

# Our Lakes: Our Future

Using STEM to protect our National Parks



The Lake District National Park in Cumbria is a wonderful place where you can enjoy the countryside and nature, explore and challenge yourself. This incredibly beautiful landscape has been shaped over many hundreds of years by industry and farming, with people working together with nature, using the natural resources and shaping it into what it is today. It is a protected area.

The Lake District has inspired many people over the years; from poets (William Wordsworth) and authors (Beatrix Potter), to famous adventurers (Leo Holding) and explorers that push the boundaries of science and technology (Donald Campbell).

It is a natural playground!



## STEM in the Lakes

So what does this National Park have to do with Science and Engineering?

Science, Technology, Engineering and Maths (STEM) are everywhere in our world.

STEM is involved in producing the food we eat, how we travel, in the medicines and medical equipment that keeps us safe, in fact in every item we use in our daily lives. STEM is also essential in protecting the environment, dealing with waste, and solving natural problems such as flooding or water shortages.

### Protecting our Lake District

One of the biggest challenges that we face is climate change, and the National Park Authority (the organisation that is responsible for helping to look after the area) is working hard to find ways to reduce the amount of carbon dioxide that comes from traffic driving round the Lake District. The National Park has over 19 million visitors a year, and most visitors (89%) come by car. As we know, vehicle exhaust fumes add to the carbon dioxide

and pollution levels in the air. They have what we call a 'carbon footprint'.

### So what is a carbon footprint?

A 'carbon footprint' is a measure of the total amount of carbon dioxide released into the atmosphere by a person, a company, or a community. We all have one - and it is made by the way we live, how we travel, what products we use, how we keep warm and what we eat.

Carbon dioxide (and other pollution in exhaust fumes) however can cause climate change, damage the environment, and affect our health. If our carbon footprint is too high we risk serious damage to our planet.

The team who work at the Lake District National Park want to help us reduce our carbon footprint.

Every visitor to the Lake District can reduce their carbon footprint by the decisions that they take every day, especially when it comes to how they travel.



# Activity Challenges



In this set of activities we hope that you and your students can:

- Learn more about how we are protecting our National Park and reducing our carbon footprint to look after our planet for future generations.
- See how STEM can reduce the carbon footprint in your own lives.
- Meet some people that work for us, finding out what they do and how they use STEM to look after our beautiful landscape.

Each activity is suitable for top end KS2 and KS3 and includes:

- I. Curriculum links
- II. Ideas for extension activities
- III. Suggestions on how to highlight the real world and STEM careers

Please note that some of the figures used in the examples are illustrative only, and not factually accurate. We have tried to make them as representative of the real situation as possible. To make calculations easier, some have been rounded, or estimated if actual data was not available.

## Getting Started In the Classroom

Can you help your students learn how we are protecting our Lake District National Park?

We would like you to use the following activities in two ways:

1. As homework– allow the students to complete the challenges individually at home.
2. As a small group of pupils acting as a ‘Lake District Protection Team’ – through teamwork you can encourage discussion.

Think about using the resources not only to link to the curriculum, but also to encourage the development of skills; teamwork, problem solving, creative thinking, time keeping, communication and presentation skills, and to extend thinking about how the students themselves can reduce their carbon footprint both at home and at school.

We suggest you:

- Put your students into small groups of 3 or 4. Set the scene with the information provided
- Project the activity onto the class whiteboard

## Requesting Stem Ambassador support

The STEM Ambassadors Programme is a Central UK government funded volunteering programme facilitated by the National Stem Learning.

STEM Ambassadors are volunteers from industry who are passionate about inspiring the next generation of STEM professionals. There are over 38,000 volunteers nationally in the UK and the programme is free for employers and educationalists/young leaders.

To engage with this programme please go to [www.stem.org.uk](http://www.stem.org.uk) where are you can register for a teacher/youth group leader account and request STEM Ambassador volunteer support.



# Our Lakes: Our Future

Using STEM to protect our National Parks

The Lake District National Park is a wonderful natural place where you can enjoy nature and the countryside. We have a problem though. The more people that visit this beautiful place, the more pollution is created. Therefore we need your help! We want you to work as a 'Lake District Protection Team' and use your science, maths, and technology skills to protect our Lake District National Park.

## Protecting Our Lake District

The National Park has millions of visitors a year, and most visitors come by car. As we know, vehicle exhaust fumes add to the carbon dioxide and pollution levels in the air. They have what we call a '**carbon footprint**'.

This 'carbon footprint' is a measure of the total amount of carbon dioxide released into the atmosphere by something or someone. We all have one, and it is made by the way we live, how we travel, what products we use, how we keep warm and what we eat.

Carbon dioxide (and other pollution from exhaust fumes) cause climate change, damage the environment, and affect our health. If our carbon footprint is too high we risk serious damage to our planet.

The team who work at the Lake District National Park want to help us reduce our carbon footprint.

Every visitor to the Lake District can reduce their carbon footprint by the decisions that they take every day, especially when it comes to how they travel.

CHALLENGE 1:

Reaching the Lakes – How, Where and When?

CHALLENGE 2:

Linking the Lakes – Greener Alternatives

CHALLENGE 3:

Active Travel (moving around and keeping healthy)

CHALLENGE 4:

Smarter Travel – Solving the Moving Puzzle

CHALLENGE 5:

Keeping it Special

So, can you work as a team to solve these problems, come up with ideas and creative ways to reduce pollution and help protect our amazing landscape?

Start by creating a team name and logo, then work together to ensure you protect the environment for future generations.

For each of the activities you will be doing a job very similar to the real people that work for the Lake District National Park Authority.

**Good luck team!**



## CHALLENGE 1:

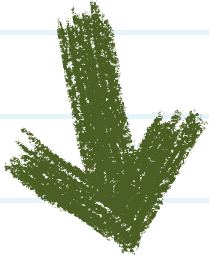
### Reaching the Lakes – How, Where and When?



#### Context:

People travel from all over the world to explore the Lake District National Park in Cumbria. Did you know that people who work for the Lake District National Park Authority need to collect data, draw graphs and use information to work out how to protect the environment?

For our first challenge we want you to work like our 'National Park Data Team'. Their role is to understand the numbers and work out the 'size' of the problem so that they can protect the area.



#### Your Challenge:

National Park Data Team, you need to protect the National Park. First you need to work out what the problems are.

Analyse the information shown on the notice board below to answer the following questions:

**Q:** How many visitors did the Lakes have on average in the past 5 years? What does the graph show is happening?

**Q:** Can you work out what fraction of the UK population visited the Lake District in 2019?

**Q:** Find how many people live in Cumbria. What multiple of this came to visit the Lake District in 2019?

**Q:** What percentage of total visitors coming to the National Park come in their cars? How many cars is that every year if each car carries an average of two people?

**Q:** A car is about 4m long. How many parking spaces would we need and how long would the traffic queue be for the Saturday in August that our team did a 'traffic count' on the A591 road into the Park?

**Q:** To cut down on pollution we need to understand where the most visitors are. Can you list the places that have the largest numbers of visitors from most to least?

Once you have answered the questions can you discuss in your team or write down what you have found out? If you worked for the National Park Authority, where you would start trying to reduce pollution and what would you focus on to locate greener transport options?

#### Real World of Stem:

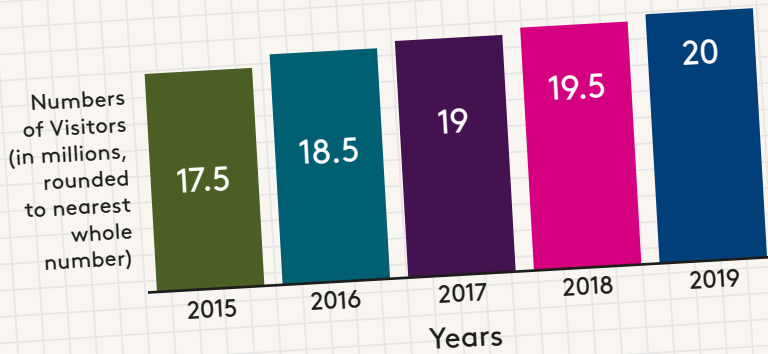
Why not request a STEM Ambassador volunteer to link with your school? STEM Ambassadors are volunteers from Science, Technology, Engineering and Maths backgrounds who are passionate about inspiring young people.

Volunteers offer their support for FREE – just go to [www.stem.org.uk](http://www.stem.org.uk) and maybe ask for an environmental planner, a logistics expert or a 'green' engineer to tell you what they do all day!

#### Curriculum Links:

Maths, interpreting data, graphs, problem solving.

## Number of Visitors to the Lake District National Park, 2015–2019





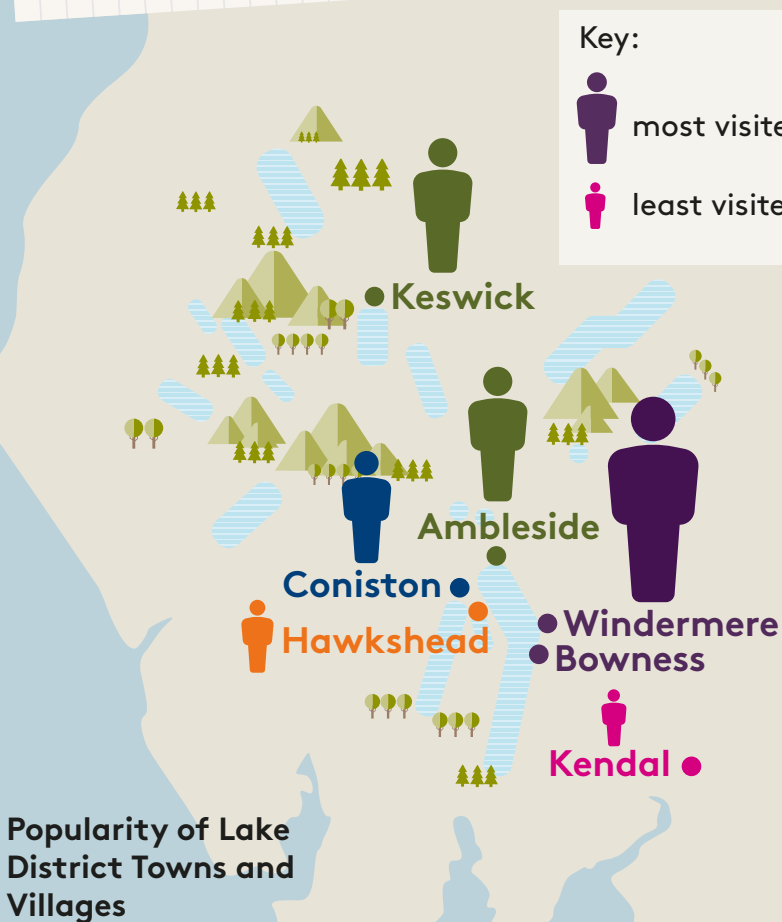
August Saturday traffic count on main road (A591) = **17,983 vehicles**

## Percentage of visitors using different transport types to get to the Lake District National Park %

Car/vans/motorbikes/motorhomes	89%
Train	4%
Bus/coach service	2%
Aeroplane	2%
Coach tour	1%
Bicycle	—
Walked	1%
Boat/Ferry	1%
Other	0%

### Key:

-  most visited
-  least visited



500,000 people live in Cumbria.

66.5 million people live in the UK.

### Want To Know More?

Undertake a traffic survey and see how cars pass your road at different times of the day. How many people are there usually in a car? Sharing and having more passengers will reduce the carbon footprint of each person.

### What We Learnt

Have a look at your answers and talk to your class. What can you see from the information? What are the main problems and where are they?

Scientists, engineers and mathematicians use information like this to work out how to protect the Lake District National Park. Where would you start?

CHALLENGE 2:

# Linking the Lakes – Greener Alternatives



boat

### Context:

Did you know that different ways of travelling produce a different carbon footprint? Some types of transport are worse than others!

As we develop ways to protect our Lake District National Park we need to educate people on the ways they travel to and round the park. We need to encourage people to make good choices and to choose different ways of travelling around. Some forms of transport are good for the environment, your health and to allow you to explore further.

cycle

electric car



### Your Challenge:

water taxi

For this challenge you are working as the 'Environmental Planning Team'. They are working to bring different forms of transport to the Lake District to reduce the carbon footprint of all the visitors.

electric POD

### First Part!

Your first task is to list the different types of transport that people use to get to, and travel around, the Lake District. Brainstorm some ideas or search around this page! To help you with this, some of them might be hidden around this activity!

Which do you think will have the smallest carbon footprint and which the greater? Put them in order.

motorcycle

diesel bus

electric bike

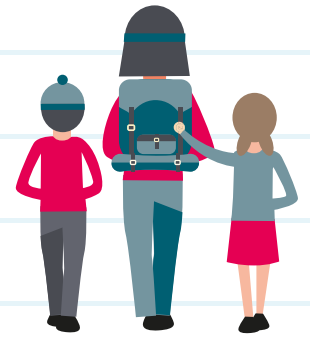
tram

train

walking



## Transport in the Central Lakes



## Second Part!

Some parts of the Lake District are very busy with a huge number of visitors.

This table shows you how much carbon dioxide pollution comes from different types of transport for every km travelled.

Can you use the information to make some decisions and find more sustainable (environmentally friendly) ways of moving around the Lake District?

Choose the best transport for each of the three journeys that has the lowest carbon footprint and also can help our visitors keep fit. You need to look at the map carefully though – not every type of transport can go on every route.

There are no right or wrong answers – this is about making decisions and giving your reasons why!

## Carbon Footprints of Different Transport Types

Transport Type	Number of passengers	Carbon footprint – Grams of CO <sub>2</sub> per person per km travelled
Car	2	125
Zero Carbon Electric Bus	50	0
Normal Diesel fuelled bus	50	20
Water Transport (boat)	100	5
Train	250	30
Electric POD vehicle	4	0
Walking	1	0
Cycling	1	0



## Here are the journeys we would like you to think about:

### Journey 1:

8 people are travelling from Kendal to Keswick.

Work out their carbon footprint if they travel by car all the way with only 2 people in each car.

Now work out the journey that will have the lowest carbon footprint.

### Journey 2:

A large group of 50 children on a school trip want to travel from Coniston to Ambleside.

Work out their carbon footprint if they all travel by traditional diesel bus. Can you work out some lower alternatives? What are the pros and cons of these?

### Journey 3:

Two friends are travelling from Hawkshead to Windermere. What transport alternatives do they have? What is the worst journey for carbon footprint and what is the best?

What have you chosen? Can you tell us in a few words how you made your decisions? Did you consider health benefits, carrying luggage and parking?



### Did You Know?

For the past 10 years the Lake District National Park have been working to reduce greenhouse gas emissions which lead to climate change. We are aiming toward net zero carbon by 2037, this means that we balance the amount of carbon we put into the atmosphere with that we take out.

We have a number of people working on low carbon 'sustainable' transport that is easy to use and located in the best places in the Lake District. We are encouraging people to make better choices and help reduce the carbon footprint of the National Park.

### Want To Know More?

Why not undertake an in-school survey to find out how people travel to school. Is there anything you can do to encourage people to use more environmentally friendly transport?



### Real World of Stem:

Why not research what other jobs you can find that are involved in looking after the environment.

### Curriculum Links:

Interpreting data, reasoning, PSHE, Literacy (justification/communication)

### CHALLENGE 3:

## Active Travel (moving around and keeping healthy)




### Context:

People come to the Lake District for many reasons; to explore the wonderful scenery, to take part in outdoor activities like walking and sailing, to visit historical sites and to be inspired by the wildlife and outdoors.

The Lake District National Park is somewhere we can all enjoy. It is a natural playground and being out in nature is very good for us, and helps keep us healthy.

### Your Challenge:




The Lake District National Park's Marketing Team's work involves helping people use the National Park responsibly and promoting how amazing the area is. They work with scientists and engineers to make sure that we can enjoy the Lake District whilst protecting it.

Your Challenge is to work for the '**Lake District Marketing Team**', use the fantastic facts provided to create a digital advert to encourage people to visit the Lake District, use the outdoors to keep fit whilst making travel choices that are less damaging to the environment.

You can use all the information that is included in the challenges so far. Make it eye catching and persuade people to come and visit, whilst reducing their carbon footprint.

Are you up for the creative challenge? Then get designing and produce **an advert** to advertise the healthy benefits of visiting the Lake District and keeping fit, whilst keeping it clean and green!

### Want To Know More?



Why not have a look at the Lake District National Park website:  
[www.lakedistrict.gov.uk/smartertravel](http://www.lakedistrict.gov.uk/smartertravel)



# Activities and Travel Options in the Lake District

The Lake District is England's largest National Park and home to its deepest natural lake (Wast Water) which is 74 meters deep.

You can take part in amazing outside activities and spot some rare wildlife such as the red squirrel.

The Lake District National Park Authority have been testing Autonomous Vehicles that drive themselves!

It was the home of Beatrix Potter.

We get 19 million visitors a year and think this will be 22 million by 2040.

89% of our visitors come by car

Drive less, see more! Walk, cycle, travel by boat, rail or bus!

Activities: Kayaking, Climbing, Nature art, Camping, Horse riding, Painting, Bushcraft, Canoeing, Swimming, Hiking, Mountain biking, Ghyll Scrambling, Mountaineering, Raft building, Sailing, E-biking, Cycling.

Travel Options: Electric bike hire, Car share, E-taxi.

## Real World of Stem:

Did you know that STEM and creativity are very closely linked? STEM professionals need to communicate ideas and messages clearly in a way that is eye catching and memorable. Why not ask

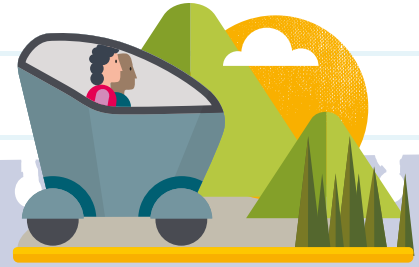
your teacher to see if a STEM Ambassador that works with art and design can pop in to your classroom and tell you what they do. Teachers, go to [www.stem.org.uk](http://www.stem.org.uk) to request a STEM Ambassador volunteer.

## Curriculum Links:

PSHE, Citizenship, Keeping Healthy, Literacy, Design/Technology, Computer Science

CHALLENGE 4:

Smarter Travel  
– Solving the  
Moving Puzzle



Context:

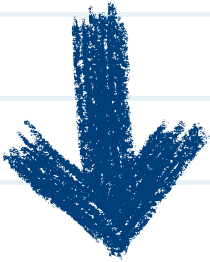
Some of the key producers of carbon dioxide pollution are diesel and petrol cars – and we have a lot of them coming to the Lake District every year.

Electric vehicles do not emit carbon dioxide and other harmful exhaust fumes. Their energy comes from a battery, not from burning fuel. That is why the Lake District National Park is investigating how electric autonomous vehicles (electric vehicles that don't need a driver) might be able to help people that visit, or live in the National Park, move around.

The electric autonomous vehicles are called POD's and, because they drive themselves, they have many other benefits.

These include:

1. Reduce the number of people that need to bring a car to the Lake District
2. Reduce the number of parking spaces needed
3. Help with roads – less traffic means less maintenance and fewer repairs
4. Cut down on pollution and carbon dioxide emissions
5. Increase safety by reducing the number of cars on the road
6. Can be shared by many people during the day
7. PODs could be connected together to make a 'POD Train'



**Your Challenge:**

You must work as a team of **'Future Transport Planners'**.

Our planners need to work out the best POD for the Lake District National Park.

There are 4 POD's to choose from.

Can you fill in the **logic grid** on page 12 using the **Pod Information** on page 13?

Once you have completed the logic diagram, fill in the table and choose the POD that will:

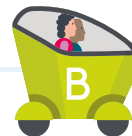
- Carry 7 or more people
- Be able to be charged between the hours of 10pm and 6am
- Travel 50km or more without needing to be charged

# Logic grid



		Pod				Range (km)				Charge time (hours)			
		A	B	C	D	120	100	35	17	12	8	6	2
Number of passengers	15												
	10												
	7												
	5												
Charge time (hours)	12												
	8												
	6												
	2												
Range (km)	120												
	100												
	35												
	17												

If you need help understanding how to solve these logic problems then have a look on the internet, search for 'logic grid puzzle'!



Complete the table below:

	POD A	POD B	POD C	POD D
Number of passengers				
Charging time in hours				
Range in km (how far the POD can travel before charging)				

The POD that meets the requirement is:



### Pod Information:

1. The POD that carries the most people takes the longest time to charge.
2. POD D carries an even number of passengers.
3. The POD with the longest charging time does not have the longest range, neither is it POD D.
4. The number of passengers carried by POD B is not a multiple of 5.
5. Amazingly the POD with the longest range has the shortest charge time, however it also carries the smallest number of passengers.
6. POD A will travel 35km before needing to be charged for 12 hours. It does not carry the smallest number of people.
7. The POD with 100km range needs to be plugged in from 11pm to 5am to fully charge.
8. The POD carrying 10 passengers takes 2 hours longer to charge than the POD that can carry seven passengers.

### Did You Know?

We have been testing POD vehicles at Brockhole near Ambleside. Our POD's can travel up to 100km on a full charge.



### Want To Know More?

Find out more about our driverless pods at Driverless Pods [www.lakedistrict.gov.uk](http://www.lakedistrict.gov.uk)

Notes

### Want To Do More?

Why not brainstorm your own weird and wonderful connected creations that could help us tackle our carbon footprint problems? Why not draw and label an out-of-this-world contraption or design a futuristic vehicle that would help people travel around the Lake District. We would love to see your designs!



### Real World of Stem:

Scientists and engineers often have to think logically and problem solve. If you like puzzles and are good at solving tricky challenges then you could be a budding engineer or scientist of

the future! Have a look at the other skills STEM professionals use: [www.lakedistrict.gov.uk/stemtop10](http://www.lakedistrict.gov.uk/stemtop10)

### Curriculum Links:

Maths, Computer Science, Logic, Reasoning, Decision making, employability skills

CHALLENGE 5:

## Keeping it Special



### Context:

We hope from these mini-challenges you have got an idea of the important work that is going on to protect our Lake District National Park.

Scientists, technologists and engineers are using STEM to reduce the carbon footprint of local people and visitors to the National Park, putting future technologies in place to make sure that it is protected for generations to come.

### Your Challenge:

**Your final challenge is based on communication.**

We all have a responsibility to protect our environment. Together we can take steps to reduce the amount of carbon dioxide and pollution that we create. However, we need to know what the impacts of our choices are, and what options we have to choose from.

Education is therefore very important and here at the Lake District National Park we are creating clear information so that visitors understand what they can do to help and make a difference.

Your challenge is to work for the '**Environmental Education Outreach Team**'. We want you to put together a 3 minute presentation that covers what you have learnt. You then need to present to your class and take questions. You can make your presentation as creative as you want – we want people to remember and take action! Your presentation could be in the form of a news report, include a catchy slogan or be an informative presentation – the choice is yours!

### Information:

Your presentation can be no longer than 3 minutes so practice first!



### Further Research:

Why not do some research and find out more about how we are using technology and developing travel plans for the future at [www.lakedistrict.gov.uk/smartertravel](http://www.lakedistrict.gov.uk/smartertravel)

### Real World of Stem:

Communication and presentation skills are needed in all jobs – it is no good having a good idea if you cannot effectively share those ideas with other people.

Why not interview either a STEM Ambassador and find out what skills they use in their jobs?

### Curriculum Links:

Literacy, ICT, PSHE, Citizenship, Employability Skills

# Our Lakes: Our Future

## Using STEM to protect our National Parks

Please note that some of the figures used in the examples are illustrative only, and not factually accurate. We have tried to make them as representative of the real situation as possible. To make calculations easier, some have been rounded, or estimated if actual data was not available.

### Challenge 1: Reaching the Lakes – HOW, WHERE and WHEN?

Q: How many visitors did the Lakes have on average in the past 5 years? What does the graph show is happening?

18.9 million visitors every year on average over the past 5 years. The graph shows that the numbers are increasing by about ½ million every year.

Q: Can you work out what fraction of the UK population visited the Lake District in 2019?  
About a third 1/3 or 30%

Q: Find how many people live in Cumbria. What multiple of this came to visit the Lake District in 2019?

500,000 (1/2 million) people live in Cumbria. If 20 million people came to visit in 2019 that is 40 times the Cumbria population!

Q: What percentage of total visitors use a car/van/motorhome to get around the National Park? How many cars is that every year if each car carries an average of two people? (NB, for ease of calculation, assume full percentage represents cars)

89% visitors come by car. So with 20 million visitors, 89% is 17.8 million coming by car. If 2 people per car this is 8.9 million cars!

Q: A car is about 4m long. How many parking spaces would we need and how long would the traffic queue be for the Saturday in August that our team did a 'traffic count' on the A591 road into the park?

Traffic count = 17,983 vehicles x 4m / 1000 answer in km = 71.93Km Number of spaces is just the number of cars = 17,983

Q: To cut down on pollution we need to understand where the most visitors are. Can you list the places that have the largest numbers of visitors from most to least?

Windermere and Bowness (most)  
Ambleside/Keswick  
Coniston  
Hawkshead  
Kendal (least)

Once you have answered the questions can you discuss in your team or write down what you have found out? If you worked for the National Park Authority, where you would start trying to reduce pollution and what would you focus on to locate greener transport options?

In order to make the biggest difference we need to concentrate on the 'thing' that is causing the most pollution. This is the number of cars. We then need to focus on the place where we have the most cars – the villages/towns of Windermere and Bowness, Ambleside and Keswick.

STEMFirst are the STEM Ambassador Hub for Lancashire and Cumbria and can help your school, youth club or organisation get involved in STEM.



Get in touch at  
[ambassadors@stemfirst.com](mailto:ambassadors@stemfirst.com) or [www.stemfirst.com](http://www.stemfirst.com)



Lake District  
National Park

**Challenge 2: Linking the Lakes – Greener Alternatives**

**Journey 1:** 8 people are travelling from Kendal to Keswick. Work out their carbon footprint if they travel by car all the way with only 2 people in each car. Now work out the journey that will have the lowest carbon footprint

**Journey 2:** A large group of 50 children on a school trip want to travel from Coniston to Ambleside. Work out their carbon footprint if they all travel by traditional diesel bus. Can you work out some lower alternatives? What are the pros and cons of these?

**Journey 3:** Two friends are travelling from Hawkshead to Windermere. What transport alternatives do they have? What is the worst journey for carbon footprint and what is the best? What have you chosen? Can you tell us in a few words how you made your decisions? Did you consider health benefits, carrying luggage and parking?

There are no right or wrong answers for this challenge. However, think about how to improve the carbon footprint of the journeys whilst thinking about the different needs of the visitors.

**Journey 1** – if they travel by car all the way they will need 4 cars if 2 people travel per car. Remember that the table gives carbon dioxide per person, per kilometre therefore:  $4 \text{ (cars)} \times 2 \text{ (people)} \times 125 \text{ (footprint per person per km)} \times 48 \text{ (km)} = 48,000\text{g CO}_2$  (answer is in grams of carbon dioxide)

**Journey 2** – if they travel by diesel bus we would need one full bus. So  $50 \text{ (people)} \times 20 \text{ (footprint per person per km)} \times 13 \text{ (km)} = 13,000\text{g CO}_2$  (answer is in grams of carbon dioxide).

**Journey 3** – Worst carbon footprint is if they travel by car up to Ambleside and back down to Windermere. This distance is = 15km.

Therefore,  $1 \text{ (car)} \times 2 \text{ (people)} \times 125 \text{ (footprint per person per km)} \times 15 \text{ (km)} = 3,750\text{g CO}_2$  (answer is in grams of carbon dioxide).

Best carbon footprint is if they travel by bike up to Ambleside and back down to Windermere. In this case their footprint will be ZERO. However, what if they have luggage or they only have a limited journey time? They could cycle from Hawkshead to the boat jetty with a ZERO carbon footprint and then take the boat journey across Bowness which only has a carbon footprint of  $2 \text{ (people)} \times 5 \text{ (footprint per person per km)} \times 0.5 \text{ (km)} = 5\text{g CO}_2$  (answer is in grams of carbon dioxide), then cycle to Windermere (ZERO carbon footprint).

**Challenge 3: Active Travel (moving around and keeping healthy)**

This is a creative challenge – we would love you to post your creations to us on **social media**.

**Challenge 4: Smarter Travel – Solving the Moving Puzzle**

		Pod				Range (km)				Charge time (hours)			
		A	B	C	D	120	100	35	17	12	8	6	2
Number of passengers	15	✓	x	x	x	x	x	✓	x	✓	x	x	x
	10	x	x	x	✓	x	x	x	✓	x	✓	x	x
	7	x	✓	x	x	x	✓	x	x	x	x	✓	x
	5	x	x	✓	x	✓	x	x	x	x	x	x	✓
Charge time (hours)	12	✓	x	x	x	x	x	✓	x				
	8	x	x	x	✓	x	x	x	✓				
	6	x	✓	x	x	x	✓	x	x				
	2	x	x	✓	x	✓	x	x	x				
Range (km)	120	x	x	✓	x								
	100	x	✓	x	x								
	35	✓	x	x	x								
	17	x	x	x	✓								

	POD A	POD B	POD C	POD D
Number of passengers	15	7	5	10
Charging time in hours	12	6	2	8
Range in km (how far the POD can travel before charging)	35	100	120	17
The Pod that meets the requirement is <b>B</b>				

**Challenge 5: Keeping it Special**

Think about what you have learnt and how you would encourage people to use lower polluting forms of transport whilst visiting the Lake District National Park, keeping fit and enjoying the amazing countryside!

For further information about Sustainable Travel in the Lake District National Park, please visit **Smarter Travel: Lake District National Park**