



5. Set your learners off to complete the challenge. After a minute or so of accumulation, ask your learners to stop.
- How many learners in each team are standing in a line having accumulated to peat?
 - Explain that it can take a year or so for peat to build up by just 1 millimetre.
Ask your learners if it takes a year for a millimetre of peat to accumulate, how long will it take for a cm of peat to accumulate? 50cm? A metre? Ten metres?
 - Explain that each learner in their team that has successfully accumulated represents 500 years and 50cm of peat.
To what depth of peat has their team accumulated?
How many years has it taken for their peat to accumulate?
Working back from the present day, in what year did their team's peat begin to accumulate?
 - Explain that in some areas such as Cors Caron near Tregaron and Cors Fochno near Aberystwyth, there are areas of peat as deep as 10 metres which have taken thousands of years to accumulate. It can however take a lot less time to disturb and damage these unique habitats.
6. Explain to your learners whilst the peat has been accumulating over time, other factors have been at work and it looks as if the peatland area is about to be disturbed.
Scenario options:
- Some humans want to dig up and drain the land in order to plant trees
 - The farmer wants to drain the peatland to increase the amount of available pasture for animals.
 - A garden centre wants to drain and dig up the peatland to create their own brand of peat compost to sell to gardeners.
- Assign the role of 'workers' to the learners that haven't yet turned into peat or take on the role yourself. Explain to your learners that it will take the 'worker' five days to dig up the top 50 cm of peat soil at the site. Starting from the present day, ask these 'workers' to pretend to operate a mechanical digger and dig up the latest layer (top layer) of peat (one learner). Emphasise to your learners that in five days, five hundred years of peat accumulation and 50 cm of peat soil has been lost. Ask the 'worker' to dig up 2 metres depth of peat. How many days did it take the 'worker' to complete his task? How many years of peat accumulation has been lost?
7. Explain to your learners that as the peatland is dug up and drained the land will become dry causing the compressed organic matter within the peat to dry out and decay. The drier conditions will give non-peat forming plant species, such as heather, the opportunity to colonise. Heather forms a dense layer of vegetation, consumes large volumes of water and outcompetes the peat forming sphagnum causing peat accumulation to stop. To highlight this, learners acting as accumulated peat should make sucking noises as the water drains away and they should shrink their body size to represent the peat contracting and drying out. The peat accumulation process which has taken thousands of years has stopped and reversed following the detrimental consequences of a few weeks' worth of work.

Suggested key questions

- Ask your learners why they think that low acidity in the soil and lack of oxygen, affect the decaying process?
- Can they think of a habitat which has a high level of decomposers in the food chain e.g. woodlands?
- What would happen if there were no decomposers in the food chain?



Adapting for different needs/abilities

Less support

- Give your learners the facts and figures, don't pose as many questions or give them laminated year cards to help them visualise the peat accumulation over time.

More support

- Allow peat to accumulate for longer and to a greater depth. Allow the 'worker' to dig up more layers of peat. Can your learners calculate the depth and years back in time?

Follow up activity/extension

- Expressive arts challenge - can your learners come up with a sequence of movements to tell the story of the creation of peat growth?
- Compare sizes of peatlands on a local, national and international level.
- Ask your learners to write a newspaper style article for a local newspaper on how peat is created, how it accumulates and how we can help restore/conserves it.

Other resources

- Activity plan - Why are bogs important?
- Activity plan - To bog or not to bog?
- For further information about how peat forms, where peatlands can be found in Wales and further information on the problems facing our peatlands, check out our **Information Note - Peatlands**.
- LIFE Raised Bogs project webpages.

Looking for more learning resources, information and data?

Please contact: education@naturalresourceswales.gov.uk or go to <https://naturalresources.wales/learning>

Alternative format; large print or another language, please contact: enquiries@naturalresourceswales.gov.uk
0300 065 3000