

Supporting Stories

'Using storytelling to support weaker A Level students'

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The Story of Wildfire Will
Burning out of Control.....?



Antarctica-The 'NeverEnding' Story

The Story of 'Peat' the Bog



Why?

- Gaps in both knowledge and exam skills/experience due to the pandemic have meant more students require much more support in their learning, in terms of topic knowledge and retrieval practice/revision skills (additionally, we have a very large cohort, with classes of 24 at A Level).
- Reading regularly to my daughter, I am reminded that we remember good stories, and we share wisdom and knowledge through stories. I wanted to see if I could somehow translate this into some of our A Level topic content by essentially *personifying* the key concepts and processes, in order to support the students that needed it, and embed both the concepts and knowledge in their long term memory.
- This had to be done in a way that the whole class could still access, so these A Level 'stories' include both tasks and exam questions throughout the tale! (our exam board is AQA, but they are easily adapted, and I am writing more)

Read through the information below, highlight/underline links to the water cycle in blue and carbon cycle links in green. Also, think about what examples of positive and negative feedback you can find in the story:

Once upon a time, there lived a peat bog, named Peat, who lived in blissfully moist conditions. Peat is a dark, wet soil, composed of about 90% water. Peat formed by layers of partially rotted plants building up slowly over thousands of years, becoming the main components of Peat's soggy soil, known as histosols. This made him very happy indeed, and even more so, as this meant that Peat was able to keep a large amount of carbon locked up inside him. This is because plants decay slowly in peat bogs, the moist conditions and flooding prevents a healthy flow of oxygen from the atmosphere. Peat the bog's soil was both oxygen and nutrient-poor, and much more acidic than other soils. Peat was very happy living life as a carbon sink.

But, one day, Peat was dug up, drained and dilapidated. Peat was used for gardeners to add to their soil or to burn as fuel, and his home for agricultural uses and other land use change. This left Peat FUMING. Fuming carbon dioxide. It was released from Peat, and into the atmosphere, contributing to climatic changes. Peat had become a carbon source.

Drained and destroyed, Peat was not a happy bog. But, there was hope on the horizon! People realised that Peat was a wonderful thing, and that we needed to keep him as wet as possible, and restore him in order to lock in carbon dioxide and prevent it from being released. Bare Peat was covered in vegetation, in particular, the magical Sphagnum Moss, a moss that works miracles! Drains were blocked to raise the water table again, returning the conditions for Peat back to waterlogged. This did not cost much, but required cooperation and understanding, in order to mitigate the impacts of climate change and restore Peat to his natural, wet self. Peat was happy again, the carbon locked in, and this made Peat feel very neat indeed.....

Extract from 'Wildfire Will, burning out of control':

Recently, Will had to visit the doctor. The doctor *prescribed* burning for him, which confused him a lot! He was used to burning how and when he liked. Humans were beginning to play a role. With populations growing, and encroaching into areas that have always burned naturally over time, Will's risk of impacting people as well as nature was increasing. If Will burned in a more controlled way, this could prevent more devastating naturally occurring fires. The buildup of decaying organic matter on the ground is fuel for wildfires. Without periodic fire to clear this out, a naturally occurring fire may grow and move quickly, doing much more damage than a 'prescribed burn'. Moreover, due to climate change, Will found himself burning a lot more frequently than he was used to, and for a lot longer.

Extract from 'Antarctica-The Neverending Story':

Imagine a place where it is dark for twenty four hours half the year, so cold that you experience life in an actual freezer, relief so high that the highest mountain measures 4892m (and you could walk on the tops of these 'nunataks', as they are buried in snow and ice), so large that it would take you nearly three months to trek to the southernmost point, The South Pole, and one with no permanent residents. Antarctica, often described as the world's 'last great wilderness', is a continent that harbours many treasures and secrets, whether it be both past climatic information and future warnings, vast mineral deposits or a fragile yet spectacular ecosystem. With no permanent residents, and total darkness for six months of the year, alongside temperatures that can vary from -89.2°C to 18.3°C , it is a truly remarkable place.