TRAVEL HABITS NOW AND THEN

Goal(s):

- The pupils are aware of travel habits now and in the past generations in terms of the distances travelled, the choice of mode of transportation and the impact these have on the environmental impact.
- The pupils can calculate the CO_2 emissions per km travelled.

General description of the activity:

With this activity the pupils investigate the various types of transport and their impact on our environment. They learn how travel habits have changed through the generations and reflect on the energy perspective of past and present modes of transport.

Three perspectives are analysed – the travel habits of the grand parents of the pupils, those of the parents and those of the pupils themselves. They may be investigates independently, one after the other, or if the number of supervisors allows it the pupils can form three groups, one for each perspective, and then share the results in the classroom.

Required materials:

- Pencils
- Paper for making notes during the "interview" with their parents and grandparents.
- Maps

Required pupil skills:

Ability to interview their parents and their grandparents about their travel habits and making interview notes.

How does this activity fit into the curriculum:

This activity is well suited for lessons in social science and mathematics.

Safety issues:

None

Individual steps of the activity:	Required time:
1. The activity consists of three set of data collection: Information on travels made by the pupils, information on travels made by their parents' generation and information on travels made by the grandparents' generation. The travels are identified on a map and the environmental impact of the travels calculated and discussed. 2. First each pupil thinks back and tries to remember the furthest travel they have made in terms of kilometres and what kind of transports were used through the various steps of the journey. It may be necessary to let the pupils consult their parents to help them remember the journey correctly. 3. Each travel is drawn in on a joint map and the resulting CO_2 emission impact calculated using Aid 1 and 2.	Introduction - 1 lesson
4. Each pupil then interviews one of their parents in order to identify what was their furthest journey at the age of the pupils. Alternatively the pupils may be divided into groups and interview for example various teachers and other staff on the school. The number of adults interviewed should preferably equal the number of pupils. 5. Each travel of the parent generation is drawn in on a joint new map and the resulting CO_2 emission impact calculated using Aid 2.	Parent interviews - 1 lesson
6. The process is then repeated for interviews of the grandparent generation. The pupils may be divided into groups and interview for example a number of residents at the local home for elderly. The number interviewed should preferably equal the number of pupils. 7. Each travel of the grandparent generation is drawn in on a joint new map and the resulting CO_2 emission impact calculated using Aid 2.	Grandparent interviews - 1 lesson
8. Reflection: What are the differences (time used, energy types required, experiences and adventures, environmental impact)? Why do we want to travel further and faster than before? Are there alternatives that result in less CO_2 emissions (renewable energy, other destinations)?	Reflection - 1 lesson
9. The pupils prepare a presentation of their findings either as a booklet or posters and give a presentation to the persons interviewed.	Presentation - 1 lesson

Suggestions for combination with other AL activities:

"Mc Car" – Observing traffic behaviour and discussing saving potentials (only suited for older children).

"CO2 footprint of the journey from home to school" – Illustration of how we can influence

the level of CO2 emission through our choice of transport.

"Travelling rations" – The pupils try out how far they can get with various means of transport if energy is rationed.

Variations:

Fuel aspects: Let the exercise focus on the fuel aspects. What types of fuels are used? Where does the fuel come from? Is there an endless supply of fuels? What about the security of fuel supply? Country specific facts could be included to show the historical development such as the first cars on the road or the first petrol stations. Visit to petrol stations and a big fuel supplier could be used to let the pupils interview experts on the historical development.

Future transport: Include a discussion on the modes of transport of the future. The discussion could be based on free fantasy or interviews with car dealers, universities and transport production companies. What will the future modes of transport for goods and persons be? Could we manage completely without use of fossil fuels?

Civil planning aspects: The activity could be expanded to include topics such as goods transport and commuting transport and the consequences that civil planning choices have on the transport requirements.

Increased dissemination: Have the class prepare a presentation or exhibition for the entire school. Compare the past, present and the future and try to visualise this in an attractive way (drawings, photographs, videos etc). If the entire school is involved in the activity, the children could arrange a fair at which their results are displayed in different ways.

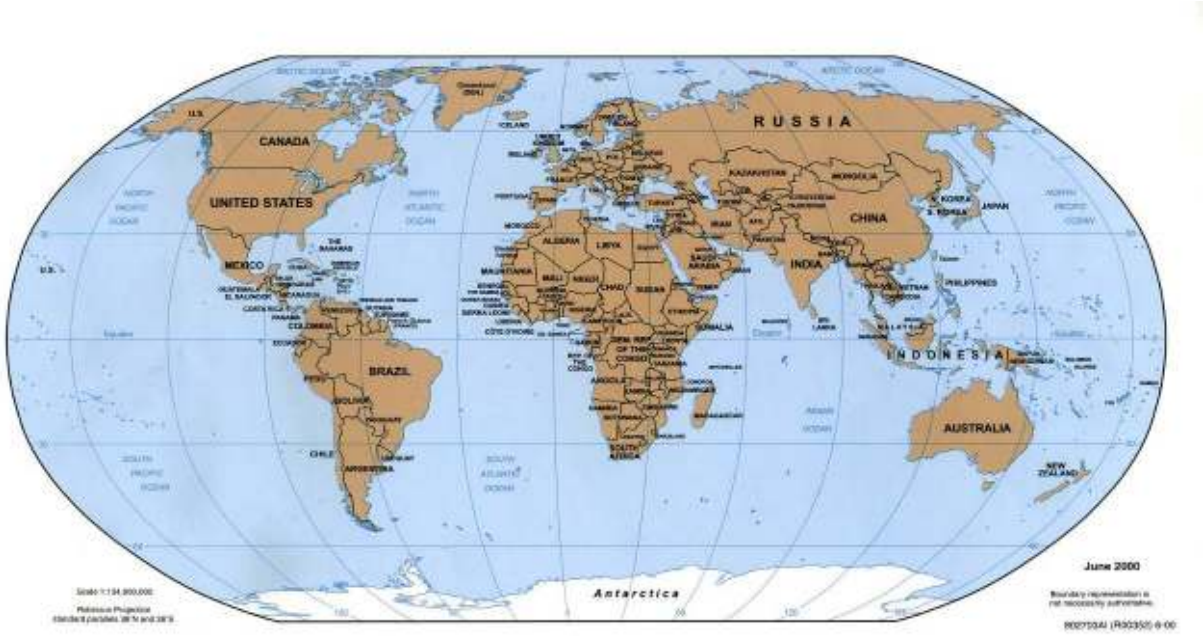
Available aids:

Aid 1 – Maps and background information on mobility and CO_2 emissions

Aid 2 – Counting types of transport

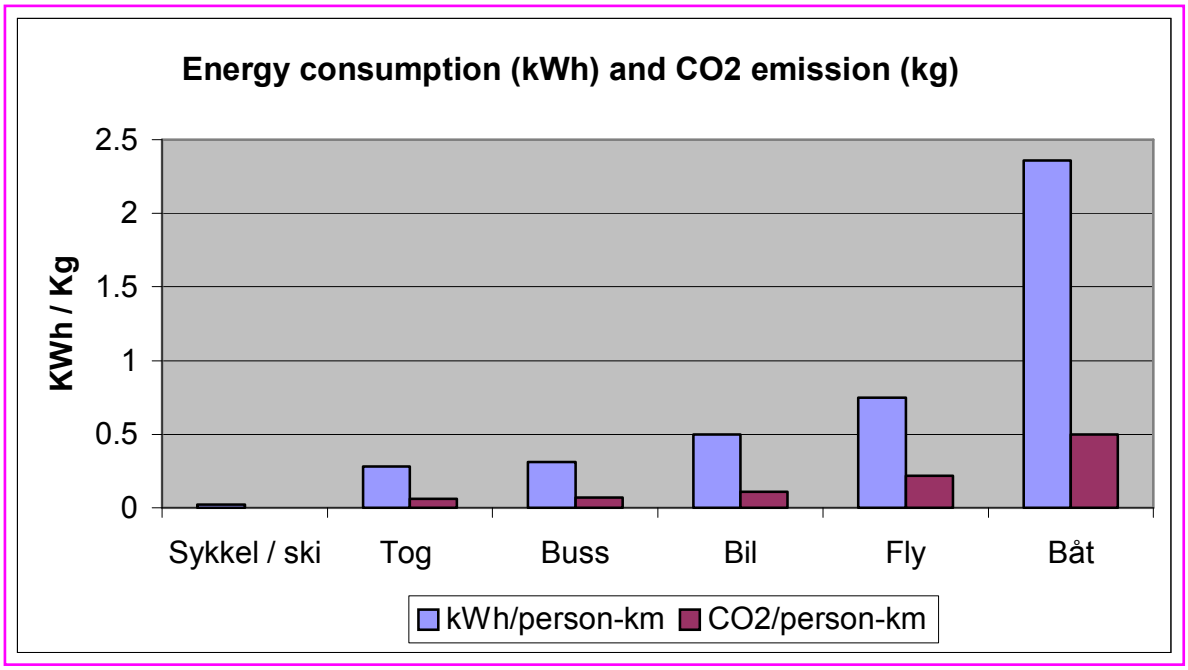
Maps and background information on mobility and CO_2 emissions

You can find useful maps like the one below on http://www.lib.utexas.edu/maps/



Background information on mobility and CO2 emissions can be found on:

- http://ecoagents.en.eea.europa.eu/ - The Eco Agent website of the European Environmental Agency where children can learn about environmental protection issues through a game as Eco Agents (in all EU languages).
- Each Partner may add more



The table below shows the average energy consumption (kWh) and the average CO_2 emission (kg) for various modes of transport. The values are from the webpage of the Norwegian Statistical bureau:
http://www.ssb.no/emner/01/04/10/rapp_200116

Mode of transport	kWh/person-km	Kg CO2/person-km
Bicycle	0,02	0
Train	0,28	0,06
Bus	0,31	0,07
Car	0,50	0,11
Flight	0,75	0,22
Boat	2,36	0,50

Counting types of transport

Name of person travelling: _____

My generation	
My parents' generation	
My grandparents' generation	

The longest journey was from _____ to _____ and it took approximately ___(minutes, hours, days).

The individual steps of the journey made were:

From	To	Mode of transport used	Approximate distance [km]	CO2 emission per distance [kg/km]	Total CO2 emission [kg]
				TOTAL	

Example:

Norway	Egypt	Air plane	6,000	0.22	1,320

Travel habits no and then – Aid 2

Search words:

Energy topic	General topic	Educational subject	Age level
Transport	General sustainable development	**Mathematics**	**6-8 years**
Space heating & cooling	Renewable energy	**History**	**9-10 years**
Hot & cold water	Energy efficiency (saving)	**Social Science**	**11-12 years**
Lighting	**CO2 wise transport**	**Art**	
Electric appliances		**Geography**	
		Literacy	