

## **Our sustainable city**

A STORYLINE ABOUT CLIMATE

## **Storyline**

**Method:** Storyline is a strategy and an approach where teachers and pupils create a story together in the classroom. Pupils experience the story through characters that they create and adopt. This helps them to find motivation for the work and gives them a deeper understanding of the subject area.

**Our sustainable city:** is a Storyline created principally for the later grades in school and college. Pupils in this Storyline get to think about climate issues. They get to create families and think about how they live. The families' characters participate in a project where the city of Göteborg wants to meet inhabitants to see how they live, think and act. Through their characters, pupils get to think about climate issues, how people influence the climate, how society makes decisions and how they want to see their city in the future.

In addition to *Our sustainable city* Göteborg's Traffic and Public Transport Authority has produced a further three storylines: 'My Road' is written for the youngest children between Nursery school and Form 3, and takes up issues about the immediate environment around their own school, who influences the immediate environment, behaviour in traffic etc. 'Commuter Karl' is written for children aged 10-12 and lets pupils follow and try to influence Karl who commutes to work each day in his own car. 'Love and Madness' where pupils aged 13-15 meet Johan and Lisa who have been involved in a moped accident. The pupils get to discuss what can be done to prevent accidents like this from happening as well as who could do something about it.

**Resources and inspiration:** On our website you can find copy documents and files for *Our sustainable city* and other storylines. On the Traffic for life CD (only available in Swedish) there is inspiration material in the form of films, pictures and work done by other schools based on our storylines and examples of more educational material within Traffic for life.

School is one of the most important places where the community can reach children and youth. It is here that we can begin to work on changing attitudes and behaviour. Awareness in itself does not achieve this change. Only when the knowledge imparted is put in its right context and they are able to reflect on what they have learnt that changes will occur. Children and youth are exposed to great risks in traffic. Children and youth are the commuters of tomorrow and the decision makers of tomorrow.

Only by integrating traffic issues into teaching based on this perspective, can we create a better chance for pupils to form their own opinions and to make their own choices, now and in the future.

www.trafikforlivet.se

Traffic for Life is the creation of The City of Göteborg Traffic and Public Transport Authority. Its aim is to support and inspire teachers in their efforts to integrate traffic issues into their curricula.







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Summary of Our sustainable city – a storyline about climate and traffic

In your hand you are holding the teacher's guide to the work with traffic and climate issues based on the storyline **Our sustainable city**. Our hope is that you, with the help of this material, will integrate these issues into your work more easily. If you want, you can use the planning described here in the guide as it is, or change or opt out of certain parts. For greater depth there is also the possibility for adding more elements. Some suggestions are presented as optional modules at www.trafikforlivet.se (only available in Swedish).

A storyline is a series of events in which the pupils become involved. The series of events, or plot, is planned in advance but the pupils have considerable freedom to design the story's characters and content. The education takes into account the pupils understanding of reality and they get to think about how they relate to this before they can study the explanation in reality. The characters that the pupils create become the starting point for their thought, information gathering and creative work. The subject integration becomes natural since it happens based on the story and its characters. The teachers who have tried the Traffic & Public Transport office's storylines have testified that the pupils have felt highly committed to the story and their characters and that through this, they have been able to experience events and occurrences that otherwise would seem too remote or strange\*.

Göteborg's Traffic & Public Transport Authority has developed a further three storylines.

'My Road' has been written for the schools' youngest students (age 6-9) and brings up issues such as the environment in the immediate vicinity of the school, who can influence this environment, behaviour in traffic etc. 'Commuter Karl' has been written for pupils aged 10-12 and encourages them to follow and try to influence Karl as he commutes to work by car. In 'Love and Madness', pupils aged 13-15 meet Johan and Lisa who have both been involved in an accident with their moped. Pupils discuss what can be done to prevent similar accidents occurring and also who should do it.

Our storylines are created for classroom work over a 4-5 week period. This is in order to give pupils time for reflection. The number of hours can vary depending on which teachers (and therefore subjects) choose to take part.

This material is developed for Traffic for Life, Göteborg's Traffic & Public Transport Authority programme for schools, which you can read more about on www.trafikforlivet.se

On our website you can find all copy documents (only available in Swedish) plus any files to the storylines, as well as all our storylines as pdf files, available both in Swedish and English. On the storyline CDs (Swedish), you will also find inspiration material such as films, pictures and work done by other schools based on our three other storylines as well as examples from other educational material from Trafik för livet.

Good luck in your work with Storyline and traffic!

Cumillasfartbach

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<sup>\*</sup>Report: Storyline – Target – Mobility Education for Young People, December 2005, www.trafikforlivet.se



All material on our storyline CD and our website is free for copying within primary, secondary and upper secondary school. However it should be clear that it is material from City of Göteborg's Traffic and Public Transport Authority.

## In this Storyline, the work especially focuses on climate issues and includes the following:

- What habits do people in our city have today that affects climates issues?
- What dreams and wishes do people have about their lifestyle?
- What do people do that negatively influences the climate?
- What can we do to reduce our negative influence on the climate?
- What can be positive about changed habits and consumer patterns?
- What do we want our sustainable city to look like?

The Storyline is designed to focus on opportunities and positive aspects even if the climate issue is a problem. During this storyline, the characters also get to take part in a competition where they can win SEK 50,000 if they can present how they would use the money without emitting more carbon dioxide than they normally do.

Initially, the pupils in groups create families that live somewhere in the city. The families and their homes are made into a collage and put up on the wall. Each group gets to present their family and their home to the class and the continued work is then based on this context created by the pupils themselves.

Their characters are invited to take part in a project where representatives for the city want to meet normal people, get to know them and hear their opinions on the climate issue. The pupils' characters are gathered to meetings, where they discuss their current climate influences, thoughts about what can be done to reduce climate influences, as well as a vision of how a sustainable city might look in the future.

## In this storyline, there is the opportunity to work with, for example:

- · Collage techniques
- How to describe a person
- Map
- · Habits and dreams
- · How people think and reason
- How their own actions influence the
- What can be done to reduce climate changes
- Democratic processes
- · Distances, weights and percentages
- · Oral presentation, writing
- Problem solving and envisioning





#### To think about before you start

Storyline is a way of working and a pedagogical approach that was originally developed in Scotland. In 1965, Scotland adopted a new curriculum which proposed that teachers in primary school should work across subjects. With the aid of teacher training in collaboration with active teachers, an integrated approach was developed.

**Storyline** is built on teachers and pupils creating a story in the classroom together. On the basis of the syllabuses' goals the teachers write a storyline. The teachers' storyline comes to life when the pupils design the environments and populate them with characters.

The pupils experience the story through the characters. This helps them to find motivation for the work, and gives then a deeper understanding of the subject area. The pupils learn in a context, since their characters require knowledge within different subject areas. It becomes natural to integrate different subjects to make the story realistic and the characters come to life.

The pupils' picture of reality - their **preconceptions** - are always the starting point in storyline. How the pupils relate to things is highlighted through practical exercises. The pupils build models and designs based on what the storyline deals with, thereby forcing them to think about how things really are.

During the work, the pupils actually get to make hypotheses around different phenomena. These **hypotheses** and images of how they think they are related must then be tested against reality. This can happen through field trips, reading books, factual research, watching films and more.



In order to get pupils to think about different events, the teacher asks open **key questions**. Examples of such key questions can be:

- How do you think an energy efficient house is built?
- What do you think is needed to run a newspaper?
- How do you think houses were built in the stone age?

The purpose of the open key-questions is to make pupils think about how they believe things relate to one another, formulate hypotheses and theories, and suggest possible solutions. These are presented to others in the class in the form of models, sketches, drawings and so on. The pupils present what is discussed in class and pupils have the opportunity to prove their arguments. Finally, the pupils explanations are compared to reality.

Everything the pupils do is put up on the walls and serves as the class's shared starting point, basis for discussions and presentations. This joint exhibition can consist of a mural, or a three-dimensional model, as well as characters, tools, personal descriptions, models of houses, adverts, machines, poems, word lists and so on. It is permitted in storyline to change and improve everything that is done, afterwards. The mural is very important for giving life to the story and can be altered for as long as the storyline is being worked with.

A strong belief within storyline is to vary the pupils' activities as much as possible so that every pupil will benefit, regardless of how they learn best. Therefore drama, music, dance, visual arts, oral presentation, evaluation exercises, written exercises, IT and multimedia should be integrated together with anything else that can be thought of .

It must also be stressed that every pupil should feel a sense of success. Therefore, the pupils should always be given a clear, supporting **structure** for each element before it begins. Examples of structures can be found in the appendices. Pupils also receive support from the brainstorming that is done together in class. If the class has first listed

characteristic words together, it becomes much easier for each pupil to describe their character with the help of these word lists. A storyline requires a conclusion. The pupils will have been in character for a while and these should now be left behind. The conclusion can involve having a party, an inauguration or an exhibition.

Often a storyline is concluded by inviting an expert in the field they have been working with in order to answer the pupils' questions. The experts should not prepare any speeches. Instead they should just come and look at what the pupils have done and answer their questions. There are several benefits: It is easier to get experts to turn up, the language is less advanced and the visit will actually be about what the pupils want to know.

There are countless ways to begin a storyline and it is important to have a **clear start**. In Sweden, it has become common to have the teacher's make an introduction with events such as a teachers play. We have deliberately avoided this in order to reach the teachers who may not feel particularly comfortable about this. Instead, we have tried to create storylines that take their starting point from the answers given by the pupils to some initial key questions. This is a more usual way of beginning a storyline in other countries. It may not be as spectacular, but the pupils' commitment is still aroused when they take part and create the environments and the characters.

Sometimes it is hard for pupils to see what they have learned within the different subjects, since they are working across subjects. It is important to conclude with an **evaluation**. Help the pupils to structure what they have done during the work by looking at the syllabus targets for different subjects. The pupils feel that their work is important and they realise that they have learned a great deal.



#### How long should a storyline last?

Above all, this depends on how much time per week can be allocated, but also how much you want to integrate into each storyline. We planned it with 4-5 weeks in mind. Presumably, you in the team will integrate any elements that we have not brought up. Perhaps you have a fire drill, test or something else which means you cannot claim that much time. It can generally be said that it always takes longer than estimated.

When planning a storyline, use a planning matrix with columns. Give a new line to each new activity. Time usage for activities varies from perhaps five minutes for a quick brainstorm, to one week when, for example, pupils make a newspaper. Before starting, your team should think about how much time will be assigned to each activity. Do not forget to include time in the plan for evaluation.

#### Lack of time sometimes makes it tempting to skip over two important parts of storyline's method:

- to start from the pupils' preconceptions and allow them to think about, discuss and make hypotheses.
- to allow them to do lots of practical work

However, these activities must be given a lot of time, since they are tremendously important for the pupils to actually grasp what they are working with.

## Two other parts of our method can help to save time:

- by always giving the pupils a clear structure before they begin an activity (you can find suggestions of such structures in the appendix)
- to begin many of the activities with a brainstorm, so that every pupil quickly has plenty of suggestions to start from

When we suggest brainstorm in the planning matrix, this most often takes the form of pupils talking in small groups first, before collecting what emerges from these groups. These activities should go quickly. It is important that it does not become a long drawnout process where the pupils lose interest.

You should also think about how to make time for assembly. Every pupil should get to take part in what the other pupils do. This is important so that not a single pupil misses anything. Plan how these discussions will take place regularly.



#### Other things which can be good to have thought about before starting.

This part contains thoughts about what the team should discuss before

beginning a storyline. It is written against a background of personal expe-

rience and discussions with other teachers about the pitfalls and difficulties

experienced when unaccustomed to the work method.

- How shall the team get planning time?
- Which teachers will take part? It is good if as many teachers as possible in the team take part - but it is also important that no one feels forced to.
- Which lessons will you be requiring? It is important that everyone who leaves lesson time for theme work feels that they get enough from the work.
- Should pupils have a special timetable?
- What premises can you use? Storylines often require the pupils to create many visual materials, which also requires space. It is ideal if you have access to your 'own' classroom. If not, then it is important that the issue of premises is discussed, based on the specific conditions at your school. What will you do with the material?
- Who is responsible for what? If the team will carry out a storyline together, it is good if the responsibilities are divided beforehand so that everyone knows what they are expected to do. This helps to prevent anyone from feeling that it is too much work.
- What do you do if someone is sick? It can be difficult to have substitute teachers when working with storyline. How would you solve it if someone were sick during the work?

- What do you do about pupils who are sick during the work?
- How should the team members keep up-to-date with what has happened if they were not there? One tip is to keep short notes in a shared logbook so that others can look and see what has happened previously.
- How will you document the work? Have you got access to a digital camera? Document as much as possible, and put up pictures and texts in the classroom.
- How flexible should you be during the working period? The pupils influence the events in a way that, perhaps, you will not foresee.
- How will you evaluate so that you know partly how pupils have experienced the work and partly that pupils have learned what they should.
- Should you invite an expert, e.g from the district, Traffic and Public Transport office or Vägverket? If so, they should be booked already before starting the work.
- Storyline always begins from how pupils THINK that things are related and therefore it is doubly important to tie-up what you do with what takes place in the outside world. Therefore try to make the pupils pay attention to what is being written in the papers and said on the news during the time you are working with storyline.



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These instructions are a description of how we think that this storyline can be implemented in the classroom. Use the instructions as a starting point. Do not follow them religiously, but instead make your own storyline. We have tried to describe how we would have done it, but since we are all different the storyline will look different in your class. Feel free to choose how to implement the work. In the planning matrix, we have brought up the parts that we think need to be used to cover this area. At www.trafikforlivet.se we have gathered the thoughts and ideas that came up during the work. Many of these ideas should add value to the work, but they are not necessary to lead the storyline forward. We have therefore gathered them in a special document along with suggestions for when they could be used. Choose if you want to integrate any of them. Maybe keep to the basic plan the first

time you carry out the storyline and expand it if you use the material again.

It is important to point out that you do not need to know "everything" about climate change and its consequences to be able to carry out the work. At www.trafikforlivet. se we have gathered links to films and texts that can give you more information. Whether you want to have more knowledge before the work gets going or, if you already feel at home on the subject but want some fresh ideas, we hope that you will find stimulating material there.

The pupils' characters take part in five meetings during this storyline. The meetings are not equivalent in time to lessons, in fact it may demand several lessons. Each meeting begins with the project leader welcoming the participants and addressing the pupils as if they were in character. Make these introductions special by dressing for your role as Rut Renberg (or whatever you choose to call your project leader). In most cases, pupils think it is fun to temporarily go into

their character's role, but having to play the role for longer can become tough. Therefore, once the introduction is over, change from talking TO the characters to talking ABOUT them. By saying "If your character had been at such a meeting..." or "what do you think your character would have thought about...". Pupils should not BE their characters during the storyline, but use them as a starting point in their discussion. Pupils do not usually have any difficulty stepping in and out of their roles. The climate issue is sensitive and it is a relief for many pupils to speak about the issues based on their character, who may live in a way that is harmful to the climate.

#### **Sections 1-4: The family**

The storyline begins with the pupils being placed in groups of 4-5 pupils. Each group is tasked to create a family that lives some-

The planning matrix can be found on pages 16-19



where in the city. They decide which characters shall be included in the family. Point out that they must make a human character who does not exist in reality but who still could exist. They must also not make the caretaker. Princess Victoria or Spiderman. The family should contain as many characters as there are pupils in the group. They begin by discussing who they would want to include in the family. Therefore make each pupil be their character. Show them the simple structure presented in appendix 1, so they know what they are expected to do. Then ask the pupils to describe their characters under the headings: Name, Age, Occupation, Interests, Characteristics, The family's last holiday trip and Other. Use appendix 2 if you want.



#### Instructions for the planning matrix

Before this exercise you could possibly list characteristic words together on a flip chart. In this case, let every pupil write down as many characteristic words they can come up with in e.g. 1 minute. Then list all the words on a flip chart. These can then be used by the pupils to help them describe their characters, giving you a more expansive list of characters.



When everyone in the group has made their character and personal description, the pupils practise presenting them within the group. Each holds up their character one at a time and talks about them. This gives pupils the chance to practise presenting, but it also helps pupils to check so that they are satisfied with what they found and that the group's personal descriptions correspond with one another. At a later occasion, the pupils will present their characters to the entire class. Practice presentations have been shown to be particularly important for older pupils, since there are often some who usually do not want to present orally before the entire class. This can be aided partly by having them practise within the group, and partly by having the whole group go forward together when later presenting to the entire class.

#### **Sections 5-9: Residence**

In this section, the families create their accommodation. To help the pupils get started, begin by jointly listing the different types of homes people can live in. The list can become long and sometimes contain the most imaginative buildings. The following question can therefore be good sometimes: what type of homes are people likely to live in?

The pupils then get to think about what different things can be seen on a property before they get to create their family's house in collage technique.

Explain that one floor is as high as a sheet of A4 folded in 2 lengthways (i.e. just over 10 cm) Therefore if making a six storey building, they should use three sheets of A4 (lengthways). They also have a large sheet to place the house on.

Give them a limited time to do the work. 60 minutes should be enough. If they want more time to make improvements, by all means give them this if possible. However it can be good for them to feel that time is limited when they start. This is so that they get realistic expectations about what they should accomplish, but also to ensure that the work does not become too drawn out. A series of questions which can make the houses more creative and expressive are: How can you tell that it's your family living in the house? Pupils get to make details and add to the house to show that it's their family who lives there. There can be things in the windows or the garden.

Pupils then study maps of the city and decide where the family lives. Place a large map on the wall with the houses around the map. Connect the families' houses to the place where the pupils think that the house lies by tying string, for example, from each house to its imagined spot on the map.

Gather the class together for a moment and let the families present their characters and their houses one at a time. The pupils go forward in groups and each pupil presents their character by holding it up and talking about them. It is very important that the teacher puts questions to every one of the characters, to show the pupils that you think they have made an interesting person. Ask questions about family relationships, interests, friends and so on. Once a family has presented itself, the families' characters are placed up on a coloured background together with the personal descriptions in association with the pupil's house collage.

#### Sections 10-13: Daily travel

This section begins by listing different types of vehicle together. The pupils then think about what vehicle would be reasonable for the family to use every day. The pupils make two-dimensional pictures of the vehicles that they think the families use for everyday travel.

While the pupils make the vehicles, it may be good to take some photographs or photocopies of the characters. Copies and small pictures can be later used in many different ways. You can ask for example; who in the family sits where in the vehicle? The pupils can show this by putting up a copy of their character in the vehicle they think that their



character drives or travels in. This exercise can give rise to discussions about e.g. gender and equality, but it also gives the mural more 'life'. Empty vehicles are not as mentally stimulating as vehicles with drivers and passengers.

What is your character's dream vehicle? The pupils are tasked with cutting out pictures of the vehicle they think their character dreams of. Feel free to set this as homework. The pictures shall be put up on a "dream cloud" to show that it is not a vehicle the character uses today, but is one they dream about. Even this task can give rise to discussions. Why does your character dream about this vehicle?





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#### Instructions for the planning matrix

#### Sections 14-16: Letter from the city

Address an envelope to each family with an introductory letter and climate brochure. (appendix 4-5). Distribute the envelopes to the groups and give them the opportunity to put in the information. Discuss the letters' contents so that all pupils understand that it is their characters/families who are invited to take part in the project. It is also important that they do not think that it is for real.

Then place the pupils into groups of two or three. The letter and the brochure is about climate. What do you think is meant when talking about climate? The groups get to discuss among themselves and agree on what they think climate means. Raise the groups' definitions to the entire class and try to agree on a definition that is put up on a large sign on the wall. Use factbooks and/or the Internet if you need help finding a correct definition.

#### Sections 17-20: The project, Meeting 1 and daily life

Write name badges (appendix 3) which are collected by one of the teachers, change a name if is not suitable.



Put the pupils into the family groups again. Let each character write their own name badge and place them on the table. Stick a copy of the character on the name badges to make it easier to remember which character is which.

The teacher who has the name badges welcomes everyone. Speak to the families as if they were their characters. Talk about the background and the purpose of the project.

We think that if this project happened for real, the meeting would begin with an explanation about climate change and its cause. Those of you in the team who feel the most at home in this area should consider this suggestion. Use appendix 6 and the climate brochure (appendix 5) as a starting point. Devote time to explain what the greenhouse effect and carbon dioxide emissions are, and how they impact on climate change.

More information can also be found in the link library in **Our sustainable city** at www.trafikforlivet.se The briefing is integrated into meeting 1, and takes place as if it was the project leader informing the chosen families. The purpose of the briefing is so that pupils get an understanding of the greenhouse effect and climate change. If you have younger pupils, adjust the briefing so that they can understand the basics and if you teach pupils at College then pitch the briefing at a significantly higher level. Appendix 6 is designed to lay the foundations for briefing the entire age range.

Explain that it is important for the project to get to know the families and the characters as much as possible in order to get as much as possible out of the project. Therefore you want each family to fill in a time logbook for a normal weekday (appendix 7). Ask them to make it as detailed as possible. Collect the time logbooks so you can go through them and get to know the pupils' characters further. Place them up beside the families when you have read them. The reason that we have produced time logbooks as a foundation is that we experience that the pupils notice more events during the day if they think in time. Without the time inspiration. it is often a shorter account and fewer events are recorded.

Also ask the families how they got to the meeting in the city centre today? Let them examine the possibilities for public transport as alternatives to travelling by car exist from the place in the city where the family lives. Discuss the pros and cons of the different methods of transport. Examine the possibilities for public transport or alternative transport methods from the characters' homes. Show the pupils how to look for different kinds of public transport on the Internet if they cannot already. The discussions begin with the characters' journeys, but the advantages also come into the general



discussions about travelling.

The pupils have already previously written about the family's last holiday trip and this information can now be used to calculate the carbon dioxide emission brought about by the trip. Use SJ's environmental calculation. Compare emissions for different transport methods if the characters could have chosen other ways of getting to their destination (instructions can be found in appendix 10).

When you are ready, have them discuss the question: What does a person need to live a good life? If you want, you can let them sit in new groups but it also works well to keep this discussion in the family groups. In groups, they list what they think people value in life. When they have had the chance to discuss the issue properly, raise their thoughts and ideas to the entire class and note their suggestions on the flip chart. This can be a large number of suggestions. Then ask each of them to individually choose the five most important things for them.

When the pupils are ready, thank them and invite them to meeting 2.

After the meeting, make a new list of the suggestions the pupils think are the most important in the order that the pupils voted for them. Save the list to section 30.





#### Sections 21-22: Climate influence, Meeting 2

The teacher acting as project leader begins by welcoming everyone to the meeting Ask the pupils to individually think about the question: what does your character do that affects the world's climate?

They should write down their thoughts on paper. Then ask them to arrange themselves in a line in order of the characters' ages. Divide them into age groups of 4 pupils and sit them around the table. They shall discuss their answers to the question above. Based upon what the characters have written, the next task is to show what habits people in the city have that affect the world's climate. On a large sheet, the pupils should draw and write words that explain how they see the question.

That the pupils are divided into age groups results in the different sheets having different drawings. Additionally it can be



nice for the pupils to break up the family groups for a while.

When all the groups are ready form cross groups with a member from each group of four. The easiest way is to allot the numbers 1, 2, 3, 4 to pupils in each group of 4. Then all the 1's gather in one place, all the 2's in another and so on. If any original groups contained more than four pupils then have two of the pupils form a group in the cross group and help them.

The new cross groups which are formed in this way go to each of their sheets. The pupil in the group who was involved and made the picture talks about what the picture portrays. Those listening ask questions. The groups then go to the next picture and the pupil who represents the picture takes over and talks. They continue round to all

the pictures and in so doing, get a broad picture of how they think that people affect the climate.

Raise the group discussion to the entire class. Add anything that comes up and find out about anything you are unsure about. It is a big advantage if you have access to the internet in the classroom since you can then jointly seek answers to any questions that come up. Clarify for the pupils that if they think of, or find out about anything else, they can add it. Link the discussion to the importance of transport based on the families last holiday trip and their time log books. Thank them for the meeting and welcome the characters back for meeting 3.

#### **Section 23: The prize**

## Note! It is important that no pupils have the impression that this competition is for real.

Set up the placard in the classroom. (Appendix 10, fill in the correct date first) Inform the families that they can win SEK 50.000.

Let the pupils then try to make a budget for how the family could use the money without increasing carbon dioxide emissions. They can therefore do things that emit about the same amount of carbon as they otherwise would have done but now refrain from. When the pupils are ready, hold a prize giving where the families that passed the assignment receive a pretend cheque of SEK 50,000. You are welcome to do an assessment of the budget together in the class. They do not need to compete against each other since everyone can win. It is just a discussion where there are no definitive answers that are more important in this element; to get the pupils to understand that there is no single answer when it comes to



consumption and CO2 emissions. By all means make the occasion a bit fun with some fanfare and maybe something to drink.

The more that is known about CO2 emissions, the more difficult this competition actually becomes so it can hopefully lead to many complicated discussions. How to calculate if the family really wants to buy a sailing boat? At first glance perhaps no CO2 is released - but how is this actually with transportation, energy consumption in the production or if the sailing boat's motor is used etc. If a holiday in Thailand is replaced by a sailing holiday, then perhaps accordingly this goes to count as zero or into negative figures when it comes to CO2 emissions. The importance here is the examples the discussion gives rise to - not that you should calculate how much CO2 is emitted. As the teacher, you get to decide what level to put the discussion at, but do stimulate the discussions since they often focus on dilemmas that are not easily answered.

#### Sections 24-26: What can be done? Meeting 3

Prepare a large empty wall area. The teacher who has taken the role as project leader bids them welcome to meeting 3. Mention that you read about the Climate Institute's big prize giving in the newspaper. If any families succeeded in making a suggestion that did not give increased CO2 emissions, remark that you are delighted to have those winning families in the project.

Explain that during this meeting, you shall concentrate on what can be done to reduce climate effects. Bring up any example from the newspaper or if there has been anything special on TV about climate change. You can possibly raise an episode from SVT – Climate. See link library for **Our sustainable city** at www.trafikforlivet.se

Explain that you shall take the opportunity to get to know more of the other families during the third meeting. Ask the characters therefore to form new groups of four people along with other characters that they have not already worked with previously. Let them begin by introducing themselves (as their characters) around the table. Ask them to do it concisely. Name, occupation and something about the family is sufficient.

The groups then get to discuss the question: what can be done to reduce climate effects? They should try to come up with as many suggestions as possible. Collect all the groups' suggestions on a flip chart. Write quite large, line by line, so that the suggestions can be cut into strips.

consequences

Private individual Politicians Shopkeepers Manufacturers Media Researcher Other Easy Hard

Put all the strips with the pupils' suggestions in one pile. Make signs to put upon the wall, with for example, Members of the public, Politicians, Shopkeepers (see above). Ask the pupils to try to structure the suggestions on the wall under the headings. Let the pupils then go forward in twos and pull out a proposal and place it up on the wall using blu-tack under the heading that they together think is suitable for their suggestion. If the suggestion is suitable under several headings, ask the pupils to duplicate the strip so they



can put it up under those headings. Everyone can work at the same time. It does not matter if it feels like chaos for a moment. When everyone is ready, let them sit down. Now put a scale up on the left with Easy at the top and Hard lowest down.

Then ask the pupils in order to point out their suggestion and explain why they put it under the chosen heading. Once they have explained how they thought, discuss if they think the suggestion should be easy or hard to implement. Move the suggestion to where the pupils think; should the suggestion sit high up because it is easy to do or low down because it is hard to do. Since the suggestions are put up with blu-tack it is easy to move them. The bigger the surface you have, the easier the exercise becomes. If all the space is full then it becomes difficult to move around the pupils'

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suggestions. Allow time for the discussion. During the discussion more suggestions will certainly come up. Make sure that these are also written down and put up. When you are ready with all the suggestions, let everyone take a step back and study the result.

Often many suggestions end up under Member of the public Perhaps it should not be so hard to actually do a lot when it comes to the climate issue.

It is important to raise the positives around these issues so that pupils do not think that everything feels hopeless.

Finish off by thanking the characters for their contribution and welcome them back for meeting 4.

#### Sections 27-29: Consequences, Meeting 4.

The teacher who shall act as project leader begins by welcoming the characters back to meeting 4. Then let the pupils walk around prevent climate change. Next get them to discuss what consequences they think that the suggestion would have on the characters in the storyline? The task involves trying to get as many consequences as possible. If you want you can let the pupils use appendix 8 as a document.

Let the pairs present to the entire class. Discuss the consequences the pupils came up with and challenge the classmates to find more. Ensure that you get both social and economic consequences, both positive and negative.

Clarify the consequences that come up by systematically recording what the pupils say in a table like the one below. Extend the table with as many positive and negative consequences as you can come up with. Hopefully this stimulating exercise arouses more thoughts. Either do this systematising directly or as step 2.

Raise the discussion to society level also. What should the suggestions mean for our city and the world?

When discussing the world it is a great asset to have an internet connected computer and a computer projector in the classroom where you can show the world using Google-Earth. This makes it possible to view the world in the form of satellite pictures. You can zoom in and out and study different parts of the world, countries and natural environments which can increase the pupils understanding of our world. If you want to know how this works, there is a Multimediabyrå course (in Swedish) See link library to Our sustainable city at www.trafikforlivet.se

Proposal	Social consequences		Economic consequences		
	Positive Negative P		Positive	Negative	
High petrol tax	More fun to ride together. Can cycle together instead.  Can't visit so often. Not able to be with the chill so much		Have more money left when driving less.	Costs more to run the car.	
Switch off lights	Switch off lights				

holding their characters and try to find another character who they think their character would get on well with. The pupils then sit in these new pairs. If there are an uneven number, it can also work well with three

from the previous meeting that they think own character. would mean most for the climate. They should also discuss why they think that the suggestion they chose is most important to

Select some suggestions that appear under the Politician's column from meeting 3. (if there are not any suggestions in this column, use some suggestions that are being discussed in the media when doing the storyline) Read out one of the suggestions and ask the pupils Let the pairs concisely present the suggestion to think about the consequences for their

After thinking it over for a short time do a "stand in line" exercise where the pupils get to choose what consequences the different suggestions have on their own character. The teacher lays out six sheets, numbered 1-6. Numbers 1-3 stand for positive consequences and 4-6 for negative consequences.

consequences

consequences

The pupils cannot sit between numbers 3 and 4, but must take a position about the suggestions leading to positive or negative consequences for their own character. The pupils discuss first in pairs and then in bigger groups with those standing nearest. It is always allowed to change an opinion after having heard the arguments of others. In such cases, the pupil goes to the number that best corresponds with the character's opinions.

The purpose of the exercise is to consciously explore the character's opinions, challenge them and perhaps change them. It also makes it easier to find personal arguments and understand opposing arguments.

Repeat the exercise with some further suggestions. Do the characters end-up in the same place? Why does this happen?

Let your pupils write to politicians in the municipality or state level and ask what they plan to do to counteract climate change. Thank them for the meeting.

#### Sections 30-32 Our sustainable city, Meeting 5

Welcome the pupils to the fifth meeting. Explain that you will now focus on how people want the city to be in the future. From the list that was done previously (section 20), pick out what the pupils think a person needs to live a good life.

Explain to the pupils that they will make a collage of Our sustainable city where humans' needs shall be catered for so that they live a good life without negatively affecting the climate.

- How do you think that we can create a city where the people's most important needs are catered for without negatively affecting the climate?

Divide the pupils into new groups where each group takes care of each of the areas, eg

• Transport - personal

consequences

- Transport goods
- Waste and recycling
- Food from where, what type
- Consumption services
- Consumption goods
- Heating Energy type
- · Household energy
- Manufacturing

Other - if the pupils or you the teacher have other suggestions.

Prepare a large surface in the classroom where the vision can be created. You can colour the surface with coloured paper e.g. a paper tablecloth. It is easier to be creative if it already looks nice from the beginning. If you do not have wall area, then use screens to create the vision on instead

The pupils can start from the question: - What do you think people do in Our sustainable city?

The vision can contain new inventions, new laws, new habits, new products, retained habits etc.

You can let the pupils photograph enduring phenomenon they want to preserve or improve, make models of new inventions, write poetry and comments, create pictures/ paintings of things they think will be found, write signs. Expand the vision of pictures

with explanatory text, symbols, signs. Let the pupils seek information on the Internet and in factbooks, by watching films and listening to the news. Stop everything occasionally to check how it is going and how far the pupils have got. If anyone in the group is nearly ready or needs help. When the vision is ready, have all the pupils talk about what they did on the collage. Spend lots of time on positive feedback.

consequences

Instructions for the planning matrix

consequences

Ask the pupils to sit down in front with paper and pens and think for a moment about the question.

- Which parts of the vision does your character like best? Based on these positive thoughts, the next task is to write a description of a day in the character's life in the future when the vision has become reality.

Let the pupils read out their descriptions in small groups. Pupils who want to can also read out their descriptions at the conclusion.

Based on the description above, each pupil then writes a speech bubble for their character. The speech bubble can open with the words "in our sustainable city..." and talk about one thing the character thinks is positive in the sustainable city.

Put up pictures (or photocopies) of the characters together with the speech bubbles around the vision.

Study the vision again. Ask the pupils if they are satisfied. Perhaps there is a detail they want to change or adjust? Try in this case, to allow them space for this so they feel that they have done their best and that they are entirely satisfied with the result.

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#### **Section 33: Yourself**

The pupils have hopefully got new insights and knowledge regarding the climate issue from their work. Now is the time to tie this to themselves and their own habits. Again, it is important to point out the positives. Ask the question therefore; what are you already doing now that is good? (when it comes to the climate) Each pupil gets to think and jot down. After that, let the pupils discuss in



small groups based on what each of them already does that is good. Presumably in these discussions, more things will come up that the pupils can add to their list of things they do that are good. Perhaps it can spur on others? When the discussions have been going on a while, have the pupils think about the question:

What could be the next step for you to make the vision come true? The pupils who want put up their own goals. Perhaps it is something they shall start to do or something they will give up doing.

#### **Section 34: Conclusion**

The conclusion is very important for a storyline. The pupils have worked intensively for a period and experienced themselves in their characters. Now it is time to say farewell to these characters. Storyline is very much

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built on thoughts about learning by talking to others and forcing oneself to formulate a personal understanding of a problem or an event in front of others. It is highly fitting therefore to now invite parents, the headteacher, the traffic office, local press, politicians and the environmental administratiors and others to talk about the work you have done. Starting from the pupils' suggestions on how you can relate to others what you have learned. Think about what message you want to give to those attending the conclusion. During the storyline, the pupils will presumably have given a lot of thought to climate change and what they themselves can do. Perhaps you can communicate these thoughts to the listeners as a list of things they do. Allow the pupils plenty of practice before the day so that they feel proud of what they have to tell. Discuss how to make the visitors feel welcome, how to behave when being a host at an occasion, what to say when people arrive, how to behave when classmates are presenting etc.

#### **Section 35: Evaluation**

When the conclusion has been carried out, it is time to evaluate the work. Begin by giving each pupil time to think through what they have learned from their work with storyline. Then let them discuss in small groups before raising the discussion to the entire class. Also help the pupils to see which subjects have been included.

- You say that you have learned to listen to others and make decisions – what syllabus/ subject is that part of? These reflections are very important since storyline's way to integrate different subjects often means that pupils actually do not know what subject they are working with. The subject integration works well in this way but it is still

important that the pupils see that they had their different subjects during the period. Helping pupils to understand the role of their subjects in the storyline can help them to see those subjects relevance in society. At www.trafikforlivet.se we have presented the targets for schools that we see the storyline can work towards. We have not done so for Colleges because the syllabuses will presumably be revised soon.

By all means document the work using a digital camera so you can let the pupils save their parts. If you work with pupil portfolios perhaps the digital pictures can work well if the pupils' work is part of a larger shared project. It is also important that you decide for how long the material that was created for the storyline should remain in the classroom. It sends a bad signal if the material remains there too long and is gradually destroyed. Decide when it should come down and remove everything.











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**Planning matrix** 

Planning	matrix

Storyline	Key questions	Activity	Organisation	Material	Result
1. The family		Place the pupils in groups.	Groups of 4-5 pupils		
	How can a family look?	Discussion in groups, which is then raised in the entire class	Groups Entire class		Understanding of the family concept
		Each group is tasked to create a family that lives anywhere in the city. It should be a plausible family that could be found in the city but not an actual family that already exists.	Groups of 4-5 pupils	Possible maps of Göteborg	
2.	Who do you want there to be in your family?	The pupils discuss who shall form a part of the family			Group discussion Training in decision making
č.	How do you want your character to look?	Each pupil makes a figure that represents a family member. See appendix 1 (no animals)	Individual	A5 paper, coloured pens, fabric, thread, glue, scissors Paper, blu-tack, ap- pendix 1.	Characters
4.	How do you want to describe your character?	The pupils make a personal description for their character First the pupils present their character in the small group so they have the chance to change and practise before a later presentation to the whole class.	Individual Groups	The characters and personal descriptions, appendix 2	Personal descriptions Oral presentation
5. The home	What different types of home can one live in?	Pupils discuss in groups and the discussion is then raised in the entire class	Family groups Entire class	Flip chart	List of house types
6.	What type of things can be seen on a residence?	Pupils write down as many things as they can think of. List in the entire class	Individual Entire class	Paper and pen Flip chart	List what can be seen on a house
7.	How do you imagine your family's house to look?	Pupils create a house in collage technique. One floor is as high as half an A4 (lengthways)	Family groups	Coloured paper, large sheets for garden, scissors, glue and other creative materials	Residence
ώ	How can you tell that it's your family living in the house?	Pupils have time to add details to the house to show that it's their family who lives there.	Family groups	Coloured paper, scissors, glue & creative material, blu-tack	To express oneself using pictures
6	In which area does your family live?	Pupils study maps of the city and decide where the family lives. A big city-map is put on the wall. The houses are placed around and strings are drawn from the house to where it lies on the map. Each family presents itself and its house. Each pupil holds up their character and talks about them. When the presentations are ready, the characters are placed on a common background together with the personal descriptions.	Family groups	Maps of Göteborg See link library at www.trafikforlivet.se	Map knowledge Oral presentation
10. Every day travel	What different types of vehicles are there?	Open discussion and list. Boat, car, bicycle, plane	Entire class	Paper and pen, flip chart	Vehicle list
11.	What vehicle do you think is reasonable for the family to use every day?	Pupils make vehicles that are placed on the wall - everything from trams to bikes and cars	Family groups	Coloured paper, scissors, blu-tack	Economic discussion
12.	Who in the family sits where in the vehicle? (What do you think that is?)	Cut the characters out from the pictures and place them by and in the vehicles.	Family groups	Photo or photocopy of the pupils character	Vehicle and possible gender discussion
13.	What is your character's dream vehicle?	Let the pupils who want to (or everyone) make or cut out the character's dream vehicle and glue it onto a dream cloud which is also put up.	Individual	Newspapers, Internet, paper, scissors and blu-tack	Dream vehicle
14. Letter from the city		Distribute an introductory letter and climate information from the city		Letter and climate information - appendix 4-5	
15.	What do you think the letter means?	Discuss the letters contents so that all pupils understand that it is their characters/families who are invited to take part in the project.	Entire class		

Storyline	Key questions	Activity	<b>Organisation</b>	Material	Result
16.	What do you think is meant when talking about climate?	Discussion in groups of 3. Each group writes down what they think on paper. Raise the groups' definitions in the entire class Agree on a definition that you put down on a large sign on the wall.	Groups of 2-3 pupils Entire class	Paper and pen Any factbooks or Internet	Discussion, Hypothesis formulation Climate definition
Meeting 1		Meeting 1:  Put the pupils in family groups again. Let each character write a name badge, which is put on the table.  Everyone is welcomed; here we have the Jacobsson family with their children Anna and Pelle etc. Give each family a little commentary and ask them some questions as if it were real. For example. How does it feel to be chosen?  The city's personnel (one of the teachers) talks about the background to the project and explains the greenhouse effect and carbon dioxide emissions.	Family groups Entire class	Appendix 3 Document from the Traffic and Public Transport Authority's brochure Extreme weather in Göteborg Why not watch an episode from SVT Play — See example in the link library at www.trafikforlivet.se Appendix 6	Greenhouse effect and climate information
18.	What does a normal weekday look like in your character's life?	Clarify that it is important for the project to get to know the families and their habits  The families fill in a time logbook	Individual/family groups	Appendix 7	Time and log book note
.61	How do you think your characters got to the meeting in the city centre today?	Entire class discussion. Examine what alternative methods of transport to the car are available from the characters' home. Refer also to the families' holiday trip (see the personal descriptions) and how they got to the meeting.	Entire class	Internet Västtrafiks website www.trafiken.nu Calculate the carbon dioxide emission using SJ's environmental calculation. See link library at www.trafik- forlivet.se (instructions in appendix 10)	Knowledge about public transport and possible choice of method of transport and how to find information about these. Insight about the choice of transport's importance for carbon dioxide emissions
20.	What does a person need to survive? What does a person need to live a good life?	Pupils get to discuss the questions in groups first and then in the entire class. List their suggestions.  Next ask them to individually write down the five most important suggestions on paper. Thank the pupils for the meeting and and make a new list based on the papers handed in by the pupils. Save this list to section 30	Groups Entire class	Paper and pen, flip chart	Think about quality of life
21. Climate ef- fect Meeting 2	What does your character do that affects the world's climate?	Meeting 2: Greet the pupils. Everyone writes notes individually	Individual	Paper and pen	Individual reflection about the dimate
22.	What do people do in our city that affects the world's climate?	Place the pupils in new same-age groups of 4 pupils (based on the characters¹ age) The group draws and writes so they have a picture of how they think that people in the city affect the climate.  Then new cross groups are formed with a member from each group of four. The cross groups go to a picture each and the pupil who represents the picture explains what the picture portrays.	Same-age groups of 4 Cross groups	A3 paper (or larger) and coloured pens The groups' pictures	Group work, picture presentation Group discussion, argument, oral presentation contd. see next page

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Storyline	Key questions	Activity	Organisation	Material	Result
		Raise the discussion in the entire class. Add anything that comes up and find out about anything you are unsure about. Clarify for the pupils that if they come to think of, or find out about anything else, they can add it later. Discuss the transports' importance based on the families latest holiday trip and their daily logbook	Entire class	The groups' pictures + space for additions, factbooks and Internet	Knowledge about people's climate effect
23. The prize	What would the family want to do if they won SEK 50,000?	Put up appendix 9 in the classroom.  Inform the families that they can win SEK 50,000. Let the families produce a budget for how they would want to use the money.  Hold a prize giving where the successful families go forwad to collect a cheque and be interviewed about what they want to use the money for.	Family groups	Appendix 9 Any computers, calculation programme Paper and pen Prizewinners cheque	Economical estimates, consequence discus- sions
24. What can be done? Meeting 3	What should be done to reduce climate effects?	Meeting 3: The groups brainstorm and try to come up with as many suggestions as possible. Raise the groups' suggestions in the entire class and write them on the flip chart	Groups of 4 Entire class	Paper and pen Flip chart	Suggested actions
25.	Who do you think should do the things you suggested?	Put all the strips with the pupils' suggestions in one pile. Try to structure the pupils' suggestions on the wall under headings such as members of the public, politicians, shopkeepers. Let the pupils go forward in twos and pull out a proposal and place it up on the wall under the suitable heading. If the suggestion is suitable under several headings, ask the pupils to duplicate the strip so they can put it up under those headings. During the discussion more sugestions will surely come up. Make sure that even they are written down and put up.	Entire class	Blu-tack, strips from the flip-chart above, pens and paper Possibly Internet, fact- books, telephone	Understanding of who can do what in our society.
26.	Which of these things will be easy/hard to implement?	Discuss and move the signs so that you get a sliding scale from easy to difficult things to do. Allow time for the discussion.	Entire class	Signs on the wall + a scale from easy to hard	Understanding that different changes have varying degrees of difficulty to implement
27. Consequences	Which of these suggestions do you think would mean the most for the climate? What do you think the suggestion will mean for your characters?	Meeting 4: Allow the pupils to walk around holding their characters and try to find another character who they think their character would get on well with. The pupils then sit in these new pairs  Let the pairs choose the most important suggestion.  They should now discuss the suggestions' consequences for the characters in the room.  Raise the discussion in the entire class. Ensure that you get both social and economic consequences, both positive and negative.	Entire class Pair Pair Entire class	Characters Flip chart Poss. appendix 8	Discussion Consequence analysis
28.	What do you think the suggestions will mean for the city/world?	Raise the discussion to society level and discuss the different suggestions (section 25) based on the consequences for society and the world.	Entire class	Possible world map - any Internet con- nected computer, computer projector and GoogleEarth	Understanding of greater perspective
29.	Do you think that the suggestion means positive or negative consequences for your character?	Choose some suggestions under Politicians (section 25).  Carry out "stand on the line" exercises based on one suggestion at a time. Let the pupils discuss in pairs first, then in groups. Repeat the exercise with more suggestions.	Entire class, pairs, groups		Reflection

Rosult	Think about sustain- able solutions	Vision	Reflection	Reflection Pride Target document	Discussion about how to explain to others	Reflection Insight about their own knowl- edge-construction.
Material	The list from section 20 Paper and pen Flip chart	All materials pupils can consider to have use of. Paper tablecloth, coloured paper, glue, scissors, thread, fabric, corc, cardboard, bottle tops etc. Maps, Factbooks, Internet, films, articles and other material that can help pupils in vision work	Paper and pen	Paper and pen		Paper and pen Flip chart
Organisation	Entire class Individually Groups Entire class	Entire class Group according to interest	Individual Small groups Entire class	Individual Small groups Individual	Groups of 3-4 pupils Entire class	Individual Groups of 3-4 pupils Entire class Entire class
Activity	Meeting 5: Welcome the pupils to the fifth meeting. Explain that you will now focus on how people want the city to be in the future. Re-establish the list about what people need to live a good life.  Ask the pupils to think individually for a moment. This question is difficult so allow them to have quite a bit of time.  Then let them discuss it in groups.  Raise the discussion in the entire class.	Explain to the pupils that you will make a vision of "Our sustainable city". Divide the pupils into new groups where each takes care of their part. e.g  Transport — personal, Transport — goods, Waste and recycling Food — from where, what type Consumption — services, Consumption — goods, Heating — Energy type, Household energy, Manufacturing Other  The vision can contain new inventions, new laws, new habits, new products, retained habits etc.  Let the pupils photograph enduring phenomenon they want to preserve or improve, make models of new inventions, write poetry and comments, create pictures/paintings of things they think will be found, write signs with text. Expand the vision of pictures with explanatory text, symbols, signs.	Ask all the pupils to describe a day in their character's life when the vision has become reality.  Let the pupils read out their descriptions in small groups. Each pupil then writes a speech bubble that is put up around the vision together with a picture of the character.  Admire the vision	Each pupil gets to think and jot down. Discussion in small groups about what each of them already does. Perhaps it can spur on others The pupils who want put up their own goals.	Discuss the question in small groups and raise the suggestions to the entire class. Invite parents and explain about the work. Also invite anyone from the environmental administration and/or Traffic office or any local players within the car/technology industries.	Individual reflection Conversation in small groups Reflection in entire class. Help the pupils to see which school subjects have been represented during the work.
Key meetions	- How do you think that we can create a city where people's most important needs are catered for without negatively affecting the climate?	What do you think people do in "Our sustainable city"?	Which parts of the vision does your character like best?	What are you already doing now that is good when it comes to the climate?  What could be the next step for you to make the vision come true?	How can we inform others about what we have learned?	What have we learned during the storyline? What subjects have we worked with?
Storvline	30. Our sus- tainable city, Meeting 5	31.	32.	33. Yourself	34. Conclusion	35. Evaluation

## Collage figure Appendix 1

One of the cornerstones of the instructive method behind storyline, is that the teacher should always ensure that pupils have a clear structure for what they are doing. A structure that helps them and gives them the freedom to create something of their own, without feeling unsure and frustrated. Here is a clear example of what such a structure can be.



The pupils will create characters in the form of a collage figure. A sheet of A5 is the size of an adult man. It is easier to handle the character if you choose some thicker paper or



The head is drawn as a circle/oval on the



The body, arms and legs are cut cut out of fabric and glued on.



The fiigure has string for hair. Encourage the pupils to "say more" about their characters by adding headgear, jewellery, belt etc.



Cut out the character as close to its outline as possible.



If pupils want they can bend the arms and/or legs simply by cutting them into two parts.

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The face and hands/gloves are drawn using coloured pens or ink pens. Feet can be drawn or be cut out of fabric.



The characters that the pupils create are entirely different from the teachers original. In other words, it is not about giving them strict limits but an open structure.

#### Personal description and name badges Appendix 2-3

#### Personal description

Appendix 2 Available for download in Swedish at www.trafikforlivet.se

Name			
Age			
Occupation			
Interests			
Characteristics			
The family's last h	oliday trip		
Other			

### Name badges

Appendix 3 Available for download in Swedish at www.trafikforlivet.se



**Rut Renberg** 



Göteborg 02-03-2007

#### Dear Göteborger

In Sweden we release more than 6 tonnes of carbon dioxide per person every year. The world's researchers are united that the climate issue is one of the most important issues we face. To see how we can work to prevent the increased greenhouse effect, the city of Göteborg has decided

- what opinions people in Göteborg hold regarding the climate issue
- what do people need for them to reduce their climate influences.

It is important that we all realise that it is not too late! There is still time to do something about the climate issue, but it now requires strong resolve!

Sweden's government has decided that we must reduce our carbon dioxide emissions by at least 20 % by 2020. If countries outside the EU decide to reduce their emissions by more than 20%, the EU then promises that it will reduce by 30 %. According to the IPCC (Intergovernmental Panel on Climate Change), by 2050 a reduction by a full 80 % is needed to stop the increase in the percentage of greenhouse gases.

We in the city of Göteborg think a great deal about to go about it and have taken the initiative therefore with a project where we bring together some randomly chosen families to try to learn about how people of different ages in Göteborg think and act.

Your family is therefore invited to take part in the project. We plan to meet five times during

Welcome!

Rut Renberg City of Göteborg

> Available for download in Swedish at www.trafikforlivet.se

#### **Climate folder** Appendix 5



#### Do you want to reduce your contribution to the greenhouse effect!

Växthuseffekten ger extremt väder i Göteborg Dina val gör skillnad

Small everyday actions have contributed to the increased greenhouse effect and therefore small changes in your routine also make a difference in slowing global warming. The emission of carbon dioxide depends directly on how much fossil fuel is burned. Below are some examples of firm choices you can make regarding the traffic to reduce your contribution to the increased greenhouse effect.

The brochure is available in two versions, the blue one is suitable for younger pupils, or pupils with learning or reading difficulties.

#### You can print off both versions in Swedish from our website www.trafikforlivet.se



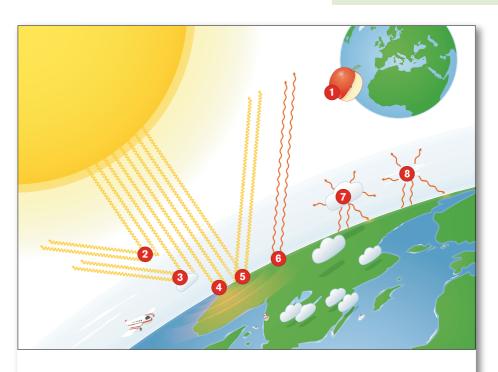
Växthuseffekten ger extremt väder i Göteborg Jordens klimat rubbas soft visitret i Götteborg blir annorunda, Trafikan är en av de

24



Dina val gör skillnad

NYA VÄGVANER



#### The Greenhouse effect

The atmosphere is vital for life on Earth. It is what allows us to breathe and it protects us from harmful UV light. The Earth is insulated through the natural greenhouse effect, giving us a pleasant climate. Without this natural greenhouse effect, the Earth's average temperature should be around –18° C.

- 1. If the Earth were the same size as an apple, the atmosphere would be the thickness of the apple's skin.
- 2. The atmosphere reflects a little bit of sunlight.
- 3. A bit of sunlight is reflected by clouds.
- 4. The sun's rays strike the Earth, are absorbed and warm up the surface.
- 5. A bit of sunlight is reflected by the ground, oceans, snow and ice.
- 6. Warmth from the Earth's surface radiates out into the atmosphere as heat radiation (infrared radiation).
- 7. Cloud, steam and greenhouse gases absorb a bit of the outgoing heat radiation and reflect heat back towards the ground. In this way, the Earth's temperature is increased. This is the so-called greenhouse effect.
- 8. Of course the more greenhouse gases in the atmosphere, the stronger the greenhouse effect, so more radiation is reflected back, warming up the Earth. This leads to a change in the climate.

Available to download at www.trafikforlivet.se as a pdf file in Swedish or as a powerpoint file with speech manuscript.

## Time logbook, consequence description and placard

Appendix 7-9



#### **Time logbook**

Appendix 7 Available for download in Swedish at www.trafikforlivet.se



The Climate Institute invites you to

# A BIG PRIZE COMPETITION

By suggesting how they would use SEK 50,000 without increasing their carbon dioxide emissions, families can win that amount.

Win SEK 50,000

Submit a competition allowance in the form of a budget of SEK 50,000 to the competition committee no later than xx/xx 200x



#### **Consequence description**

Appendix 8 Available for download in Swedish at www.trafikforlivet.se

#### **Placard**

Appendix 9

Available for download in Swedish at www.trafikforlivet.se. The text and date can be changed in the file if so desired.



On www.trafikforlivet.se you will find	English	Swedish
General information about the Storyline method	Х	Х
All our Storylines	Х	X
Link library related to each Storyline		X
Examples of our other teaching material		Х
Our courses		X

#### The Traffic for Life CD contains (only available in Swedish)

- General information about the Storyline method
- All our Storylines
- Inspirational material based on our work in schools with Storyline
- 'Mulitimedibyrån's' video and sound editing courses
- Examples of our other teaching material

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