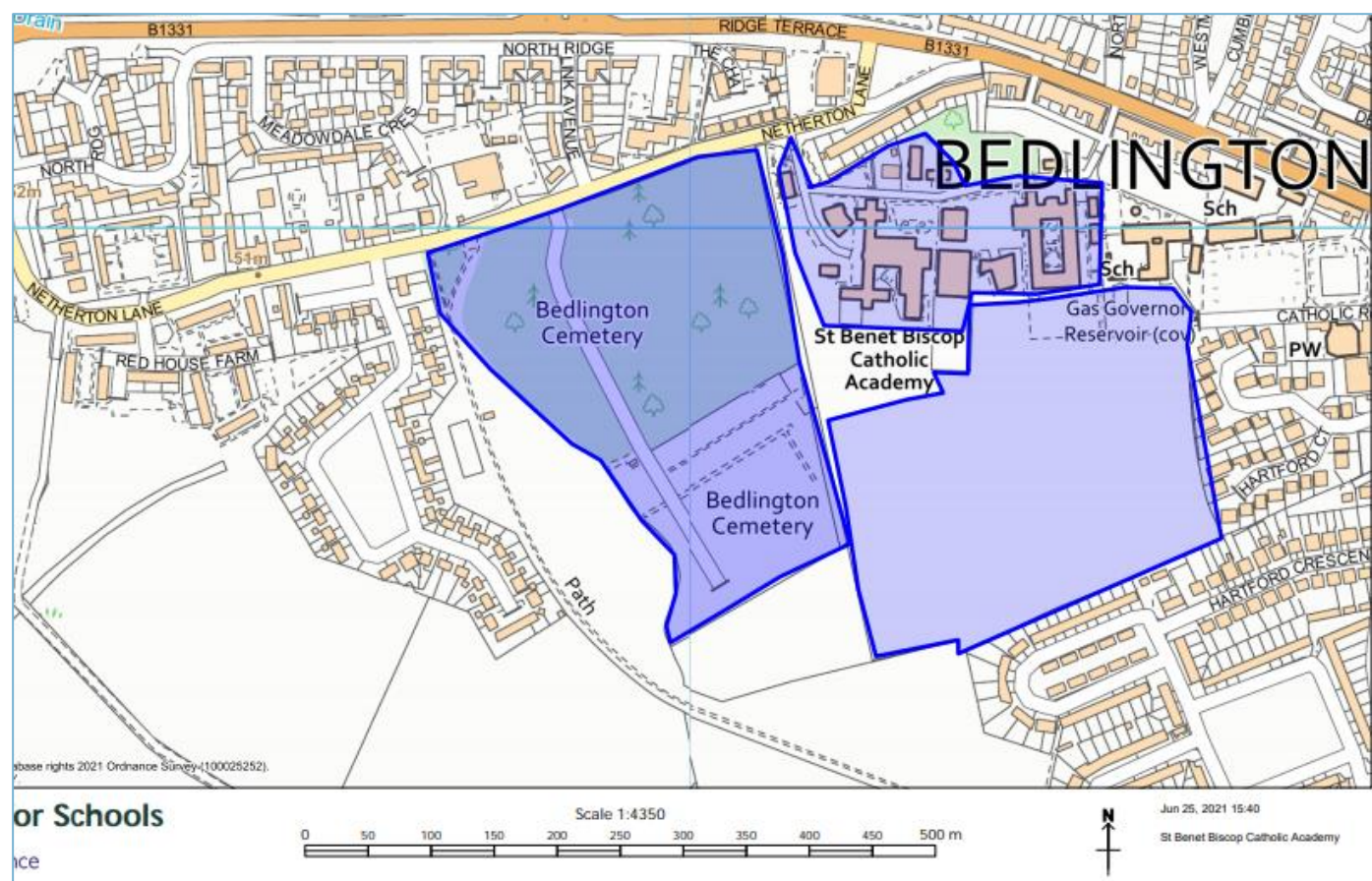


Enquiring World Subject Knowledge Organiser :

Introduced to the Geographical enquiry process and will investigate key concepts in each year, developing their Geographical skills and undertaking fieldwork. Each enquiry will build upon previous skills and develop more advanced practice.



Contextual World Knowledge

By studying enquiring world, you will measure the air quality of the local area by measuring lichens cover in Westlea cemetery. You will also study the processes of weathering (biological, chemical and physical) and review how this can impact a range of different rock types within the cemetery (headstones), to gage how and why key geographical processes occur within our local area. Your fieldwork investigation will take you through all the components required for a successful fieldwork investigation. This includes a literature review to understand the theory of your investigation; creating a null and alternative hypothesis to ensure you have a study focus, designing data collection methods, and conducting your data collection, as well as carrying out an analysis. This study enables you to think like a geographer and develop a range of key geographical skills.

Geographical Vocabulary

Geographical Enquiry- the ability and willingness to ask and answer questions about geographical phenomena.

Variable- Anything that can change and be measured.

Sample- Something that is collected as data for fieldwork.

Reliability- Being trustworthy and accurate. If the fieldwork would be carried out again, would the same or similar results be found.

Validity- How accurately a method measures what it is intended to measure.

Indicator species- Are organisms that can tell us about the levels of pollution in an area by their presence or absence.

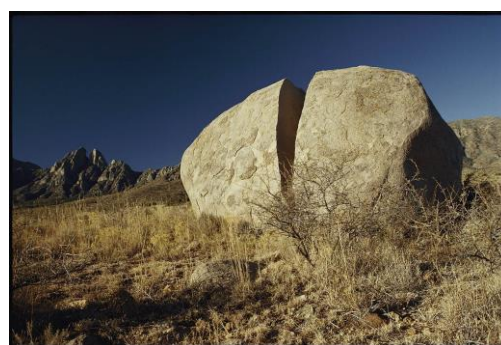
Lichens- Are organisms that grow in exposed places such as rocks or tree bark. They need to be very efficient at absorbing water and nutrients to grow there.

Habitat- Can be defined as the natural environment of an organism, the type of place in which it is natural for it to live and grow.

Biological weathering- Is the weakening and subsequent disintegration of rock by plants, animals and microbes.

Physical weathering- Is caused by the effects of changing temperature on rocks, causing the rock to break apart. The process is sometimes assisted by water.

Chemical weathering- Is caused by rain water reacting with the mineral grains in rocks to form new minerals (clays) and soluble salts. These reactions occur particularly when the water is slightly acidic.



Geographical Understanding

Lichens absorb water and minerals from rainwater and directly from the atmosphere, over their entire surface area. This makes them extremely sensitive to atmospheric pollution. As a result, there are usually very few lichens around industrial centres and towns. Different lichen species vary in their tolerance to pollution and therefore make very good biological indicators of levels of atmospheric pollution. A walk around your local churchyard can often reveal a lot about air quality in your area. The most common source of air pollution is the combustion of fossil fuels. This usually happens in vehicle engines and power stations. Sulphur dioxide is released if the fuel contains sulphur compounds. This gas contributes to acid rain meaning Lichens can be used as air pollution indicators, especially of the concentration of sulphur dioxide in the atmosphere. Churchyards are usually relatively undisturbed areas, with stone headstones which provide a good substrate for lichens. A good look at these lichens will give an indication of how good the air quality is locally. By combining Lichen study with weathering observations, you can assess the effect of weathering on rock types within the cemetery and the air quality in this area.

Skills and Enquiry

Create alternative hypothesis statements.

To interpret and analyse photos.

Carry out a literature review.

Carry out and design data collection methods.

Data analysis.

Data presentation.

Risk assessments.

Assessing reliability and accuracy of methods/fieldwork choices.

Understanding of key concepts and geographical processes.

The St Benet Biscop Geographer

You need to understand the complexity, planning and intricacy required to conduct fieldwork, and how this can impact any research or investigations results. You need to show consideration and respect for different investigatory opinions (e.g. varying interpretations of Rahn's index of weathering) during data collection. You will need to show respect for the study environment as both a study site and place of mourning.