

# STEM's Christmas Newsletter

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## Santa's reindeers are female? - By Nia-May



Rangifer tarandus is the scientific name for reindeer or caribou, these mammals are part of the deer family. Reindeers have a thick woolly coat that provides insulation against cold temperatures. Even on a cold day running reindeer can easily become overheated!

Reindeer can travel distances greater than any other terrestrial animal! They can travel around 5,000 kilometers a year, running at speeds up to 48 mph and swimming up to 6 mph..

It is the only species of deer in which both males and females have antlers. The males are larger and bulkier (weighing 275-660 pounds) whereas females tend to be smaller and straighter (weighing from 50-300).

Most male reindeer shed their antlers in November or early December after the rut (mating season) whereas female reindeer keep their antlers throughout winter and lose them in spring. Also while male reindeer thin down during the rut, female reindeer go into winter with 50 percent body fat to keep them warm during low temperatures — which keeps them nice and toasty when they pull Santa's sleigh.

## Mistletoe - By Joshua-Dylan

Mistletoe is a form of hemiparasite, this means that as well as relying on photosynthesis as a source of nutrients it steals minerals from the host plant (mistletoe is most commonly found on apple trees in the UK); this is how they survive under canopies of trees and far above the ground. It is clear that mistletoe gains most of the supplements that it requires from its host, however mistletoe evidently undergoes photosynthesis due to its green leaves. Mistletoe was once considered a symbol of fertility due to the leaves remaining green after they fell and this could be considered as the reason that it has the tradition it does today.





## Snowflakes and how they are formed - By Louise



Snowflakes are small flakes of ice that form together in the atmosphere to create the unique looking snowflakes we see in Winter. When people think of snow they think it is simply frozen water droplets, but think again. Snowflakes are formed as water vapour travels through the air and condenses (changes from a gas into a liquid) it starts to freeze onto pollen or dust particles due to the cold air. Now you may be thinking how do snowflakes look so intricate and unique? This is because their patterns reflect the internal order of the crystals' water molecules and arrange themselves into a solid state (also known as crystallization). Another factor that comes into play is as the snowflake travels it will be blown through different levels of humidity and vapour that can also contribute to the distinctiveness of the shape.

## Climate Change - By Jasmine

In the North Pole 551,000 square kilometers (213,000 square miles), or 34 percent of the ice sheet surface, melted in 2020 so if we keep going at this rate in 2030 or 2040 the ice might have fully melted. That means we might get really bad weather changes as the climate changes for example tsunamis, floods and droughts. If the sun heats up the Earth then that means the ice will melt. We can help to stop this by not dropping litter on the floor especially if it's black litter because as we know black holds heat.



## Thomas Edison's Christmas Lights - By Dakota



Before the 1880s Christmas trees were lit with real burning candles until Thomas Edison created the Christmas Light. Initially, Edison's lights were not supposed to be a signature Christmas ornament as Edison intended the lights to be used as New Year's decorations when he put them up around his New Jersey Laboratory on New Year's Eve in 1879. This made passers-by marvel at these new lights, however, the public were still wary so in 1882 Edward Hibberd Johnson bought some of these new lights and hung them up in his window. As this did not get any press Johnson called in a reporter from Detroit. After this, it took another decade for electric Christmas lights to become what they are today, a holiday must have!



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We wish everyone a very merry Christmas and a happy, healthy new year!