

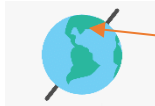
WINTER SOLSTICE

WHAT IS IT?

It's the day each year that has the fewest hours of light and the most hours of darkness. The winter solstice has the shortest day and the longest night of the year.

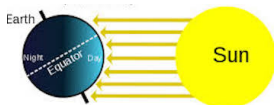
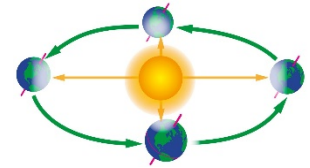
WHY DOES IT HAPPEN?

The earth's axis is tilted, like this:



The orange arrow points to where we live in the northern hemisphere.

As our earth revolves around the sun, our hemisphere (the northern half of the world) gets more light when we're tilted towards the sun and less light when we're tilted away from the sun. The earth takes about 1 year to revolve around the sun.



When our hemisphere is tilted all the way away from the sun, we have the winter solstice. It happens each year around December 20th to 22nd.

CELEBRATE THE NIGHT

Go stargazing! Get a blanket, some snacks and find a place where you can clearly see the sky, like a field without lights. Lie down on the blanket and look up at the sky. It may take some time for your eyes to adjust to the darkness. Don't look at your phone while waiting for your eyes to adjust!

What do you see?

Are there bright stars?

Dark areas of the sky?

Light areas of the sky?

Can you count the stars?

Can you make pictures by making imaginary lines between stars?

Can you find the North Star (Polaris)? It is a bright star that marks the sky's north pole, and it stays in about the same spot all year.

Print out a few constellations that are visible in the fall. Or, [use stellarium to find a picture of the night sky](#).

It's not just stars you can see in the night sky. You can also see planets. [This website shows you which planets you can see in Durham each night](#).

Take a night hike! Go to a nearby park or hiking area that's open at night. Choose a flat trail or a trail you know very well. Or take a hike through your neighborhood at night. Bring flashlights, headlamps, glowsticks and an adult or an adult's permission.

Shh, be quiet! Listen for sounds you don't usually hear.

Can you hear owl calls? How many different calls can you hear?

Can you hear other animals?

Stop, turn off all lights and listen quietly for 30 seconds. Share what you hear. Is it different than the sounds you heard with your lights on?

Take a deep breath. What can you smell? Can you smell more in the dark than in the daylight?

Leave your flashlights off for 10 minutes. What are some things you can see without the light?

Can you see insects flying? Or maybe even bats?

After your flashlights have been off, light a glow stick. Is it brighter than you think it should be?

Experiment with hiking with and without your flashlights. What differences do you notice?

When you get home, write down some of your observations in a nature journal.

Go mothing! Mothing is using a light to look for moths at night. Most moths are nocturnal, which means they are active at night, not during the day. [Use our guide to mothing to explore what might be living hear you.](#)

Go on a nighttime scavenger hunt! Find the things on this list or create your own list. Mark off each thing that you find.

- | | |
|---------------------------------------|------------------------|
| ___ Something fuzzy | ___ Something smooth |
| ___ Something rough | ___ Seeds |
| ___ A chewed leaf | ___ A beautiful rock |
| ___ A pinecone | ___ A stick |
| ___ Litter from people | ___ Something straight |
| ___ Something round | |
| ___ Two different shapes of leaves | |
| ___ Something that makes noise | |
| ___ Something you think is a treasure | |
| ___ Something that glows | |

Make your own scavenger hunt:
