

Journey down the River Eden

An ArcGIS Online Story Map focused on the River Eden

What is ArcGIS?

It is a Geographical Information System, used by professionals and designed to capture, store, manipulate, analyse, manage, and present spatial or geographic data. This Story Map has been created for you using ArcGIS. The Story Map uses a combination of images, narrative text and multimedia content, linked to an online map to tell a story.

Summary

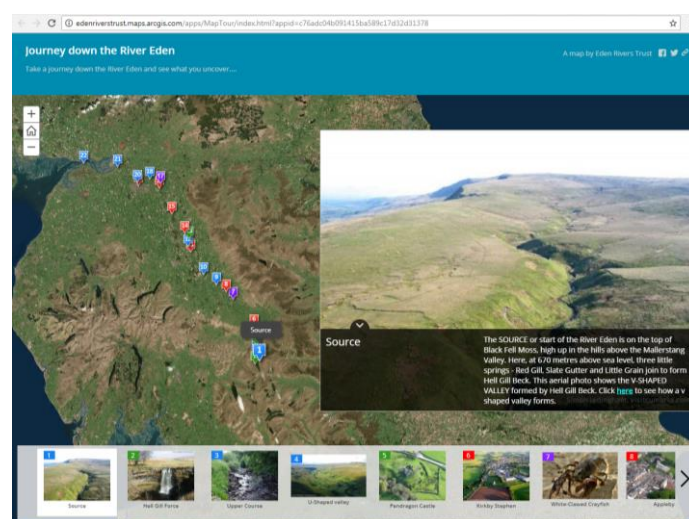
Students can follow the route of the River Eden from Source to Sea using this pre-prepared online Story Map. This Story Map and associated questions are designed to help students become familiar with simple river vocabulary and processes, introduce key features and places of interest along the river and emphasise some of the historical uses and current wildlife value of the River Eden.

A range of questions and exercises for students are suggested below. These are based on the Story Map, [Journey down the River Eden](#).

Access the Story Map online at: <http://arcg.is/2jmPSR7>

NOTE: The Story Map includes links to Eden Rivers Trust animations / videos which are located on Vimeo <https://vimeo.com/edenriverstrustcumbria> Please ensure all computers being used have permission to access it.

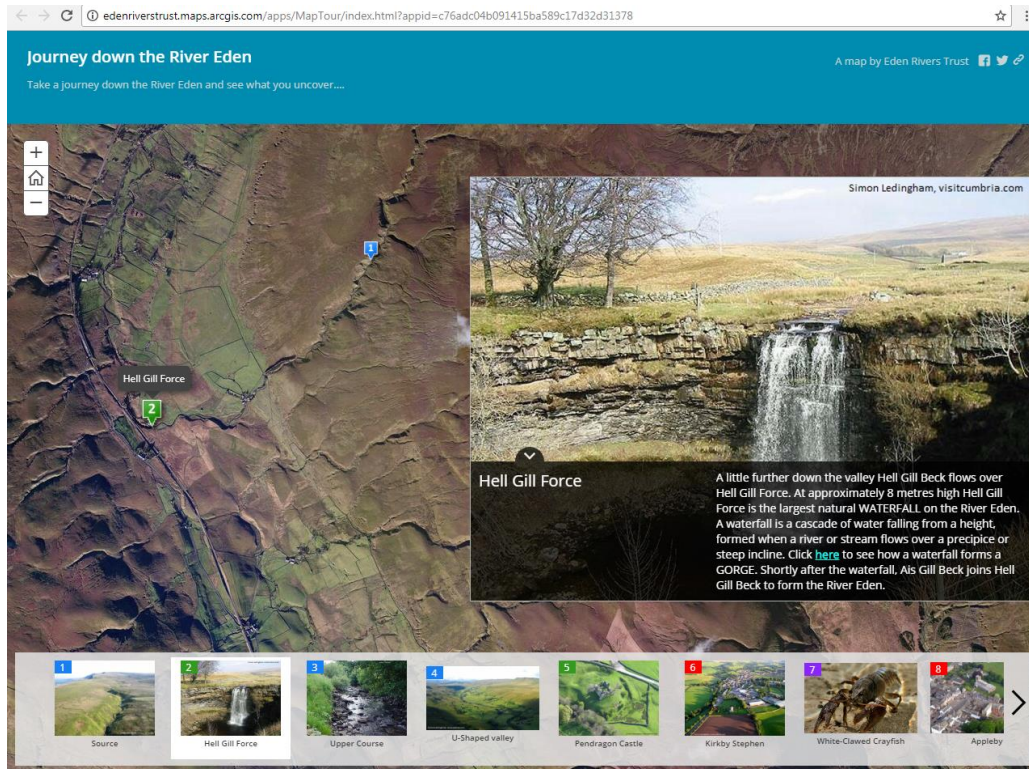
Using the Story Map



When you open the Story Map you will be presented with the screen shown above. Zoom in on the map to see the area around each photo in more detail. You can do this by scrolling or using the + - button (top left)

To move along the course of the river: click on the small photo boxes along the bottom, use the scroll arrows within the photo, or click on the location number on the map.

As you scroll through the photos, the map will re-position, bringing the location number into view.



Questions

You may wish to use a selection of the following questions, or all of them depending on the time available.

NOTE: The questions follow the journey of the Story Map, but question numbers are not related to the points along the map (there are more questions than points on the map).

A selection of extended questions and short exercises have also been suggested for higher level students.

The student version of these notes can be found at: <https://goo.gl/Zf5wh7>

Journey down the River Eden Story Map: Questions

See how many 'river terms' you can spot as you journey down the River Eden, and then answer the following questions:

Q1. Where is the source of the River Eden found?

A. On the top of Black Fell Moss, high above the Mallerstang Valley.

Q2. How many metres above sea level (at what elevation) is the source of the River Eden?

A. 670 metres.

Q3. How high is Hell Gill Force?

A. 8 metres.

Q4. Name two types of valley.

A. V-shaped valley and U-shaped valley.

Q5. In which valley is Pendragon Castle found?

A. The Mallerstang Valley.

Q6. Who tried to divert the course of the River Eden?

A. King Arthur's father, Uther Pendragon.

Q7. Why did people come to settle beside rivers in the old days? Why is this less important today?

A. They provided a source of water. Water can be piped long distances to homes and businesses.

Q8. The River Eden has one of the UK's best populations of a particular creature. What is it called?

A. White-clawed crayfish.

Q9. Who owned Appleby Castle in the 1600's?

A. Lady Anne Clifford.

Q10. What is a meander?

A. A big loop or bend in a river.

Q11. Rivers constantly move and change shape. What two processes cause this to happen?

A. Erosion and deposition.

Q12. What is a tributary?

A. A smaller stream or river that flows into a larger river or lake further downstream.

Q13. The River Lyvennet flows into the River Eden near which village?

A. Temple Sowerby.

Q14. In which year did the old stone bridge at Langwathby get washed away by the River Eden?

A. 1968.

Q15. Who created Lacy's Caves, and what did he use them for?

A. Colonel Samuel Lacy. It is believed he used them as a wine store.

Q16. What was put on the trains at Lazonby?

A. Fresh fish.

Q17. What does the name Armathwaite mean?

A. 'The clearing of the hermit'.

Q18. Up until the 1950's how could people get across the River Eden from Wetherall to Great Corby?

A. Via a ferry boat.

Q19. What length can Sea Lamprey grow to? What time of year do they spawn (lay their eggs)?

A. 1.2 metres. They spawn in June/early July.

Q20. The first section of a river is called the Upper Course. What are the other two sections called?

A. Middle course, lower course.

Q21. What is a floodplain?

A. Flat area of land near the river in the lower course of the river.

Q22. Name two major tributaries that flow into the River Eden in the city of Carlisle.

A. River Caldew and River Petteril.

Q23. How did raw materials get from the sea to Carlisle's factories?

A. Via a canal that went from the coast to Carlisle.

Q24. What is a confluence?

A. The point at which two rivers meet.

Q25. The River Eden flows into which estuary? Can you describe the features of an estuary?

A. The Solway Firth. The river is tidal, rising and falling with the tide. Large mudflats form. The water is brackish (slightly salty).

Q26. Name the seven main settlements that are found along the River Eden.

A. Kirkby Stephen, Appleby, Temple Sowerby, Langwathby, Armathwaite, Wetherall, Carlisle.

Journey down the River Eden Story Map - Extended Questions

Q1. Explain the main differences between the formation of a V-shaped and a U-shaped valley.

Q2. Describe the formation of a waterfall.

Q3. Describe the main features of the upper, middle and lower course of a river.

Q4. Describe how a meander forms and develops into an oxbow lake.

Q5. In the old days, settlements grew up beside rivers because it was an easily accessible source of water. What would people use the water for? (Give three examples and explain)

Q6. The city of Carlisle is situated towards the end of the River Eden. Explain why so many people have chosen to live here.

Advanced Study – Suggestions for further work

1. Write a short report or make a presentation about the River Eden using information from the Story Map. This exercise could be linked with the [Explore the Eden](#) web-maps which contain more information about the topography, features and designations within the River Eden Catchment. Students can print off different maps to use in their report or presentation.
2. Using the information in the Story Map and on the Eden Rivers Trust website www.edenriverstrust.org.uk create a poster to raise awareness about the River Eden.

This could include information on what the River Eden is like, where it is, its wildlife, its uses (both past and present), and the threats to the river. Posters could be entered into a class competition and voted on, or used as the focus for a 'Save the Eden' debate.
3. Use the Internet and other ArcGIS Online Story Maps (found on ArcGIS' own Online Story Maps page) to research a river in another part of the world. Compare your chosen river with the River Eden, looking at the differences or similarities in the topography, settlements, designations, wildlife, uses of, and threats to the river. Create a short report or presentation on your findings.

You can download more free ArcGIS resources from the Eden Rivers Trust website, www.edenriverstrust.org.uk/arcgis-resources-secondary-schools



This series of ArcGIS resources for Secondary Schools have been developed by Eden Rivers Trust in conjunction with The Rivers Trust with support from the Heritage Lottery Fund.

Thank you to all of the teachers who helped with the development of these resources.