

25<sup>th</sup> January

Memory Verse:

**God is light**

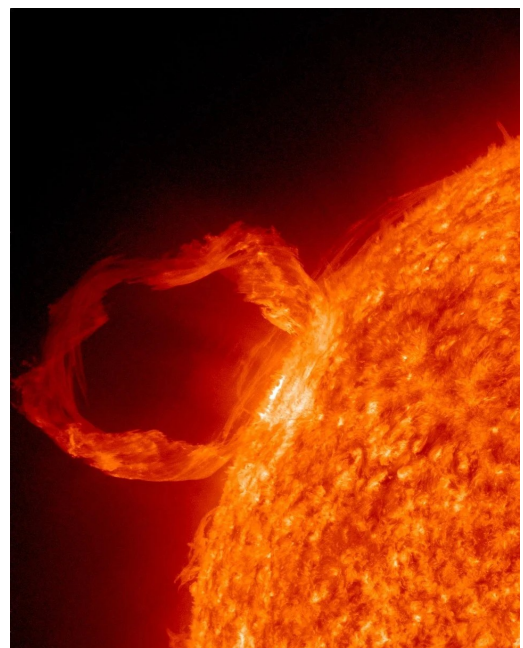
and in him is no darkness at all. 1 John 1:5b

The picture below was taken at night in Yorkshire. It shows the beautiful curtain of green light



called the northern lights or *aurora borealis*. This phenomena is only rarely visible from Britain. It happens when tiny particles streaming out from the Sun hit Earth's atmosphere. When these particles reach the earth's upper atmosphere they give some of their energy to atoms and molecules of gases. These atoms and molecules cannot hold the energy however and give it off as another kind of energy: the colours of light that we see as *aurora borealis*. If you want to be sure of seeing the aurora you must travel to areas near to the North Pole or South Pole where they are seen frequently. This is because the particles coming in from the sun have an electric charge. As they come in, the Earth's magnetic field guides them toward the poles. However, on 25<sup>th</sup> of January 1938 wonderful lights of this type were visible over most of Britain and indeed, across Europe and North America.

The sun has an eleven year cycle of activity on its surface, as we noticed yesterday.<sup>1</sup> There are sun spots that come and go and also solar flares like the one in the picture on the right. These are brilliant, powerful, intense bursts of radiation and last from minutes to hours. Sometimes giant bubbles of gas and magnetic fields from the sun, are released into the solar system. As the solar material streams out through space and strikes Earth it causes what are called geomagnetic storms and with them *aurora borealis*.<sup>2</sup>



1 For more on sunspots see the lesson on 9<sup>th</sup> March.

2 More information can be found here: <https://thejohn1010project.com/heavenly-fire.html>

One of these streams of solar material reached earth on the night of 25<sup>th</sup> January 1938. Here is how an American newspaper started its report of the spectacular sight:

## Aurora Borealis Seen in Europe

London. Jan. 25

The aurora borealis, rarely seen in Southern or Western Europe, tonight spread fear in parts of Portugal and lower Austria while thousands of Britons were brought running into the streets in wonderment.... From 6:30 to 8:30 the people of London watched two magnificent arcs rising in the east and west, from which radiated pulsating beams, like searchlights in dark red, greenish blue and purple.... A big spot had been noted on the sun during the weekend and some scientists anticipated that there would be an electrical disturbance of this kind....

### Something to make:

Sun spots and solar flares have an effect on our weather as well as causing the beautiful aurora. It is not possible to look at the sun with your eyes unprotected. Its light is so bright that looking at it directly can cause eye damage. A telescope makes this danger worse and focuses the light, burning the retina at the back of the eye so that even a glance at the sun through the eye piece of a telescope could cause blindness. How do astronomers study features on the sun's surface such as sun spots then? One method, which you can use yourself, is to project the image of the sun using a special viewer. To make a sun viewer you need:

- a cardboard box
- aluminium foil
- a large sewing needle to make the pin hole
- some white paper
- some sticky tape e.g. sellotape

Cut a hole in one end of your box about 2cm square. This is the projection window.

At the opposite end cut a viewing hole about 10 by 3 cm.

Cut some white paper to fit the bottom of the box. This is the screen.

Now you need to cover the projection window with aluminium foil. There must be no small holes in the foil so hold it up to the light to check it before you tape it over the window.

The box must be light proof so check it by looking through the viewing window while you hold it up to a light source such as an electric light. If any light is getting in you must seal the holes.

Now make a pin hole in the foil.

Take the box outside on a day when there are no clouds covering the sun. Point the projection window towards the sun. Look through the viewing window and move the box until you see a round light on the screen. This is not just a spot of light it is an image of the sun!

Something to listen to and perhaps some dressing up:



This magnificent royal wedding took place on **25<sup>th</sup> January** 1858 when Queen Victoria's daughter, Victoria the Princess Royal, married Prince Frederick William of Prussia. It took place in the Chapel royal St James Palace, London. Prussia was the most important principality of Germany so the wedding made a family alliance between two powerful countries. The chapel certainly looks crowded and some of the royal children do not seem to have a very good view of what is going on. The Princess's very long train seems to be getting quite crushed as the bridesmaids try to squeeze themselves in to kneel down beside it! You can see Queen Victoria and her husband, Prince Albert on the right of all the bridesmaids. Queen Victoria is easy to spot because she is wearing her crown. Prince Albert stands to her right with his hand on the shoulder of one of the young princes who are all wearing the highland kilts so fashionable at the time. There seems to be nowhere to put anything in the crush and the youngest prince has just dropped his hat and gloves on the floor. The artist, John Philip, was a favourite of the Queen's and he made sketches at the time from which he made the painting afterwards.

Queen Victoria was very fond of the music of Mendelssohn<sup>3</sup> who often played the organ for her when he was in Britain. After this wedding when it was used to end the service, Mendelssohn's wedding march became very popular for weddings. Mendelssohn wrote the march for orchestra as part of the incidental music to accompany Shakespeare's play, *A Midsummer Night's Dream*. For weddings the march is played on the organ and the organ arrangement was done by Samuel Reay, who first used it at a wedding in Tiverton in 1847, years before the Princess Royal's wedding. However, once the music had been used for a *royal* wedding everyone wanted it! Find a recording of both the original<sup>4</sup> and the organ version<sup>5</sup> to listen to. Very young children, especially girls, might enjoy forming up into a wedding procession and stepping slowly down the hallway or any other suitable space in time to the music. Some dressing up might make it extra fun.

3 See the lesson for 14<sup>th</sup> May.

4 E.g. <https://www.youtube.com/watch?v=0Oo4z37OUEI&t=180s>

5 E.g. <https://www.youtube.com/watch?v=UxUsmAL2HO0&t=6s>

## Some poems to read

25<sup>th</sup> of January is celebrated in Scotland as Burns' Night, the birthday of Scotland's national poet, Robert Burns (1759-1796). Burns lived a sad life. His father, although very poor, tried to give him a good Christian education, even writing a *Manual of Religious Belief* himself for his son. However, Burns rejected Christianity and lived a godless life. His poetry often has a sad or bitter edge to it. H E Marshall's chapter on Burns is included in today's Optional Resources Files.<sup>6</sup>



---

<sup>6</sup> From her *English Literature*. Available complete on the Mothers' Companion Flashdrive. <https://motherscompanion.weebly.com>.