

Future of low carbon energy

Teachers' notes

Lesson2: Carbon Capture and Storage

Carbon Capture and Storage (CCS) is a relatively new idea which has just found its way into the public arena. As a result, it is an excellent topic for students to formulate geographical questions and then work collaboratively to devise answers.

The Starter:

Every geography student needs to be able to question the world around them and this activity encourages students to digest the information they have been given and then think about what else they would like to know. Students can either access the website suggested in the resource section of the lesson plan online or the page can be printed out. Students should be told to only read the first two sections entitled 'What is CCS?' and 'What might CCS look like?' Once each student has a list of questions they should be asked which three they want to find out about the most and write each questions on a separate Post-it note. All Post-it notes should be stuck to the wall or white board and students given the opportunity to read their peers' questions.

The Main Activity:

The class needs to be divided into two groups, each containing a range of abilities so that both groups are balanced. Students also need to be aware that they have 30 minutes to research and collate information before making a 5 minute presentation. One half of the class will be for CCS and the other half of the group against. This task is to be structured by the students and together they should decide what angle their argument should take, but they need to consider whether CCS is a viable option for reducing carbon emissions and whether will it provide sustainable energy security. The most effective way go about the task is for students to look through the resources they have been given and then divide into smaller groups (pairs or individuals) and focus on a specific aspect e.g. economic concerns, environmental concerns. While it is the students job to structure their argument, the teacher should work with both groups and guide their learning so that it remains focused on the aim of the task. It is also important that the teacher gives the class regular time checks, reminding students that after 20 minutes they should be putting their ideas together and working on their presentation so that after 30 minutes, they are ready to present. The teacher should encourage all students to play a part in their group presentation. While one half of the class is presenting, the other half should be taking notes on the counter argument.

The Plenary:

The aim of the plenary is to bring together all the ideas discussed throughout the lesson and use them to answer the questions formulated by the students during the starter activity. The class should gather close to the wall with the Post-it notes on and read through them again. Students can be asked if they can answer their own questions as a result of what they learnt in the lesson or the teacher can select some questions for any member of the class to answer. As a final strand, students can be asked their own opinion about CCS by considering whether they think CCS is a viable option to reduce carbon emissions, if it is something that should be developed further in the UK and if it will provide sustainable energy security? Any unanswered questions that remain on the wall can be set for homework, which will give students more time to find out specific detail concerning CCS.