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Clean Air

CLEAN AIR CURRICULUM AS A BASE FOR CLEAN ENVIRONMENT

M5 - Education about clean air protection

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Module 5 – EDUCATION ABOUT CLEAN AIR PROTECTION

1. Education in the field of air protection
2. The goals of anti-smog education
3. When to educate?
4. The rules of good ecological education
5. Education of children and school youth
6. How to teach about smog?
7. Methods and forms of work on the lesson
8. Other ways of education
9. Good practices
10. Links

1. EDUCATION IN THE FIELD OF AIR PROTECTION

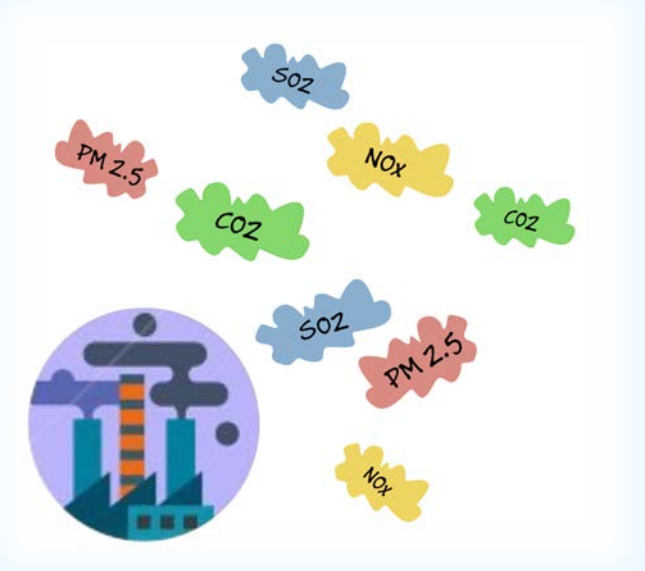
The air is part of the environment that knows no borders, and it is necessary for the life of all people. That is why its quality and influence that everyone has for its purity is not without significance. The protection of air quality is very important for the health and comfort of life of both present and future generations.

Fighting with smog is an ideal topic for an educational lesson nature lessons, biology of chemistry or geography, and even entrepreneurship! Smog unfortunately has a negative impact on so many areas of life that you can talk about it on many occasions.

Talking with students with low emissions, should use **data and facts** that speak for themselves - air pollution is a problem that can no longer be underestimated. If at the preparatory stage for the lessons you need substantive support, knowledge, information about low emissions, we encourage you to use the materials available on the websites to which the links are placed at the end of this module.

For many years, there is a belief in societies that the industry operating in a given area is responsible for air pollution. The notion of pollutant emission is inherently associated with high chimneys of industrial plants and such a picture is even transmitted to children in schools. In fact, the inhabitants of cities and villages in the heating season emit into the air significant amounts of pollutants such as **PM10, PM2.5,** dioxide or hydrocarbons, as well as benzo (a) pyrene.

The biggest exceedances of pollution standards occur due to the combustion of solid fuels in domestic stoves and boilers combined with pathological waste burning, as well as due to the increasing number of Vehicles traveling on the road.
Turned on boilers and stoves in the heating season correspond to almost 60% of the concentrations in the area of occurrence of exceedances for particulate matter **PM10** and 74% for benzo (a) pyrene.



Changing this state requires extensive environmental education concerning air protection. Raising public awareness of the impact of the air condition on health and the impact of each person on air purity is necessary to achieve the desired effects and change the situation in the perspective of several years. Achieving this is one of the goals of effective environmental education.

The problem of air pollution is discussed more and more often in the media and breaks into public debate. The next action we must therefore take the environmental education of children and youth.

2. OBJECTIVES OF ANTISMOG EDUCATION:

- **Indication of the reasons why air should be protected** and the ways in which it can be done (sensitization to problems related to air quality already in education of children and youth),

- **Developing the ability to perceive phenomena** related to air quality, including the impact of actions and decisions on air quality, the effects of exposure to airborne pollution and appropriate response in such situations (where to get information on air quality and what daily activities and choices affect the amount of pollutants in the air ?; how to monitor the actions taken in your area?

- **Shaping the emotional attitude towards air protection**, including the influence of air that is breathed on the health of children, the elderly and the general public, on destruction historic buildings for the degradation of the environment in which everyone lives,

- **Forming and strengthening positive social beliefs and attitudes** based on awareness of the impact on health and comfort of life and the ability to influence the state of air in his place of residence through a social attitude and giving examples in the field:

○ *the impact of waste incineration in household stoves,*

○ *combustion in low-efficiency devices,*

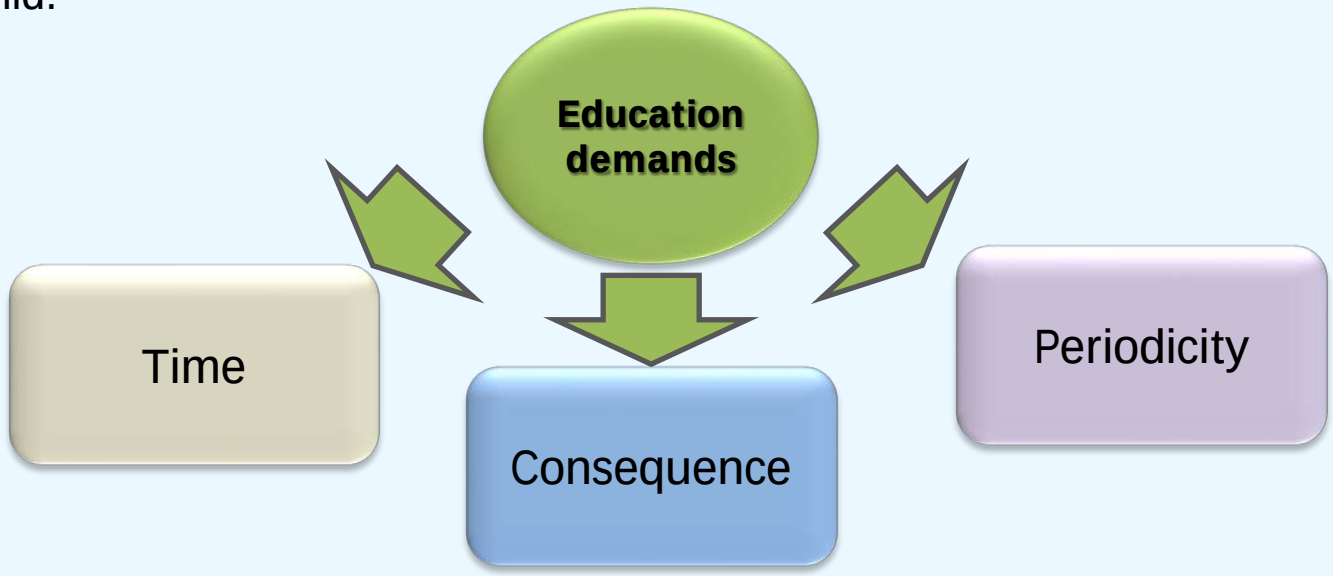
○ *the principles of efficient use of fuels and ways to reduce the consumption of thermal energy,*

○ *promoting behavior aimed at giving up the car for communication collective, bicycles,*

○ *the principles of social responsibility and responding to inappropriate behavior, e.g. neighbors.*

3. WHEN TO EDUCATE?

Ecological education, in order to bring results, must be an action planned for years, because it requires a change in the way of thinking and behavior of the general public. You can compare it to raising a child.



TIME

- Changes of consciousness take place over generations
- You can not expect an immediate effect

CONSEQUENCE

- "Attacking" information from various websites
- Repeating the same content repeatedly

PERIODICITY

- Continuous work
- Appropriate graduation of the messages

4. RULES FOR GOOD ECOLOGICAL EDUCATION

Always, everywhere and for everyone. Education can not be limited to learning at school or kindergarten. It also takes place at home, during leisure time, at work. It must have various forms, gather children of all ages, as well as all communities with different material status, different intellectual and communication possibilities.

Open to cooperation between people and institutions. The communication and cooperation between here is important all people and institutions in the surrounding. The involvement of as many institutions, organizational units, partners (including the media) as well as administrative bodies is crucial to the broad impact of the information provided.

The goal of education is not just to provide information but to strengthen the ability to learn about and influence your environment. Shaping the ability to make informed decisions, realizing their consequences.

The right order

in the case of longer educational meetings, for example during classes, "cleaning the world", green schools and etc., it is important to properly use the time of education.

The right theme and action

- the theme of the campaign and message must be carefully chosen.

Communication through images

- using a picture (film, poster, animation, presentation), supported by text, can be more effective for the recipient of the message.

Educating educators

- education in the field of air protection should in the first place take into account the transfer of information and the creation of strong motivation in people who will direct it to other recipients.

Motivation, not learning

- the main task of environmental education is to develop the will to act, the need to change habits.

Simplicity

- educational campaigns to be effective, arouse interest and memorize should be based on simple slogans and messages.

5. EDUCATION OF CHILDREN AND SCHOOL JUNIORS

This group is important due to the transfer of pro-ecological behavior from school to the level of the family and the early development of attitudes of responsibility for air quality.
Education of this group will bring results in a long period of time, so it should be conducted in parallel with other activities of active education.

5. EDUCATION OF CHILDREN AND SCHOOL JUNIORS – cont.

The current actions and activities within traditional school subjects should be strengthened by means of other actions and materials, more based on active education than on information transfer, including:

- **building awareness** of the harmful effects of pollution contained in the air how we breathe, health and environment (indicating what pollution it is, how it arises and where it is, how it can be recognized in the air and how the children themselves influence the fact that these pollutants arise and how green is destroyed by acid rain);

- **indicating positive and negative behaviors and attitudes** that affect protection air, i.e. how our conduct affects air pollution, but also for its protection. Building these attitudes and behaviors is to take place through active play, workshops, showing examples and activities in the outdoors,

- **realizing that everyone is responsible for the state of air quality** in their environment a man, without referring to the global scale, but to his own backyard, family, friends, neighbors and pointing out responsibility for reacting to the actions of other people;
  The key role in this case is played by teachers shaping the life attitudes of children and youth.

As part of such education, **students should learn**, among others:

1. What pollutes the air ?
2. Solutions for the clean environment
3. Impact of the pollution on the men health
4. Prevention against air pollution

At the same time, however, this education must be based on ethical values and principles that are the real foundation of social life. "It should be the effect of a coherent impact on the cognitive and emotional spheres and on the attitudes of young people. At the early stages of education, the most important thing is to include in the curricula elements of reflection on norms and values in social life. Later, the reflection should include social, political and economic phenomena, including legal regulations and codes of professional ethics "- we read in the core curriculum.

We would like the effect of the education was not only an increase in knowledge about pollution and the hazards associated with it, but above all a change in students' attitudes towards this phenomenon. Therefore, an integral element of anti-smog education is the proposal that they try to influence the attitude of their peers and adults familiar with smog, breaking the feeling of helplessness and hopelessness for the opportunity to improve air quality (posters, organizing school days, happenings, campaigns, etc.)

To what **changes we want to bring**:

- change of awareness about the smog in the group to which we turn
- expanding knowledge and acquiring new skills
- more active involvement in the problems of environment protection

6. HOW TO LEARN ABOUT SMOG?

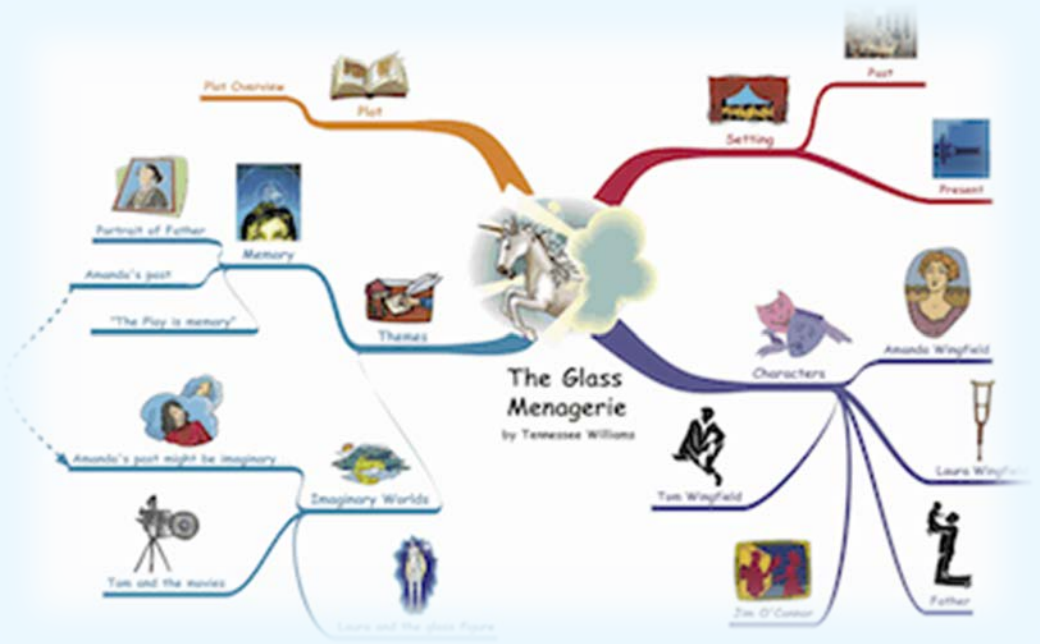
Using **activating methods** in lessons, which:

- increase the effectiveness of teaching,
- make classes more attractive to the student,
- increase his interest in the topic discussed in the class,
- they trigger curiosity and greater involvement of students

7. METHODS AND FORMS OF LESSON

- Mind map
- Fish bone
- Metaplan
- 6 hats of de Bono
- Debate, e.g., Oxford
- Brainstorm

The mind mapping - Mind mapping is a visual form of note taking that offers an overview of a topic and its complex information, allowing students to comprehend, create new ideas and build connections. Through the use of colors, images and words, mind mapping encourages students to begin with a central idea and expand outward to more in-depth sub-topics



Fishbone diagram is a visualization tool for categorizing the potential causes of a problem in order to identify its root causes.

The name of the technique comes from a shape resembling a fish skeleton. Also known as a "scheme of causes and consequences". It is used to identify the factors responsible for the problem.

A fishbone diagram is useful in brainstorming sessions to focus conversation. After the group has brainstormed all the possible causes for a problem, the facilitator helps the group to rate the potential causes according to their level of importance and diagram a hierarchy. The design of the diagram looks much like a skeleton of a fish. Fishbone diagrams are typically worked right to left, with each large "bone" of the fish branching out to include smaller bones containing more detail.

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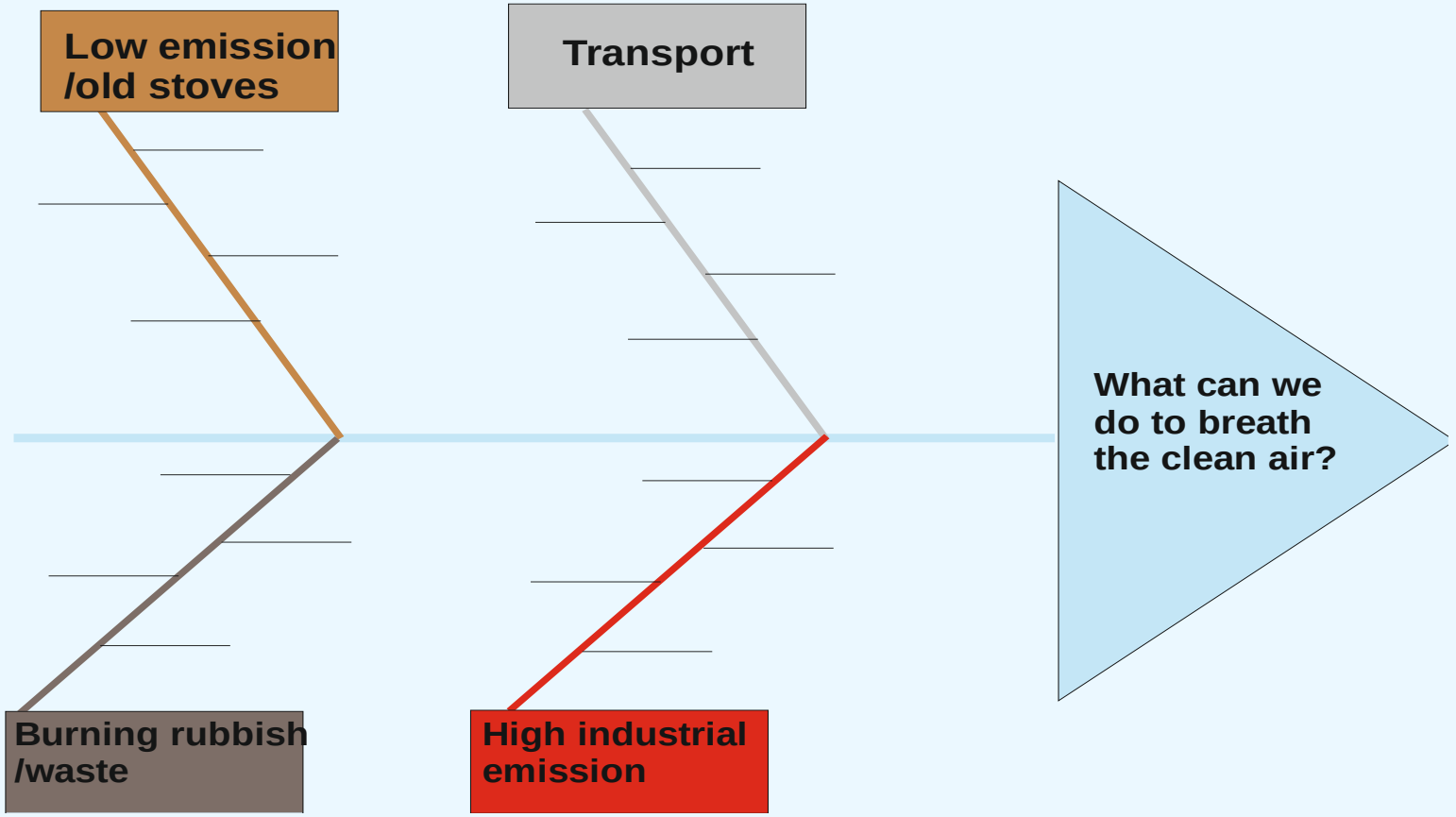

Metaplan - it is a method of graphically presenting the course of the discussion, during which the students analyze the given issue and seek a common, optimal solution before making a decision.

This method:

- *promotes the development of the ability to analyze, evaluate facts, the courts and propositions of the opposite party's solutions,*
- *prepares own point of view, arguments and defense of own opinion.*
- *gives the opportunity to listen and take into account the views of other people, activates all students, allows for the exchange of ideas.*

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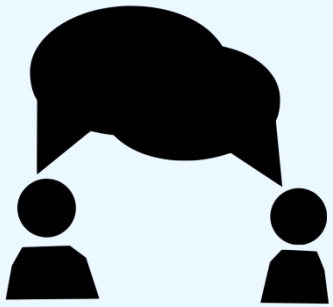
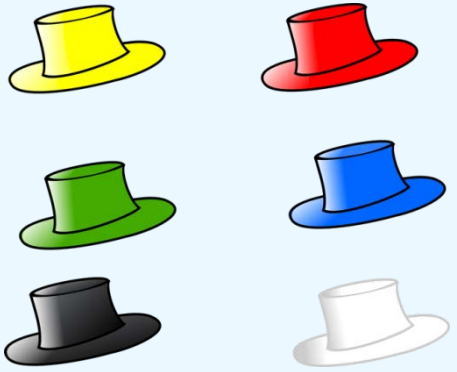


A PROBLEM THAT NEEDS CONSIDERATION

- HOW IT IS NOW?
- HOW IT SHOULD BE?
- WHY IT IS AS IT IS?
- WHAT SHOULD BE DONE TO IMPROVE THE SITUATION?

Six Thinking Hats by Edward de Bono - is a model that can be used for exploring different perspectives towards a complex situation or challenge. Seeing things in various ways is often a good idea in strategy formation or complex decision-making processes.

Model is designed to help individuals deliberately adopt a variety of perspectives on a subject that may be very different from the one that they might most naturally assume. In wearing a particular thinking hat, people play roles, or "as if" themselves into a particular perspective. For instance, one could play the devil's advocate, even if only for the sake of generating discussion. The purpose of devil's advocacy is to deliberately challenge an idea: be critical, look for what is wrong with it.



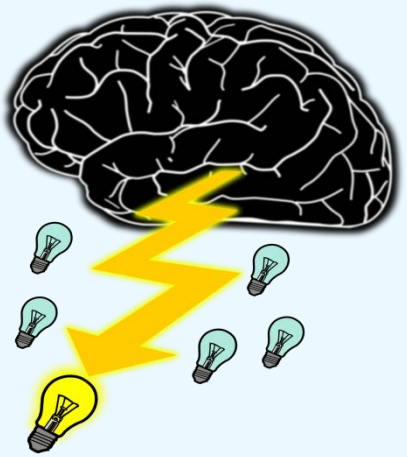
Each of the Hats is named for a color that is mnemonically descriptive of the perspective one adopts when wearing the particular hat. For example the devil's advocacy is what one engages in when wearing the Black Thinking Hat.

The 6 hats and the perspectives they represent are:

- **White (Observer)** White paper; Neutral; focus on information available, objective FACTS, what is needed, how it can be obtained
- **Red** Fire, warmth; EMOTIONS, FEELINGS, intuition, hunches; present views without explanation, justification
- **Black,** Stern judge wearing black robe; judgmental; critical; why something is wrong; LOGICAL NEGATIVE view.
- **Yellow (Self, Other) Sunshine; optimism;** LOGICAL POSITIVE view; looks for benefits, what's good.
- **Green (Self, Other)** Vegetation; CREATIVE thinking; possibilities and hypotheses; new ideas
- **Blue (Observer) Sky;** cool; overview; CONTROL of PROCESS, STEPS, OTHER HATS; chairperson, organizer; thinking about thinking

Oxford debate (University debate) - a kind of debate in which it is strongly forbidden to insult or ridicule speakers of the opposite party. The task of the debate is to discuss the thesis. The opponents of the thesis and its advocates debate. They are presided over by the marshal, who has the secretary to watch over the time and order of statements. The type of debate comes from the University of Oxford

Brainstorming - a technique derived from social psychology, which aims to improve group decisions. Brainstorming is also a form of didactic discussion, used as one of the teaching methods.
It is then included in the activation methods,
which is a subgroup of problem methods.
One of the so-called heuristic methods.



Therefore, work with young people should be an opportunity for introducing discussions during lessons, creating a space for exchanging opinions, stimulating reflection and triggering curiosity and creativity of students. This is more valuable than simply transferring encyclopedic knowledge.

8. OTHER WAYS OF EDUCATION

- Happening about segregation of garbage and burning with proper fuel, local action (campaign) making residents aware that their level of smog depends on their behavior.
- Open days in a waste incineration plant, for example
- Exhibitions,
- Competitions:
- For posters,
- On stories,
- For movies,
- For comics related to smog

These are tasks that not only increase knowledge and awareness about air pollution, but also perfectly unite students about the fight against smog and bring tangible benefits for their development. It is also to teach children social sensitivity and cooperation

9. EXAMPLES OF GOOD PRACTICES

Public Junior High School Scoutmaster Michał Stefan Lisowski in Czemierniki

Project group: 6 people

The group from Czemierniki wanted to check what their neighbors know about low emissions. So she conducted a street survey and talked to 54 people. It turned out that most people encountered did not understand the term. In this situation, the group decided to prepare two events - a field game, which will allow to get acquainted with this subject in a pleasant way and a speech during a meeting with parents, when they personally provide adults with knowledge about taking care of clean air.

Wanting to prepare well for this task, the group arranged interviews with people who

they are dealing directly with the issue of air cleanliness. They met, among others with the parish priest, who modernizes the buildings of his parish and is increasingly using renewable energy sources. They also talked to the owner of a small bakery and found out how this small company limits its low emission. They were also surprised by one official who for 40 years has commuted to work by bicycle. The knowledge gained allowed them to prepare interesting questions for the game. What's more - during the game, the youth involved the participants to interact with the passers-by, and thanks to the snowball effect on the subject of low emission, more than ten people learned.


POWIETRZE
TRUJESZ
ŻYCIE
MARNUJESZ

EXAMPLES OF GOOD PRACTICES

School name: Public Junior High School in Łagów

Project group: 14 people

The group from Łagów decided to focus on examining their immediate environment - their families - in terms of their impact on the state of air. Each person in the group was tasked with conducting a conversation with their mother or father about what they smoke at home in the oven and whether they sometimes smoke with garbage.

It turned out that 40% of families often throw rubbish into the oven and another 25% do it from time to time. In this situation, the youth decided to organize a speech supported by a multimedia presentation prepared together. They invited parents and grandparents to a meeting at school. About 60 people came. It was an opportunity to connect the topic of garbage smoking with an increased risk of cancer. After the presentation there was a discussion within which it was established that the youth would write to the local government a letter asking them to specify how it could help the poorest families to reduce the burning of the lowest quality fuels in the furnaces.


STOP NISKIEJ EMISJI!
ZROBIĆ ?

Other examples of good practices:

1. Name of the school: School Complex No. 2 in Pabianice
Action: Debate on sustainable transport

2. Name of the school: School Complex in Secemin
Operation: Petition

3. School name: Junior High School Jan Dobrogost Krasiński in Węgrów
Action: An awareness raising for parents

4. Name of the school: Public Junior High School No. 24 in Łódź
Operation: Meetings with local allies (Municipal Guard, Council of Settlements)

10. REFERENCES:

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