

January 11<sup>th</sup>

**Memory Verse:**

And God made two great lights;  
the greater light to rule the day,  
and the lesser light to rule the night:

**he made the stars also.** Genesis 1:16

This is an easy verse to learn if you break it down into parts. Tiny children can learn the lovely words in bold and know that “he” means God.

**Something to make**

In the picture on the right you can see a model of the seven foot (2.13m) telescope with which William Herschel (1738-1822), the “founder of **sidereal** astronomy for the systematic observation of the heavens”<sup>1</sup> discovered the planet Uranus. Herschel made the telescope in 1773 and began a systematic study of the sky. He was rewarded by finding many new **nebulae**, clusters of stars and binary stars and, after eight years methodical work, by the discovery of the planet Uranus. On **11<sup>th</sup> January** 1787 he made another discovery. Orbiting round Uranus he saw two moons! Herschel went on to make larger telescopes and the secret of his success as an observer was their power and magnification. The seven foot long, six inch (15.24cm) **diameter**, reflecting telescope in the picture was one of his favourites. Its main mirror at the bottom of the tube and the secondary mirror near the top in front of the eye-piece were made of an **alloy** of copper and tin that gave a white metal that could be polished to give a very shiny reflective surface. This meant that the images he saw were very clear.



William Herschel's telescope was a reflecting telescope; it used mirrors to collect the light. The other type of telescope is a refracting telescope. This is a telescope that uses lenses to collect the light. You can make a refracting telescope yourself.

You will need:

two magnifying glasses

perhaps 2.5-3 cm **diameter** (it works best if one is larger than the other)

lenses from old spectacles may work

a cardboard tube – paper towel roll or gift-wrapping paper roll (it helps if it is long)

duct tape

scissors

a ruler or tape measure

sheet of any printed paper.

You will also need someone to help you with part of the construction.

Make your telescope:

1. Get the two magnifying glasses and a sheet of printed paper.
2. Hold one magnifying glass (the bigger one) between you and the paper. The image of the print will look blurred.
3. Place the second magnifying glass between your eye and the first magnifying glass.
4. Move the second glass forward or backward until the print comes into sharp focus. You will notice that the print appears larger – and upside down.
5. Ask someone to measure the distance between the two magnifying glasses as you hold them at this point and write the distance down.
6. Cut a slot in the cardboard tube near the front opening about 2.5 cm away. Do not cut all the way

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1 <https://todayinsci.com>

through the tube. The slot should be able to hold the large magnifying glass.

7. Cut a second slot in the tube the same distance from the first slot as your friend wrote down. This is where the second magnifying glass will go.

8. Place the two magnifying glasses in their slots (the big one at the front, the little one at the back) and tape them in with the duct tape

9. Leave about 1 - 2 cm of tube behind the small magnifying glass and cut off any excess tube remaining.

10. Check to see that it works by looking at the printed page again. You may have to experiment slightly to get the exact distances between the two glasses right so that the image comes to a focus. You have just built a simple refracting telescope! With your telescope, you should be able to see the moon and some star clusters as well as birds and aeroplanes etc.

### Something to think about<sup>2</sup>

We now know that Uranus has five moons. The two that Herschel discovered on **January 11<sup>th</sup>** 1787 are called Oberon and Titania, after fairy characters in William Shakespeare's play *A Midsummer Night's Dream*. Herschel was probably the most famous astronomer of the 18th century. Despite being able to look further into the depths of space than anyone who had gone before him, Herschel firmly believed in the God of creation. He was fond of quoting a line from a popular poet of the day, Edward Young, "The **undevout** astronomer must be mad."<sup>3</sup>

In contrast, on **January 11** 1913 communist leader, Vladimir Lenin, wrote to his associate, the author Maxim Gorky, "Every religious idea, every idea of God, even flirting with the idea of God, is unutterable vileness...."



Atheists like Lenin sometimes say that Christianity must be evil because so much that is bad has been done in its name. Christians reply in return that no other system of thought has been responsible for more cruelty than atheism. Lenin, Stalin, Mao Zedong, and Pol Pot were all atheist dictators who inflicted intense suffering and death on millions of people.

However, it is not relevant to the truth or otherwise of this charge against Christianity to say that atheism is just as bad. If you study logic you may know this as the *Tu Quoque* **fallacy**. However, although it is true that some Christians have done bad things, this does not affect the *truth of Christianity*. Christianity's truth is based on **metaphysical** things such as God's existence, and historical things such as Jesus' **deity**, death, and resurrection. The goodness of Christianity is **determined** by what it teaches, not by what those who claim to be its followers do. Since Christianity teaches us to love our enemies, anyone who claims to be a Christian and is consistently brutal, violent, or otherwise nasty is clearly not a Christian, they are a hypocrite.

Lenin, Stalin, Mao Zedong, and Pol Pot killed millions to *serve* their atheistic **ideology**. Christians would have to *disobey* Christian teaching to do such evil things.

### Vocabulary work

In today's lesson there are a number of words highlighted in **purple**. Make sure you know what they mean using a dictionary and then write a sentence of your own for or each, using the word in a way that makes the meaning clear.

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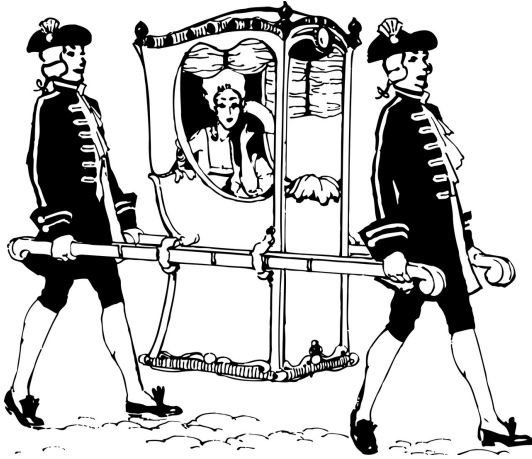
<sup>2</sup> Facts from <https://creation.com/atheist-atrocities-fallacy>

<sup>3</sup> *The Complaint or Night Thoughts* (1742-45)

### Something to read

For a good illustration of what life was like under atheistic Communism in Russia you can read the *Ivan* books by Myrna Grant, published by Christian Focus. They are not only accurate and exciting but uplifting as well.

### Map Work<sup>4</sup>



Sedan chairs first came into use in London in 1623. In **January** 1641 The Earl of Bedford paid five shillings hire for chairs to carry himself and the ladies of his household from his house in the strand to church at **St Clement Danes**. Bedford House was not far from the present **Charing Cross** Railway Station. Use a map to find out how far they were carried in their chairs. I have always wanted to have a ride in a Sedan chair. The scouts build a kind of sedan chair using broom handles lashed onto chairs with string and then race them – which sounds great fun if you are brave enough! Today's optional resources include instructions for making your own sedan chair but I'm afraid it is only a little toy one!<sup>5</sup>

### Something to make

On **11<sup>th</sup> January** 1866 the famous preacher Charles Haddon Spurgeon (1834-1892) preached a rather unusual sermon.<sup>6</sup> In it he explained about a “Wordless Book” which consisted of just three leaves.<sup>7</sup> The first was black, the second red and the third white. This wordless book became very popular and is still used today: I wonder if you have ever seen one? Here is a story from the adventures of Dr Baedeker (1823-1906),<sup>8</sup> who travelled over Russia in the late 1800s visiting prisons and preaching to the inmates. It explains what the little book is and how it is used. When you have read the story you might like to make a little “Wordless Book” of your own out of coloured paper.



“We have a murderer in our charge at present,” said one of the warders.

“Have I seen him?” the doctor inquired.

“No; he is in solitary confinement.”

“Take me to his cell, please!”

Preceded by warders, the doctor stumbled down the stone staircase into the dark basement regions; and in one of the dungeons the object of their search was discovered.

“I cannot read, thank you!” he pitifully explained when Dr. Baedeker offered him a copy of the Scriptures.

<sup>4</sup> Adapted from Owen, Evan, *What Happened Today* Volume 1, available on the *Mothers' Companion* Flashdrive. <https://motherscompanion.weebly.com>.

<sup>5</sup> Permission sought from <https://www.historicenvironment.scot> 21/11/20

<sup>6</sup> You can read it here: [https://www.blueletterbible.org/Comm/spurgeon\\_charles/sermons/3278.cfm](https://www.blueletterbible.org/Comm/spurgeon_charles/sermons/3278.cfm)

<sup>7</sup> Modern versions of the book have additional leaves e.g. a gold one.

<sup>8</sup> More about Dr Baedeker in the lesson for 3<sup>rd</sup> August.

“Here, then, is the very thing for you. You will be able to read this; and it teaches the truth it is most important that you should know.” The doctor produced a little “Wordless Book,” and handed it to the condemned man.

The convict opened it, and gazed with perplexity upon its three leaves; the first, black; the second, red; the third, white. “What is the meaning of these? I cannot understand,” he asked.

The doctor's eyes shone with Divine light as he gave the familiar explanation to that miserable felon in the cell of doom. “The black leaf represents black sin – yours and mine. Sin against God and against man. Sin in the heart, and sin in the life-black as night; black as death; black with coming judgment. The red page represents the precious blood of Christ, by which alone black sin can be cleansed and put away. 'He was wounded for our transgressions; with His stripes we are healed.' The white leaf represents the perfect salvation of the soul through our Lord Jesus Christ; His abundant pardon of every sin, to those who repent and accept Christ; the complete righteousness that comes to the sinner through faith.”

From one page to the other of the “Wordless Book” the eyes of the convict thoughtfully wandered, and his fingers trembled violently as he held the dainty little gospel messenger in the dim light.

“You are able to read that little book, are you not?” the doctor asked tenderly.

“Yes, I can read it, thank God!” he replied; and as he looked into the doctor's face, big unfamiliar tear-drops fell upon his chained hands. “And thank you, sir, a thousandfold, for bringing such a message to such an unworthy wretch as I am!”

From *Dr. Baedeker* by Robert Sloan Latimer, Second Edition (London, 1907)