

21st January

Memory verse:

and the rain descended,
and the floods came,
and the winds blew,
and beat upon that house;
and it fell not:

for it was **founded upon a rock** Matthew 7:25

The repetition in this verse makes it easy to learn. Small children can learn the words in bold and understand that Jesus is the rock, “founded” means “built” and the words describe the Christian's life.

Something to Sing

Pastor Edward Mote, (1797-1874) pictured on the right, was born on 21st January. He was the author of a very well-known hymn which he called “The immutable Basis of a Sinner's Hope”. If you do not immediately recognise the words, look down to the lines which I have highlighted in purple as they are the lines we usually begin with when singing the hymn today. The hymn has also been chopped about a bit to remove the lines I have highlighted in red. This seems to have happened in two stages as some older books retain the fifth verse printed below but remove the other red highlighted lines and begin as we usually do now with the purple lines. Perhaps Mr Mote himself made the change to the first lines. The line *On Christ, the Solid Rock I stand* is more striking and suitable as a first line, resonating as it does with Luther's famous words “Here I stand, I can do no other, God help me. Amen,” and anchoring the hymn firmly to the Bible text which forms today's memory verse. I'm sure he would not have wanted verse five missed out, though.



1. Nor earth, nor hell, my soul can move,
I rest upon unchanging love;
I dare not trust the sweetest frame,
But wholly lean on Jesus' Name.

*On Christ, the Solid Rock I stand,
All other ground is sinking sand.*

2. My hope is built on nothing less
Than Jesus' blood and righteousness;
Midst all the hell I feel within,
On His completed work I lean.

3. When darkness veils His lovely face,
I rest upon unchanging grace;
In every rough and stormy gale,
My anchor holds within the veil.

4. His oath, His covenant and His blood,
Support me in the sinking flood;
When all around my soul gives way,
He then is all my hope and stay.

5. I trust His righteous character,
His counsel, promise and His power;
His honour and His Name's at stake,
To save me from the burning lake.

6. When I shall launch in worlds unseen,
O may I then be found in Him,
Dressed in His righteousness alone,
Faultless to stand before the throne.¹

¹ Information from Rehoboth Baptist Church, Horsham <http://dev.rehoboth.org.uk/history/> and Cliff Knight, *A Companion to Christian Hymns* (Gwent, 1993)

In these lessons we often discover people who have successfully educated themselves with very little help. Edward Mote was another one of these. He was a Londoner from a poor background who was so neglected by his parents and lacking in education that he said of his childhood, “So ignorant was I that I did not know that there was a God.” Edward Mote was converted through the ministry of the John Hyatt, Minister of Whitefield's Tabernacle, Tottenham Court Road who was an energetic preacher in the London slums and poor districts.

Edward Mote became a cabinet maker. One day as he was walking to work he felt a great desire to write an hymn on “The Gracious Experience of a Christian”. The words “On Christ the Solid Rock I stand. All other ground is sinking sand,” came into his mind first. He thought they would form a good refrain. During the rest of the day he noted down four verses on paper and put them in his pocket.

On the following Sunday a friend asked him to visit his wife who was dying. The two men read the Scriptures with her and prayed by her bedside. Then they wanted to sing a hymn but they could not find a hymnbook. Edward Mote took the newly written verses out of his pocket and they sung those. The dying woman found the words so helpful that she asked to have a copy. Edward Mote went home and wrote the other two verses to complete the hymn.

Edward Mote was later called to the ministry and became the minister of Rehoboth Chapel in Horsham West Sussex in 1848. Here he ministered for the rest of his life. At one point the grateful congregation offered him the church building as a gift. He told them, “I do not want the chapel, I only want the pulpit; and when I cease to preach Christ, then turn me out of that.”

The tune usually used for this hymn in Britain now was written specially for the words by American composer William Batchelder Bradbury (1816-1868) who is also well known for the tune for “Yes, Jesus Loves me”.

Nor earth nor hell my soul can move I rest upon unchanging love; I dare not trust the sweetest frame, but wholly lean on

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Jesus name; On Christ the solid rock I stand; All other ground is sinking sand, All other ground is sinking sand

Looking at the rhythm of this tune do you notice anything which makes the tune rather colourless?² You will find a piano version of the tune in today's Optional Resources files so that you can learn it. Sing this hymn today and if you already know it to a different tune use that, of course.

² Every single bar has the same rhythm.

Some science history, exploration and some map work

On January 21st, 1954, the first ship in the world to be propelled by atomic power was launched – the United States Submarine *Nautilus*. Nuclear submarines have nuclear reactors on board. Atoms in the nuclear reactor split, which releases energy as heat. This heat is used to create high-pressure steam. The steam turns propulsion turbines that provide the power to turn the propeller.³ This method of propulsion gives nuclear submarines some unique and valuable properties. Because they do not need to take on fuel they can make long voyages without support. They are powered by a process that creates no emissions and consumes no air. This enabled *Nautilus* to break many records and to visit locations which were once beyond the limits of submarines.



After launch the *Nautilus* remained at the docks for further testing. It was not until 1955 that her commanding officer, E P Wilkinson, gave the historic signal “Underway on Nuclear Power.” She soon broke all records for the length of time a submarine has been submerged as well as the highest average speed measured over an hour. By 1957 she had even beaten the “record” established by the fictional submarine after which she was named, the *Nautilus* of Jules Verne's *Twenty Thousand Leagues Under The Sea*.⁴ Perhaps her most exciting exploit was “Operation Sunshine”.

The **North Pole**, in the middle of the **Arctic Ocean** is situated in waters that are permanently covered with constantly shifting sea ice. When the *Nautilus* set out on “Operation Sunshine” no submarine or indeed no ship of any kind had ever crossed the North Pole.

There were difficulties in navigating without surfacing because of the extreme latitude and the arctic ice sheet. Above 85°N both magnetic compasses and normal gyrocompasses become inaccurate. *Nautilus* had specially designed equipment to deal with this. One of the scientists who had helped plan this aspect of the operation was on board as ice pilot. *Nautilus* also had a special gyrocompass installed. There was a risk that the submarine would become disoriented beneath the ice and that the crew would have to guess their longitude. The Commander had even considered using torpedoes to blow a hole in the ice if the submarine needed to surface.

The most difficult part of the journey was in the **Bering Strait**. Here the ice was found to extend for 18 metres below sea level. This left insufficient room between the ice and the sea bottom for the submarine to pass. The *Nautilus* had to change direction and use a channel close to Alaska.

The *Nautilus* passed successfully over the Pole, measuring the sea depth at 4,261 metres. From the North Pole, she continued on under the ice and surfaced north east of **Greenland**, having completed the first successful submerged voyage around the North Pole.

The picture above show the retired submarine in 2002 on its way to preservation. Can you find the places highlighted in **green** in your atlas?

³ More about submarines and nuclear submarines in the lessons for March 25th and May 10th.

⁴ You can read this story here <https://www.gutenberg.org/ebooks/164>

Can you use a compass?

This is still a valuable skill even in the days of GPS!

A magnetic compass works because a magnet, if swinging freely, will come to rest with its south pole pointing towards the magnetic north pole of the earth and its north pole pointing towards the magnetic south pole of the earth. It becomes unreliable as you get near the poles because as the compass nears the pole a strong downwards pull is exerted and the horizontal pull is too weak to overcome it, making the compass sluggish and inaccurate. If you did the lesson for 16th January you will remember the problem Shackleton's men had with this when trying to reach the magnetic South Pole in 1909. However, you do not live near enough to the North Pole for this to be a problem! The Ordnance Survey gives the following good advice if you are not sure how to use a compass:

If you're unsure about using a compass the best thing to do is get the map of an area you know really well, where you wouldn't usually need a map to get around. Take yourself off for a walk, using the map and a compass to navigate your way as you reach each turning. This way you shouldn't get lost. You can make sure that the direction you think you should be travelling in matches what the compass is telling you!⁵



This is an excellent exercise so dig out your compass and give it a try.

Weather

If you did yesterday's lesson you will remember that in 1776 Gilbert White was noting a period of intense cold in his diary. His thermometer dropped to 20°F on 21st of January. He wrote:

The birds now began to be in a very pitiable and starving condition. Tamed by the season, skylarks settled in the streets of towns, rooks frequented dung hills close to houses, hares came into men's gardens and, scraping away the snow, devoured such plants as they could find.

Can you find out what 20°F is in centigrade? Don't forget to keep up your own weather diary.

Gilbert White's account of the 1776 cold spell continues in the lesson for 27th January.

5 Comprehensive instructions for using a compass can be found on the Ordnance Survey's website <https://getoutside.ordnancesurvey.co.uk/guides/beginners-guide-to-using-a-compass/>. Sections of OS maps can be freely printed out here: <https://www.bing.com/maps/> if you do not have an OS map of your own area already.