

# THE WONDER LIST

STARS

Playful prompts and activities that turn everyday moments into wonder-filled discoveries - for families, anywhere, every day.

Mark with an X when completed



## 1 STAR GAZER

See stars better by letting your eyes adjust to night vision: **Sit in darkness for 20 to 30 minutes-no screens and no flashlights!** Count how many stars you can see at 5, 15, and 25 minutes.



## 2 NAME GAME

Throughout history, people all over the world, including the ancient Greeks, Hawaiians and Bedouin have had their own names for the stars. Today, astronomers work together to make an official star list so everyone can use the same names. **Go outside, pick a star, and name it yourself.**



## 3 WHERE'S ORION?

This April, if you're in the Northern Hemisphere, **look for the three stars in a row that make up Orion's belt** low in the western sky shortly after sunset; in the Southern Hemisphere, he appears in the northwestern sky.



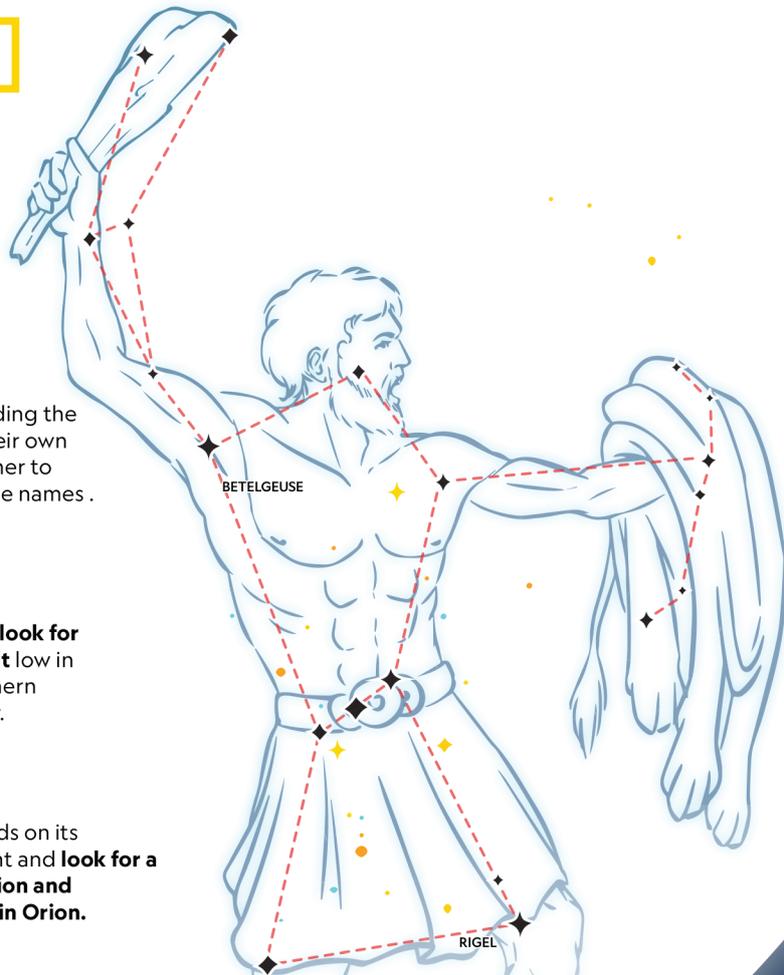
## 4 COLOR BURST

Stars aren't all white: A star's color depends on its temperature and life cycle. Go out at night and **look for a cooler, reddish star like Betelgeuse in Orion and compare it to a hot, bluish star like Rigel in Orion.**



## 5 STABLE STAR

For hundreds of years, travelers in the Northern Hemisphere have used **Polaris, the North Star**, to find their way at night because this star is aligned with Earth's northern axis, and so other stars appear to wheel around it. **Can you find this star together?**



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CLOUDS

Playful prompts and activities that turn everyday moments into wonder-filled discoveries - for families, anywhere, every day.



## EXPLORING NOTE:

When gazing at the clouds and sky, never look directly into the sun.

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## 1 WEATHER FORECAST

Different cloud shapes can hint at the weather to come. For example, fluffy clouds that grow taller and darker indicate rainstorms ahead! Go outside during the day, look at the clouds, and guess the weather they may bring.

## 2 SORT THEM OUT

Scientists sort clouds into 10 basic types. Go outside and make your own category for the shape of cloud you see!

## 3 CHANGE OF TIME

Clouds transform throughout the day as factors like wind and temperature shift. Sketch the same patch of sky in the morning, afternoon, and at sunset to see what changed.

## 4 COLOR UP

Clouds appear to be different colors depending on the weather and time of day. Go outside at sunset, look at the clouds, and name all the different colors you see.

## 5 THINK OUTSIDE THE CLOUD

Lie down on the ground and look up at the sky. Can you find a face or an animal in the shape of a cloud? Tell a 30-second story about what you see.

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## EXPLORING NOTE:

Look with eyes and hands, but don't peel bark or break living branches. Ask permission before collecting leaves or seeds and avoid touching dangerous plants like poison ivy. (Leaves of three, let it be!)



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### 1 SMELL SLEUTH

When you smell freshly cut grass or a torn leaf, you're smelling a message from the plant! For example, the smell of cut grass is a gaseous chemical signal to other plants that **the grass is under attack**. Snap a twig or tear a leaf. Describe what it smells like.



### 2 TRUNK DETECTIVE

**Tree rings can tell us how old a tree is** and give us a record of an area's climate history. If you come across a stump or cut log, count tree rings to determine the plant's age, and then look for skinny versus wide bands. Narrow bands reveal slower growth years, possibly due to droughts or unseasonable cold.



### 3 LEAF LOOKER

Many trees can be identified **by the shape of their leaves**. Gather three fallen leaves of different colors or shapes and arrange them from "smoothest edges" to "most jagged."



### 4 TREE TALKER

Stand under a tree **and listen for 30 seconds**. How many different sounds does it make-rustling, creaking, tapping?



### 5 BRANCH OUT

Available sun, space, and age **can affect how tree branches grow outward**. Spot five different trees. Look at how their branches grow: Are they straight out, upward like arms, or drooping down? Try copying the tree's shape with your own body.

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## 1 ROCK ART

People have been carving into and drawing on rocks for thousands of years to express themselves. Find rocks in your neighborhood and **use them as a canvas** to make beautiful art of your own. Place them outside to display your talent.



## 2 MEET THE ROCKS

Scientists categorize rocks into three different types: **igneous rock** made of magma; **sedimentary rock**, created by compacted sediments; and **metamorphic rock**, when existing rocks are transformed by changes in pressure or heat. Find a rock and try to guess its type.



## 3 SHIFTING STONES

Over millions of years, **rocks are being shaped by natural forces** like rushing water, strong wind, freezing temperatures, and even earthquakes. (Consider the Grand Canyon, which was carved by the Colorado River in a process that started around six million years ago!) Pick up a rock and guess what natural forces might have shaped it.



## 4 FOSSIL FINDER

**Fossils are like snapshots of the past**, preserving the shapes of plants, animals, or even things like eggs, footprints or poop in rocks. Search for a rock with bumps or marks that remind you of a fossil. What does your imagination see?



## 5 ZOOM IN

What may seem like any old rock **can be interesting up close**. Pick up a rock and look at it with a magnifying glass, cell phone camera, or hand lens. What textures or colors do you see? Do you see any bright spots or shiny flecks?

