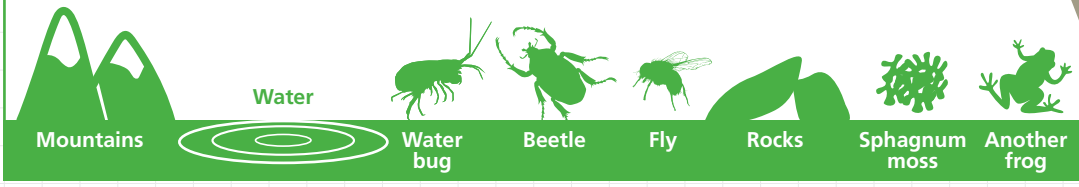
Frogs are indicator species. This means changes to their population tell us about the health of their habitat.

Alpine Tree Frogs are found in a small area of the alpine region. They make their summer homes in healthy, boggy mountain wetlands. There aren't many precious places like this left in Victoria.

Alpine Tree Frogs lay their eggs in slow-flowing or still water. When the tadpoles hatch, they need a lot of energy to grow quickly and will eat almost anything that fits in their mouths – plants, small insects, algae, you name it! They undergo metamorphosis before the end of summer. This means they grow legs and lungs to live on land.

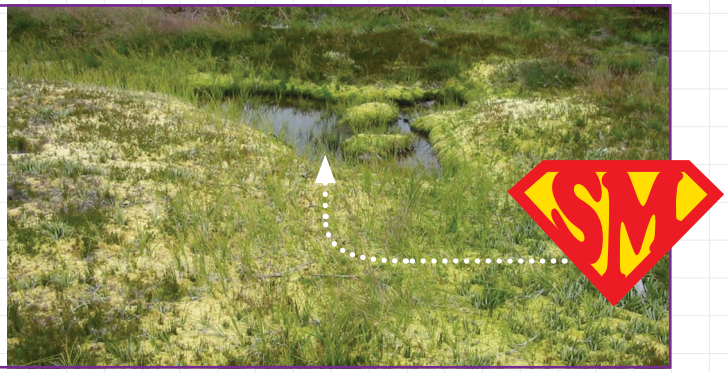
Alpine Tree Frogs are vulnerable, so it's important that we take care of their homes. Rangers and friends protect special wetland breeding pools from pollution, diseases and pests that pack the soil down and change water flow. **You can help too. Staying on walking tracks protects frog habitat from being trampled and stops diseases from being spread on your shoes.**

What makes the perfect environment for an Alpine Tree Frog? Can you help the little frog who loves a bog by drawing a healthy home for them? Remember to include some of the things that Alpine Tree Frogs like in your design.



MOVE OVER SUPERMAN, THERE'S A SUPER MOSS IN TOWN!

Sphagnum moss found in alpine wetlands can hold up to 20 times their own weight in water. They gradually releases everything it has stored, making watery habitats for other alpine creatures. Sphagnum moss uses superpowers to stop bacteria from breaking down dead plants. Instead, the plant material gets pushed down to the bottom of the bog. It makes a rich carbon layer called peat. This is where the name peatlands comes from.



ADAPTING TO STAY SAFE IN THE SNOW

Victoria's networks of parks and reserves form the core of Aboriginal cultural landscapes. Parks Victoria acknowledges the continuing connection that Traditional Owners have to these landscapes and recognises their ongoing role in caring for Country on which we learn, play and live.

The Alps are beautiful, but the conditions can change very quickly. Rain, snow or sunshine, it is important to be prepared before you head out on your next alpine adventure.

Here are some tips for staying safe in the snow. Use the tips to draw the things you might need to adapt to snowy conditions. The first tip – stick with your adult – has been drawn for you.

Make a plan for your activity. Just like Bogong Moths migrating in a group, stick with your adult when you go outside.

Wear lots of layers. We can't store extra fat like Mountain Pygmy Possums preparing for hibernation, but wearing thermals, a jumper and a vest can keep us warm.

Broad-toothed Rats have guard hairs that stop them from getting too damp. Stay dry like these mammals by wearing a waterproof coat.

Snow grasses protect vulnerable new growth from rain, snow and ice. You can protect yourself in the same way by wearing gloves, goggles and a hat.

Think like a Mountain Pygmy Possum looking for tasty Bogong Moths in the boulder fields. Carry and snack on nuts, dried fruit and chocolate to keep your energy up.

We don't have an internal compass like Flame Robins to help us find our way around the mountains. Study a map with your adult so you know where your adventure starts and ends.

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