# GREEN SPORT AND GREEN ART FOR A GREEN EUROPE

# SUSTAINABLE ENVIRONMENTAL TRAINING KIT

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#### TRAINING KIT



# **1. INTRODUCTION**

"Human use, population, and technology have reached that certain stage where mother Earth no longer accepts our presence with silence."

The Dalai Lama

The current environmental situation in the world is very worrying – expert reports on the state of the world (e.g. Word Wide Fund for Nature – WWF):

- destruction of the natural world:
- climate change
- degradation of water, soil and air
- extinction of species of flora and fauna,
- drastic shrinkage of forest areas
- melting of glaciers.

It is very alarming how fast the destruction of the natural world is taking place

If nothing is done to prevent the aforementioned threats, it will end tragically. Therefore, it is so important to implement appropriate and sustainable environmental education Climate change and its dramatic consequences: Hurricanes Irma (Caribbean and Florida), Maria (Caribbean Islands, Dominican Republic, Puerto Rico).

#### 1.1.Why environmental education is so important in this day?

The prevailing view today is that the current climate change is mainly responsible for predominantly anthropogenic factors, that is, senseless responsibility, harmful the natural to environment human activity of man. Therefore, serious expert reports and scientific reports analyzing this situation sound the alarm, indicating the need for radical measures to prevent the rapidly progressing degradation of the climate, since there is no doubt that adaptation to changing climatic conditions will in the near future be many times more expensive than climate protection measures.



# 1.2. How to prevent climate change and its effects?

Today's press materials and daily television programs constantly feature information about the dire consequences of climate change, massive amounts of plastic and high levels of pollution. Individuals, however, do not feel responsible for this condition.

The impact of societies on the environment is a component of the influence of individuals and has a huge impact on the reality around us. Willing to respond to loud calls to reduce emissions and waste production, responsible and ebullient individuals can actively participate in positive change. They are often looking for tips on how to become more involved in the activities so that their efforts bring the greatest benefit to the environment.

However, it only takes a few small changes in our daily lives to reduce our carbon footprint and consumption levels, which, when translated into our entire lives and society as a whole, can have surprisingly good effects:

- through awareness of threats to the environment from human activities
- by implementing international and national climate policies and conducting those policies in a reasonable and sustainable manner
- the climate can be protected effectively only under conditions of international solidarity, sense of responsibility and cooperation between developed and developing countries
- by taking various measures of an engineering and technical nature, changes in production technology, active efforts of many scientific disciplines (natural, economic, legal)
- participation of humanities disciplines is very important





#### 1.3. Humanistic thought and ecology

The humanities bring evaluations and value judgments of our attitudes and behaviors towards the natural environment of an ethical, aesthetic, psychological, educational nature, and even religious:

- Human's behavior toward nature (beneficial or harmful to it) largely depends to a large extent on the level of his consciousness, professed system of values, cultural patterns, sensitivity, nature of upbringing etc.
- "Ecology is a deeply cultural matter" Kenneth White
- Environmental humanism
- Ecophilosophy
- Environmental ethics or ecopedagogy
- Eco-aesthetics
- Ecological psychology
- Ecotheology



This disciplines complement the natural, technical and legal sciences committed to environmental protection environment with a philosophical, axiological (ethical and aesthetic) dimension and educational and uplifting. These disciplines, referring to the world of values, make an effort to provide clear and convincing arguments in favor of opposing the further instrumentalization of human behavior towards nature and the formation of attitudes environmentally friendly attitudes. Consequently, they combine theoretical reflection with clearly emphasized practical ambitions.

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#### **1.4. ECOPEDAGOGY**

Ecopedagogy is the concept of educating and raising society in the spirit of respect for the natural environment in accordance with the motto think globally – act locally. Ecological education is also defined as a psychological and pedagogical process of influencing a person in order to shape his environmental awareness for future generations.

Ecologists study the structure and functioning of nature. They observe changes in the ecosystem and help develop environmental standards. Ecology is the search for connections between organisms. The goal is to feel responsible for the state of the planet and realize that everything comes from nature. In recent years, it can be seen that an ecological approach to various issues has become a fashion. More and more people are giving up buying plastic utensils, wearing second-hand clothes and "zero waste" mode, i.e. living without producing trash, are becoming popular. Most likely, this is not a temporary trend. Concern for the environment is a necessity, and the correct response to social campaigns allows for real change. The history of the ozone hole, which was a great threat to life on Earth in the 1990s, is a very optimistic sign for environmental action.

> Ecologically means logically.





The solidarity decision to eliminate freon and other harmful gases taken on a transnational level allowed a positive change, and today it can be said that the threat has largely diminished:

- building environmental awareness, attitudes and culture on an individual and social level
- aspires to develop strategies for educational activities aimed at the formation of new thinking regarding human-nature relations, ethos and pattern of individual and social life, desirable systems of values
- should be combined with practice and knowledge of environment

Without the participation and support of humanistic knowledge, it is impossible today to answer to a number of momentous questions and solve many of the most crucial key problems for environmental protection. Therefore, for the humanities border situation in which the modern world and civilization, poses a great challenge.

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#### **1.5. HOW TO TEACH ABOUT ECOLOGY**

How should it be taught to live in harmony with nature? We must impart knowledge to him according to his age. Even very young children we can teach ecological behavior. For example, if he no longer plays with a toy, it is worth offering to give it to someone else instead of throwing it in the trash.

A good way to learn about ecology is to set a good example. When shopping, it is a good idea to use a reusable bag.Drink filtered tap water instead of bottled water. By giving examples in this way, children develop good habits and learn to behave in an environmentally friendly way. An ecological upbringing develops sensitivity and social responsibility. It also fosters real savings and sustainable living. Communicating and sharing ecological principles

is a sign of concern for the future of future societies.

As adults, we should make every effort to create a safe world without the side effects caused by everyday human activities.



"What we know is just a drop. What we do not know is a whole ocean." - Isaac Newton

#### 1.6. How to celebrate Earth Day?

On April 22, we celebrate Earth Day, the largest international ecological holiday. This holiday was established in 1970 and is now celebrated in 192 countries. We have beencelebrating Earth Day in Poland since 1990. On April 22, 1970, 20 million Americans - then 10 percent. of the US population - to protest against environmental ignorance. This day is considered to be one of the greatest civic events in the world. He started a wave of activities, including the adoption of ground-breaking environmental regulations in the US (the Clean Air, Clean Water and Endangered Species Acts were created in response to this event). The Environmental Protection Agency (EPA) was also established. Later, many countries adopted similar laws. A little earlier, at the UNESCO conference in 1969, John McConnell spoke with the idea of the Earth Day celebrated all over the world. The idea was supported by the UN Secretary General, U Thant. On February 26, 1971, he signed the proclamation which designated the Spring Equinox as the moment when the United Nations celebrated Earth Day - March 20 or 21. In 2009, the UN General Assembly set a new date - April 22.



#### Collect garbage in neighborhood:



# Plant trees around you:

#### What more?

- Create a pollinator-friendly flower meadow
  in your garden
- Set up an insect hotel
- Avoid mowing the lawn
- Collect rainwater to water your garden
- If possible, give up the car in favor of public transport, bicycle or preferably walking
- Try to repair items instead of replacing them with new ones
- Remember to segregate your rubbish
- When shopping, use reusable bags, choose products in ecological packaging
- Save electricity, water and heat in your home
- Saving water a small reduction in water consumption per unit can make a real difference.
- When walking the dog, clean up your pet's faeces together with your child.
- When shopping together, we can explain to the child why it is important to buy fruit and vegetables and how to read the composition of the different products.





- Sorting out the rubbish can be fun!
- Choose eco-friendly toys and clothes.
- Pack your sandwich for school in a reusable breakfast bag, not in disposable paper or plastic bags.
- Buy and prepare as much food as the family can use.
- Picking up litter in the woods ploddging can be a great way to spend time in nature.
- Making toys out of cardboard, shoeboxes and other unnecessary items will allow creativity to flourish while encouraging the reuse of different things.
- Spending time outdoors, in the woods or in your own garden.can educate children about the environment by teaching them the names of plants and animals.

THE EARTH IS IN SUCH A CRITICAL STATE THAT A CHANGE TO A MORE **ENVIRONMENTALLY FRIENDLY LIFESTYLE IS ACTUALLY A NECESSITY. WE SHOULD** NOT BE TEMPTED TO BUY EVERY ECO **PRODUCT. SOMETIMES IT IS JUST A** MARKETING PLOY. FOR OUR ACTIONS TO **BE BENEFICIAL, WE NEED TO BE CONSCIOUS CONSUMERS - READ THE INGREDIENTS AND CHECK THE ORIGIN OF THE BRANDS WE CHOOSE.** IF WE WANT TO CALL OUR LIFESTYLE ECO, WE NEED TO TAKE CARE OF THE **ENVIRONMENT THAT IS OUR HOME. THIS IS WHY IT IS WORTH CULTIVATING THE ABOVE-MENTIONED ECO-FRIENDLY ATTITUDES.** 

# 2. THE CONCEPT OF MULTIPLE INTELLIGENCES

### "The measure of intelligence is the ability to change" Albert Einstein

IHoward Gardner, a professor at Harvard University, is best known in the scientific community as the founder of the theory of multiple intelligences. According to the American psychologist, standard measurements are not sufficient to determine a person's intelligence quotient. According to him, there are several types of intelligence, depending on the activity one is currently considering.

Previously, the sources of intelligence were traced solely to genetic factors. Intelligence was defined as the ability to plan, solve problems, learn new things. According to Gardner, intelligence is dynamic and multifaceted, so it cannot be said that only a person who manifests linguistic or logical abilities is intelligent. In the past, this was claimed, as these were precisely what was tested and evaluated in school. Professor Gardner, based on many years of research, distinguished eight basic types of intelligence.





# MULTIPLE INTELLIGENCES

#### 2.1. VERBAL INTELLIGENCE (LINGUISTIC, LINGUISTIC)

This is otherwise the ability to use words and language freely. People with verbal intelligence choose their words carefully, as they pick up subtle can in differences meanina between words, have a sense of rhythm and the sound of words. They use words for entertainment, information or persuasion. enjoy literature, They playing with words, enjoy participating in debates, and do well with written work. As a result of these skills, they do well in the professions writer. of journalist, publicist, lawyer, teacher, translator.





# 2.2. MATHEMATICAL AND LOGICAL INTELLIGENCE

People with this type of intelligence use logic, numbers, diagrams, and can relationships easily see and connections between information. Things that do not make logical sense are worthless to them. They tend to think abstractly and conceptually. inquisitive, systematic, They are thorough. They like to ask questions during school activities. They are well organized and use logical arguments. These skills are extremely important mathematicians. for bankers, physicists, chemists. doctors. engineers.



#### 2.3. VISUAL-SPATIAL INTELLIGENCE

People with this type of intelligence think pictorially, use maps, diagrams, tables, use imagination and images. These are the people who are sensitive to colors, shapes, patterns, they like to paint sculpt, draw, put puzzles together. We use visual-spatial intelligence when reading books. People with visual-spatial intelligence can often express the conviction that the screen adaptation of a particular book disappointed them-because it did not match the story they created in their imagination. These people do well in the professions of painter, architect, sculptor, pilot, tour guide, fashion designer, surgeon, mechanic.

### MULTIPLE INTELLIGENCES

#### 2.4. MUSICAL INTELLIGENCE (AUDITORY, RHYTHMIC)

People with this type of intelligence are emotionally sensitive, have a sense of rhythm, their sensitivity to sound is so great that they can hear and recognize sounds that are imperceptible to others, for example: a dripping faucet, birds singing, etc. These people know how to change their voice whether singing or speaking. They assimilate knowledge better when given a presentation than when they read a text on their own. They can reproduce a melody or rhythm after only hearing it once, and often hum something under their breath. It is not uncommon for them to work as musicians, singers, actors, instrumentalists.





#### **2.5. MOTOR INTELLIGENCE**

People with this type of intelligence like to move, dance, do various works with their hands. They communicate well with others using facial expressions typical gestures. They are and kinesthetics who learn through experience, have a good sense of time, are spatially organized, the sense of touch is very important in them. In lessons at school, they can't sit in one place for a long time, but fidget; instead, they like movement games, enjoy acting out thematic scenes. It is especially developed in athletes, circus performers, dancers, gymnasts, choreographers or hairdressers, whose main tool of work is their body. Usually such people combine two types of intelligence: motor and spatial.



#### 2.6. INTERPERSONAL (SOCIAL) INTELLIGENCE

People with this type of intelligence have highly developed sensitivity. They are aware of other people's feelings and use this in both positive and negative ways: to comfort, persuade or manipulate. They are very sociable people, have a predisposition to work in a team, as they are very communicative and have highly developed mediation skills. They have the ability to resolve conflicts and are well-liked. Often their ideas are used by others. They often work as psychotherapists, teachers, managers, doctors or nurses.

# MULTIPLE INTELLIGENCES



#### 2.7. 2.1.INTRAPERSONAL (INTUITIVE) INTELLIGENCE

People with this type of intelligence have high self-esteem, are aware of their own mechanisms. They choose the path of their lives themselves, thanks to their intuition, knowing what is best for them. Often this intelligence is referred to as introspective, as it involves focusing on oneself. Such people are often shy, like to work in solitude, are quiet, focused on themselves and their experiences. They are aware of both their strengths and flaws, and often follow a path of self-improvement. They are quiet, reflective and don't talk much. They work in such professions as philosopher, psychotherapist, theologian.



#### 2.8. NATURAL (ENVIRONMENTAL) INTELLIGENCE

People with this type of intelligence instinctively perceive relationships and connections found in nature. They have the ability to see details about birds, animals, clouds, trees, plants. They are eager to garden and understand animals. This type of intelligence characterizes people who care about nature's survival. They work as gardeners or veterinarians.

# 3.TWO NEW 320 340 Mining 340 TYPES OF TWO NEW 320 Mining 100 Minin INTELLIGENCE

### "There is no great genius without some touch of madness "

#### Aristotle

More recently, Dr. Gardner has expanded his concept to include two other types of intelligence, namely existential intelligence and moral-ethical intelligence.

#### **Existential intelligence.**

Its understanding and identification are difficult to describe in as rigorous a manner as the eight basic types of intelligence. Existential intelligence is associated with ultimate matters and greater concerns about spiritual life. Hence questions about the purpose of life, the origin of man and his fate after death. People with existential intelligence perceive energy and have access to information without being able to explain where they got the data. As it were, they intuitively take clues from people, surroundings, places, things and put them together.

#### Moral-ethical intelligence.

According to Dr. Gardner, it is difficult to clearly define this type of intelligence. However, the professor says that there is such a thing as a high sense of morality (not necessarily related to religion) understood as a kind of personality, individuality, will that has developed. This intelligence centers around the highest realization of human nature.

# 4.LESSONS' MODELS

"Anyone who keeps learning stays young "

#### Henry Ford

According to Gradner, each one of us is born with all types of intelligence with the fact that as we get older, some of them develop more strongly in us, others less so. Accurately defining one's own type of intelligence is very useful both at school and when seeking employment.

#### 4.1. 4MAT

4 Mat is a lesson model that was created and presented to the world in 1972 by Dr. Bernice McCarthy to help teachers plan and teach lessons taking into account differences in the way people learn due to the dominance of one brain hemisphere in the process of receiving and processing information. 4 Mat was developed as a result of research on fields such as education, psychology and neurology and based on the theories of David Kolb (1981, 1984, 1985), Carl Jung (1923), Jean Piaget (1970), John Dewey (1958) and Joseph Bogen (1965, 1975). It is a tool that will meet the needs of every student by allowing them not only to learn according to their dominant learning style but also to support those weaker ones. The lesson model that McCarthy came up with reflects a constructivist approach to teaching and learning:

- emphasizing the student's involvement and active role in the independent construction of knowledge based on interaction with the environment
- emphasizing the greater value of the learning process itself (reflection, interpretation, inference, investigation, problem solving, etc.) than the end result (student knowledge and achievement).



With her extensive teaching experience in all grade levels Bernice McCarthy has developed useful stragies and technices in the lerning process.

a) the assimilation and memorization of material (especially at an early school age) depends primarily on how the teacher presents and consolidates this material. Thus, the teacher has a huge impact on the student's success

b) people learn in different ways, and therefore knowledge of the physiology of brain processes, memory and its role in remembering and reproducing information is no less important for a teacher than knowledge of the subject with which he or she intends to familiarize the student. Leslie Hart, in his book "Human Brain and Human Learning" (1983), compares teaching without knowing how the brain works to designing a glove without knowing what the hand looks like

c) students learn best when they receive, process, and put information into practice in a variety of ways

d) students learn most effectively by doing things with others and when they see the opportunity to apply and adapt the knowledge they gain to their needs in everyday life

e) in a changing world, continuous learning will remain the only thing constant therefore 4Mat is the perfect tool that will allow anyone to learn anything.



# **4 MAT**



4 MAT consists of four parts (hence the name). The first part serves to arouse motivation and clarify the purpose of the work. The teacher can motivate by pointing out practical applications, curiosity, intrigue. This part refers to the students' previous experience. The skills they should demonstrate at this stage are: listening, interacting, speaking, connecting facts, referring to previous experiences. The ideal learning methods, in turn, are metaphor, narrative, fable, scientific experience, educational game, riddle, pun.

Another module is used to create concepts, convey information, create concepts about them, build knowledge. The role of visualization is very important here: charts, tables, presentations, mind maps, if the lecture is interactive or visualized precisely. And it is best to replace the traditional lecture or talk with storytelling elements. The student in this part of the class should observe, analyze, classify, theorize.

The next stage of the class is practice. Students experience, participate in something, practice combining theory with practice. This is the ideal time for activities that will cause our charges to take responsibility for their own learning. Team forms of student work will be essential in this part of the class.

We close the 4 MAT cycle by posing and verifying hypotheses. This is a time to consider new applications and possibilities of what we learn. By the way, we can develop students' critical thinking, question generation. The competencies they should now demonstrate are question posing, self-assessment, evaluation of their own and others' actions, design.

Of course, the order of the different phases of the activity can be different. Nothing prevents you from first setting up a hypothesis, verifying it during practical activities and, finally, drawing conclusions that will become the basis of new knowledge.

# **4 MAT**

TIN 4 MAT lessons, we reach every student with a multi-channel message. Auditory learners can be swept away by interesting stories and metaphors; kinesthetic learners work by touching, moving, creating; visual learners see and visualize the content being discussed. Let's remember that visual, auditory and kinesthetics are each of us, so while reaching all students, we also reach each individual as fully as we can . We also won't forget the type rarely referred to in our literature: writing – raeding, or "reader – writer". Finally, Model 4 MAT will make sure that our charges work both individually and in teams of various sizes, develop critical and creative thinking. For us teachers, it is a simple and effective tool for constructing lessons.



# 4.1. PROJECT BASED-LERNING

Working with the project method is a great educational situation for engaging students in the learning process - whether they attend the first grade of elementary school or are high school graduates. A well-planned activity will allow us to freely and interestingly implement the core curriculum, often tying the content of the curriculum to the daily lives and interests of children and young people. By working with the project method, they will gain knowledge, develop a range of skills (including social skills), as well as attitudes develop openness to learning, curiosity and discovery. The project method combines these most effective teaching practices, and represents the essence of what is most important in the learning process. It also allows our develop students to responsibility, self-control, communication, group cooperation, and project management skills. Moreover, it provides a safe space for making mistakes and learning lessons.



Effective Teaching Practices include:

- planning lessons and learning tasks,
- developing tasks with appropriate cognitive requirements,
- interaction and cooperation of students, working in pairs and groups,
- formative assessment, understood as monitoring students' progress and giving them feedback, and skillful questioning,
- stimulating student-oriented discussion,
- instructing students to frequently write down their own thoughts,
- regularly referring to students' thoughts, and regularly summarizing (metacognition),
- advanced projects in which issues are practically applied and integrated.



The didactic work should begin with a diagnosis, choose the goals and criteria for success, that is, what through the project activities should be achieved, as well as the skills of our students (experience in teamwork on a joint project) and ways to support them. At this stage you also need to:

- propose topics or invite students to propose them,
- · discuss possible forms of project implementation,
- form teams (by drawing lots or giving students the opportunity to decide),
- establish a plan for project activities (tasks, resources, needs, deadline for consultation and implementation),
- present the criteria for evaluation (not only the final result),
- discuss issues of compliance with copyright law.

# **PROJECT BASED-LERNING**



At this stage of project method work, the teacher's role is mainly to guide the process - to implement, inspire, support, remove blockers, advise. It is important that students can act independently. After completing the project activities, the students present the results, share what they have developed, and the teacher, above all, creates a space to undertake self-reflection (What did I learn? What new things have I learned/learned? What made me curious? What was a difficulty?) and group reflection (How was the group work? What was a good and what was a difficult teamwork experience? What could we have done differently?)



These are sample questions. It's a good idea to ensure the anonymity of self-reflection and create a safe environment for sharing thoughts from teams. A key moment is to give students feedback - it's important that this is not limited to an evaluation, and that students receive a longer message relating to the planning, implementation and presentation of activities. Sample topics:

- Walking through our city
- Mathematics in the architecture of my city
- How to take care of a healthy lifestyle?
- How to become a blogger?
- Online student film club
- How to study?
- How to plan your career?

- What would happen if there was no mitosis and meiosis?
- What do our class students spend their pocket money on?
- Portraits of female activists in literature
- Vision of the city of the future
- How are robots created?
- Will artificial intelligence take over the world?

# 4.3. INQUIRY-BASED LEARNING

It is an approach to learning that emphasizes students' questions, ideas and natural curiosity. IBL is a studentcentered approach in which the teacher guides students through the questions they ask themselves, the research methods they design and the data they interpret. Inquirylearning based is a pedagogical method that emerged in the 1960s as an alternative to traditional forms of teaching based on memorising information.

The philosophy of inquirybased learning (the socalled Dewey pedagogy), actively engages the learner in a variety of experiences in order to give them individual meaning.



#### 4.3.1. STAGES OF INQUIRY AT IBL

Here are the various steps that students go through in the IBL model:

- formulating questions;
- Designing a path to investigate the issue contained in the question;
- identifying and gathering relevant resources/sources;
- developing explanations based on evidence and scientific knowledge;
- sharing the procedures used and the results of the study;
- reflecting on the learning process and results.

Once the question has been selected, the teacher is tasked with facilitating the process of inquiry/exploration of the question by the students. It is important to plan the key steps in this process, set goals with students and provide some structure.



Here are some examples of "essential questions":

- How can we protect our oceans?
- What makes someone a good leader?
- How do our senses help us understand the world?
- What can art teach us about culture?
- How do people influence their environment?

WHAT ARE THE CHARACTERISTICS OF THIS MODEL?

#### The role of the student and the teacher

In IBL, the student plays a central role and the teacher acts as a guide/advisor. However, the learning experience itself is "driven" by the students, as they generate the questions, which they then research, analyze and discuss to find the answers. The teacher, however, must be in control of these processes.

#### Increased engagement and thus higher motivation

For many students, the traditional approach to classroom activities causes boredom and lack of engagement. When students know that their own ideas are being implemented and they receive regular support and encouragement from their teachers, their motivation, level of engagement and thus willingness to learn increases.

#### **Seeing the connections**

IBL has the advantage of not being limited to one subject. By focusing on important ideas, students' questions lead to knowledge in several subject areas. As students go through the inquiry process, they discover connections between subjects they never imagined existed; thus, they better understand the complexity of the world. This model promotes an interdisciplinary approach to learning.

#### **Developing curiosity**

Curiosity is a natural human trait. From birth, people have a natural tendency to be curious in learning about the world. It is important to maintain and develop this curiosity. Replacing simple observations with students asking questions about what they observe around them develops their curiosity about the world. Nurturing students' natural curiosity generates further questions and engages students. The IBL model provides students with a sense of meaning and fascination with science.

#### **Development of essential skills**

The most important thing in the 21st century is no longer memorizing facts or learning by heart. Learning facts is not useful in today's highly complex world. Facts are changing and information is now readily available - what is needed is an understanding of how to get what is useful and how to make sense of the huge mass of data around us.

#### Building student self-esteem and relationships with others

As each student takes his or her own path of exploration, it is much easier to succeed. High self-esteem helps in learning and in life. IBL also gives students the opportunity to develop stronger relationships with classmates, improve their own communication skills and increase their confidence in their own ideas and the value of their own contributions to the class.

#### WHAT ARE THE CHARACTERISTICS OF THIS MODEL?

In inquiry-based learning, teachers need to go beyond information gathering and focus on students' search for answers to questions and solutions to problems that are important to them and the world around them. It is therefore crucial to nurture the development of inquiry skills, which requires a range of competencies, such as critical thinking, problem-solving skills, analysis, self-reflection and collaboration. Students develop cognitive skills in questioning, inferring and evaluating the knowledge they have acquired. They improve their social skills through cooperation with others and presentations. They practice reading, writing, and learn to question and explore rather than memorize. They also develop a lifelong love of learning because the classes are interesting and they play an active role in the exploration process.



# 4.3.1.TRADITIONAL MODEL VS. IBL



#### **4.3.1.TRADITIONAL MODEL VS. IBL**

IThe traditional model focuses more on learning ABOUT things, while inquiry-based learning focuses more on learning THINGS! Another useful way to compare the two models might be to ask WHAT as opposed to HOW?

In the traditional model, the teacher teaches the lesson and the students listen to the information he presents. The goal is for them to assimilate and memorize knowledge – facts, definitions, dates, names, which is then tested through quizzes and tests. Learning is usually predetermined and has specific goals.

At IBL, the process is open-ended. Students decide what aspects of the problem being studied interest them, and then actively conduct the investigation. Since each student in the class looks at the topic from a different perspective, and all students present their findings, the learning goes far beyond what they could learn from a textbook.



A paradigm shift is not easy. Why? Because traditional direct instruction is more structured, measurable, and gives the teacher more control because that's how he or she was taught. What needs to be understood and assimilated to fully reap the benefits of the IBL model?

#### Give up control and accept freedom

Here it's not about getting to the right answer, because questions can have multiple solutions. So you have to free yourself from a certain rigidity and accept the freedom of students to take responsibility for creating their knowledge. And it is not "free America" because they are obliged to provide evidence regardless of the chosen solution. This change allows for differentiation and support for their individual needs – more contact with students who have had difficulties and asking provocative questions to challenge the more advanced students' understanding of the topic.

#### The emphasis needs to shift from content to process.

Answers are only part of the learning objective - the process is important, just as in scientific research. If students better understand the process of inquiry, the content will emerge on its own along the way. Questions like "Can students make a hypothesis and justify it with evidence?" and "Can they evaluate data to look for regularities?" are more important than questions about the content they are supposed to be learning.

#### You have to let go of avoiding discomfort and accept it as natural

In the traditional model, one knows in advance what the expected results are. This results in simplification to avoid the discomfort of not knowing fully. Many teachers already know that this is to the detriment of students as a false representation of the world and scientific practices. The IBL model also initially causes anxiety especially for high achieving students who feel more confident in the traditional model. This sense of discomfort needs to be explained to them and how to overcome it.

Once the myth of the one "right" answer is busted, students will realize that grappling with an inherently unstructured open-ended reality will give them a deeper understanding of the content. In general, the effectiveness of inquiry-based learning depends on the guidance and direction provided by teachers. IBL without proper guidance or guided only minimally may not work with students who have less prior knowledge or skills in a particular area. When the demands of learning activities exceed students' abilities, the learning process can be blocked. That's why it's so important for teachers to be experienced and prepared to act as a guide in IBL: in developing a good question to investigate, monitoring students' research process, providing guidance when they encounter difficulties. Teachers should also provide ongoing feedback to students and encourage them to continually evaluate their own learning.

# **4.4. ACTIVE LEARNING**

Active learning is a teaching method of developing in the student an active attitude to learning, implementing him to work independently. In the process of education, it is the totality of the actions of the teacher and students to ensure their active in participation the implementation of tasks. During this activity, students learn better and more in an enjoyable and sustainable way.

Every teacher aims to ensure that the teaching he conducts yields high results. Therefore, he should use a variety of methods of working with children, with particular activation emphasis on methods, which stimulate thinking by teaching through experiencing, better influence perception the of the transmitted content. Activitybased learning methods increase the effectiveness of teaching, make classes more attractive to more the student, increase his interest in basically any subject.



They trigger curiosity and greater involvement in students. When teaching with activation methods, the teacher plays the role of a guide who organizes teaching situations didactic situations, controlling the student's discovery of knowledge. Activation methods can be used during the entire lesson unit or in a selected phase of the lesson. They are also often effective, a way to overcome students' aversion to school, the subject and even the teacher. Very important are the conditions needed to trigger student activity. In order to stimulate the student to work

- creatively one should:enable him to realize his own ideas,
  - evoke a sense of meaning in what he does,
- take into account his interests,
- provide him with a sense of security,
- allow him to participate in planning and decision-making,
- recognize the contribution of his work, not just the results.

"Tell me and I forget, teach me and I may remember, involve me and I learn."

Benjamin Franklin

Using activation methods, we do not lead the "student by the hand", but create conditions, so that he can learn to think, search, improve, communicate act and cooperate in a group, so that he takes responsibility for his learning results.

These methods are characterized by:

- high power to stimulate the activity of students and teachers
- high efficiency
- high diversity and attractiveness of the activity

Activation methods allow not only to arouse the student's interest in the subject or test his knowledge. The main advantage of these methods is to improve skills useful not only during the lesson, but also in everyday life, such as. The ability to draw conclusions, think analytically and critically, connect events and facts into cause-and-effect relationships, the ability to behave appropriately in a a new situation, communicativeness, discussion, creativity.





# **5. PRACTICAL GUIDELINES**

"A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people."

-Franklin D. Roosevelt

IThe most important issue is to whom environmental education is addressed. After all, we will work differently with preschoolers, differently with young people, and still differently with adults, such as managers or local government officials. However different the audiences may be, the principles presented below form a certain foundation on the basis of which it is possible to plan specific and diverse educational activities aimed at a specific audience. These principles, in my opinion, determine the effectiveness of educational activities and guarantee the "depth" of the changes that take place. This is because the process involves the whole person and his environment, so it is holistic in nature.



# 5.1.CONDUCT ACTIVITIES IN A NATURAL ENVIRONMENT

Psychological research indicates that the most effective means of influence, which in addition ensures the permanence of changes in attitudes, is direct contact with the object of the attitude. In the case that interests us, this means that the best effects of environmental education are achieved during close contact with the natural environment. Going to a forest, river, or mountain, causes the student to have the opportunity to fully experience the variety of experiences associated with the various ecosystem. No book, computer program or movie can replace field classes. Of course, this does not mean that we should give up all these in environmental media education. However, it is worth remembering that they are a kind of supplement or substitute (emergency) form to field classes when these cannot take place due to, for example, bad weather.



My experience in the field of environmental education in various centers indicates, unfortunately, that excessive importance is attached there to equipment, such as computer equipment, the quantity and quality of which are said to determine the high level of environmental education conducted. This tendency, besides, additionally encourages the spread of a certain myth that environmental education requires significant financial outlays, precisely related to equipment.

Meanwhile, a trip to the forest, watching the clouds or listening to the birds, costs nothing and requires no special help. Environmental education requires really modest resources, but at the same time requires a special attitude on the part of the leader and participants. The basic issue here is just to open up fully to direct contact with the natural world.

"Human use, population, and technology have reached that certain stage where mother Earth no longer accepts our presence with silence."

The Dalai Lama

# 5.2.ENGAGE ALL THE SENSES IN CONTACT WITH THE NATURAL WORLD

This point is a consequence of the previous one. By conducting activities in the field, we give participants the opportunity to experience nature with different senses.

**Openness to sensory experience** is a fundamental factor in determining an individual's sensitivity in contact with the natural environment. Sensitivity is treated here as the basic ability to come into contact with a variety of natural objects. Understood in this way, sensitivity is a necessary at a later stage for establishing emotional ties with nature and pro-environmental forming attitudes.

The natural world is an almost forgotten yet never ending source and foundation of an individual's sensory experience. In the traditional education system, however, the use of the senses in the process of learning about the outside world is greatly limited. In our culture, we tend to develop language skills and those that involve abstract thinking. Besides, traditional education pays attention to of expanding the range information and knowledge by acquiring it from books.



Under such conditions, a kind of sensory deprivation arises, which is associated with a lack of natural stimuli. It is often emphasized that this situation is a typical manifestation of the basic separation of man from nature.

The quality of human life is linked to the abundance and type of stimuli provided to man by the Earth and the life that exists on it; human nature is biologically and spiritually shaped by nature. Disconnection from it leads to the gradual degradation of man on the one hand, and to the degradation of nature itself on the other. There is, therefore, an urgent need to re-establish a close, emotional relationship with the natural world. In this task, the ability to be sensitive in contact with nature plays an essential role.

# 5.3. PERCEIVE AND TEACH RELATIONSHIPS IN NATURE

Modern physics, ecology and cybernetics have laid the foundation for a new way of describing the world, which we systemic, holistic or call ecological. This new paradigm emphasizes the role of links that exist between all elements of the environment. The basic principle of the new paradigm is the thesis that everything is related to everything, interdependent and intermingled.

This new approach challenges a very dangerous myth that says that humans are a relatively independent element of the environment, that as humanity we are able to survive despite the degradation of the natural world.

Unfortunately, often very environmental education is purely nature education, in which participants only learn the names of plants and animals and gain basic information about their lives. information, This however important, is only the first step in learning about the world. Without reference to relationships and dependencies, environmental education is shallow and only broadens the scope of environmental knowledge.



Environmental education is much more, it is about showing the place of humans in the world and our closeness in relationships with all beings – organic and inorganic.

Seeing the interdependence in nature, pointing out the connections between humans and the world as a whole, is therefore a basic strategy in which we realize our own role in the world. The natural world is not something external to the human world. There is only one world, which forms an infinite network of connections. Pointing out these connections teaches humility, caution and restraint in engaging in civilizational development at any cost. It also teaches that any adverse environmental change results in negative consequences for man himself. Although this knowledge is almost universal, practice and daily experience show how much we ignore our fundamental relationship with the natural world. That is why it seems so important in environmental education to show relationships and dependencies. Not just talking about it, but creating conditions so that participants in such classes can fully experience these relationships.

# 5.4.CHALLENGE ANTHROPOCENTRISM. CHANGE BELIEFS.

The consequence of perceiving world the in terms of interdependence is to undermine man's privileged position in the world. This is because the web of life assumes that each element of the environment has its own value and none is more valuable than another. In this biocentric approach, the natural world appears valuable in its own right, regardless of the value humans assign to it in connection with the pursuit of their own goals.

At the other extreme is the anthropocentric approach, which emphasizes man's special position in the world. Anthropocentrism takes the position that humans are the most important, they are the crown of creation and, therefore, are due special rights and position. According to it, humans have the right to decide elements of which the environment are valuable and which are not. This assessment is made based on the human point of view and related to the goals pursued by individuals or societies. Thus, only that which is useful from a human point of view is valuable.



This approach divides nature into that which is valuable (useful) and that which is not useful or even harmful.

Consequently, this opens the way to many activities that result in excessive control, interference and manipulation of natural natural processes.

The anthropocentric values that dominate the modern world are largely responsible for arrogance, species chauvinism and, consequently, for the progressive degradation of the environment. That's why it seems to be such an important issue in environmental education to challenge this anthropocentric approach, to show its effects, and to discover alternative beliefs that may be more valuable in terms of preserving life on Earth.

### 5.5.TREAT NATURE LIKE THE BEST TEACHER

One of the consequences of adopting an anthropocentric perspective is the belief that the knowledge accumulated by the human species justifies its domination over nature and interference with natural processes. This conviction, when juxtaposed with the new vision of the world emerging from modern physics or ecology, shows its unfoundedness. The picture of reality systemic implies an infinite network of interdependencies that science has managed to describe in only a small part. Our optimism about scientific discoveries and our expectation that we are able to answer most questions, when confronted with reality, seems largely illusory. This skepticism, moreover, is a trait of truly great minds, starting with Socrates and ending with Newton or Einstein. Newton is said to have used to say that his discoveries are like describing the riches of the ocean based on the shells he finds walking along the shore.

So instead of overly trusting in the power of the human mind and science, in environmental education we turn our attention to another teacher. It is nature itself.



It is she who answers questions about what a forest, river or meadow should look like.

By observing natural processes, we teach trust in what happens on its own, believing that man with his knowledge and subsequent interference with nature has made and continues to make plenty of mistakes.

We teach that the natural environment on Earth, has been continuously evolving for more than four billion years, so the current state is the result of the wisdom of evolution; compared to it, our wisdom is much limited, and burdened only by the human point of view.

In our ongoing environmental education, we teach to listen to streams, trees, meadows or mountains. We believe that by opening ourselves to their wisdom, we gain the right distance from modern civilization, develop attitudes of humility and self-restraint towards the natural world.

# 5.6.DEVELOP IDENTIFICATION WITH OTHER BEINGS; EXPAND YOURSELF

A person's relationship to nature and the resulting behaviors are largely determined by an individual's ideas about who he or she is. This area is related to the structure of the self and identity. It turns out that our destructive actions in the world can be rooted in the narrow scope that our identity encompasses. This is because the lack of identification with the outside world results in emotional indifference and distance from it. Therefore, in environmental education we aim to expand the scope of an individual's identity, to include other beings in the area of the "I" structure.

In environmental education, therefore, we ask how it feels to be a mountain, how a river or a tree feels. However strange such questions may seem at first, we believe that by asking them, a person discovers within himself what is seemingly outside him. By experiencing a river, for example, "as if one were one," a profound process of identification is carried out, resulting in a gradual expansion of the individual's identity. The role of the structure of the "self" in the formation of a positive image of the human-nature particularly relationship, is emphasized on the ground of ecopsychology.



IThe condition for the formation of the ecological self is the natural process of gaining self-awareness and distinguishing oneself as a separate person. While in our culture the development of this structure often stops at the stage of a clearly formed, autonomous identity, from the point of view of ecopsychology it is a matter of expanding the "I" thus built to include objects of the external world: other people, the place where a person lives, or, finally, the whole Earth. The mechanism that mediates the expansion of the scope of a person's identity is identification, which involves identifying with other objects and incorporating them into the internal structure in such a way as to place them in the most central position, close to the "I". In some cases, however, the process of identification with others leads to a radical substitution of one's own human perspective - that of another object. One environmental activist reporting on this type of change points out that "the belief 'I defend the forest' has been replaced by the belief 'I am the part of the forest that defends me. I am the part of the forest that has just acquired the ability to think". In defending a forest, a mountain or any other element of the environment, one is indeed defending oneself, although this no longer has anything to do with selfish motivation.

# **5.7.APPEAL TO FEELINGS**

One of the "sins" of dominant environmental education is that it largely avoids the realm of feelings and emotions, focusing almost exclusively on the cognitive and intellectual aspects of the problems discussed. It is still popular to say that the most important thing is knowledge and the ability to seek or use it. Without denying this approach, we take the position that the cognitive aspect should go hand in hand with emotional the one. Knowledge is important, of course, but on its own it cannot change people's attitudes and behavior. Today we know a lot about the environmental crisis and its causes, and we know well what we should do to improve our own and the Earth's situation. Despite this, not much is changing. This is because we lack a deeper rooting of this knowledge in our experience, in emotions. Psychological our research suggests that attitudes formed on the basis of the emotional aspect tend to be more permanent and more strongly determine human behavior. Thus, in environmental education we appeal to feelings. Of particular importance here is what the presenter does and says, for he is the model that shapes certain behaviors of the participants. This is why the presenter should openly share his own feelings about the environmental problems he is discussing. Sharing one's anxiety, sadness, anger or joy encourages other participants discover emotions to and communicate them to others.



In this way, the various kinds of phenomena that are the subject of environmental education take on an emotional meaning, becoming closer to people.

Of particular importance are those emotions that arise in response to information about environmental hazards. In the current reality, we are very often bombarded with such information. Many of them cause not only fear, but also guilt, because the perpetrators of unfavorable phenomena are also us. It is in such cases that we prefer to avoid such reports, not think about them, or ultimately ignore or deny their significance. All of this consequently leads to an "anesthesia" on issues that are actually important. This anesthesia or freezing of our own emotions cuts us off from an important area of experience related, in this case, to the environment. In such a state, it becomes much easier for us to depreciate the value of nature and justify its further destruction, which leads to further negative phenomena in the environment and even greater desensitization. So, as you can see, there is a vicious feedback circle that is responsible for many adverse processes in the modern world. One important way to break this vicious cycle is to encourage people to share their emotions and feelings.

# **5.8. ENCOURAGE DEEP QUESTIONS**

adjective The describing questions as deep indicates the properties of questions. Arne Naess - the creator of this approach - is thus trying to draw attention to the possible content and attitude of the questioner. The content of the questions is supposed to deal with the most basic problems that relate to life processes on the planet; it is supposed to be a deep take, penetrating to the essence of things. The content itself is already supposed to exclude such an attitude to the problems that is superficial, superficial and content with external observations of reality. More often than not, such an attitude to issues that does not penetrate to the essence of things is a symptom of a superficial, uninvolved or even indifferent attitude to reality. Deep questions, on the other hand, presuppose a noninquisitive surface, and profound attitude toward issues, presuppose an active and attitude toward life.

Deep questions have to do with developing an intuitive insight into the nature of reality and with a style of philosophizing, which, however, does not necessarily have to be conducted in a conventional and academic manner. After all, the problems of the humanrelationship affect nature everyone, so understanding and becoming aware of these further, problems, and discussing them and taking certain actions, should be widespread and involve as many people as possible.



Examples of deep questions are as follows:

- What is the meaning of life?
- What are the most important goals in life?
- What is the right way to live?
- Why are we destroying nature?
- What is my place in the world, nature, the cosmos?

The level at which such questions are asked concerns the depth of inner, psychological involvement in the search for answers. In this process, no mental functions are left out; they are integrated to inquire into the cause and essence of various phenomena. In this sense, the intellectual search is not isolated from the search that a person conducts in his biological, psychological and spiritual wholeness. An important guideline when asking deep questions is to go beyond purely intellectual considerations. In this case, it's not just about getting to some static point of a definitive, readymade answer. Rather, it is about the very process of asking deep questions, i.e., confronting oneself with problems and realities that go beyond simple intellectual ways of understanding the world. It is also important to consider from a broader perspective, not just a human perspective, because what is acceptable and justifiable from that perspective may not be acceptable if one considers the life processes taking place across the planet.

# 5.9. BE RELIABLE AND ENTHUSIASTIC. HAVE FUN, DANCE AND SING.

This point specifically emphasizes the role of the environmental educator. Psychological research suggests that in the persuasive process, audiences usually perceive the sender and the message as one. In other words, not only the arguments are important, but also the one who formulates and utters them.

Participants usually judge the presenter in terms of his credibility: whether he really does all that he talks about. In environmental education, this moment is crucial, as it largely determines the effectiveness of our impact. So the presenter should be credible, which means that with his life he should bear witness to the truthfulness of the words he speaks. Even the best program or message will be ineffective if the presenter does not believe in it or has a negative attitude towards it. Here you can't be a craftsman, here you have to put your heart into what you say and do. Another consideration concerns the form of education provided.



If it is boring, overly formal or monotonous, even if we talk about the most important things, our effectiveness will be low. Whether we are dealing with children, adolescents or adults, it is good if there are elements of play in education. Of course, the older people get, the less fun there may be, but we should never completely abandon it.

My experience shows that very desirable forms of education are all active and group work techniques: games, songs, dances, role-play, games, exercises. They cause the involvement of participants in specific activities, increase motivation and make the assimilated content perceived as attractive.



# 5.10. END CLASSES WITH RESOLUTIONS/CONCLUSIONS

A very important final element of the activities is the declaration made by the participants in connection with their undertaking of specific behaviors that help nature. This point makes it possible to close with a certain buckle all those elements that were raised in the earlier interactions. Thev constitute a kind of "unclosed character" that naturally seeks closure. All the information, awakened and expressed feelings are moving in the direction of making a certain change in life, which would give expression to concern and commitment in the area of environmental issues.

is important that It the provisions be as specific as possible, rather than vague. This means that they should be specified in the form of specific behaviors in the near term. Thus, the question can be asked, "What can you do today or from tomorrow specifically that would help nature?" The point here is not that there should be any far-reaching declarations, because the important principle here is that it should be possible to implement this resolution quite easily and thus obtain positive reinforcement. Many times people feel powerless in the face of the enormity of ecological problems and therefore give up any action on behalf of nature. Therefore, we very strongly emphasize that he who does nothing, being able to do a little, acts wrongly.



Each of us can do a little right now. This is what people need to be made aware of and encouraged to make simple and concrete resolutions. Another important aspect is the public nature of the resolutions made. Well, psychological research shows that public declarations have much more power than those made only in front of oneself. This is because people tend to act in a consistent manner the more they are aware that other people expect it and know about their declarations. This is how a group can create special conditions conducive to acting in accordance with prior, public resolutions.

The principles of environmental education I have described do not, of course, exhaust all the important aspects that determine its effectiveness. Anyone who works in the field of environmental education is likely to have their own version of such principles. I have shared my own. It does not pretend to be the only righteous truth, however it is grounded in the literature on the subject and, more importantly, in my experience, which is the ultimate test of effectiveness. I therefore encourage you to become aware of your own principles and assumptions and possibly confront them with mine. I invite you to discuss and share your experience and thoughts. TRAINING KIT

# 6. PRACTICAL TRAINING TIPS

Education for sustainable development (ESD) is defined as education that encourages changes in knowledge, skills, values and attitudes to enable a more sustainable and just society for all. ESD aims to empower and equip current and future generations to meet their needs using a balanced and integrated approach to the economic, social and environmental dimensions of sustainable development.

"Do what you can, with what you have, where you are." Theodore Roosevelt

RAINING KIT PAG

It is well known that health and safety training is extremely important for several reasons. First, it protects employees and students from performing dangerous and preventable activities, and reduces accidents, illnesses, injuries or property damage.

To get the best results, one must work on "effective" health and safety training, not just complete through a safety course. We have listed most of the most important tips for effective health and safety training that will help improve safety in learning.





Each educator and teacher should adapt these tips to their workplace and possibly add additional elements to reflect their typical needs:

- Discuss general safety rules with the group it's a good idea to write down rules and regulations together and give each participants parents to sign.
- Remember to dress appropriately for the weather conditions, the season and the activity you will be undertaking.
- Try to label the group with one identical item, such as an orange bandana, reflective vest or wrist band.
- Take a well-equipped first aid kit with you. It is worth taking care of more bandages and mosquito spray.
- If you will be traveling after dark, bring reflective vests and flashlights
- Use common sense, don't go where it's dangerous, where dangerous animals may be present or terrain conditions may pose a threat.
- Anticipate threats, stay alert and don't let participants out of your sight.
- Be very careful with experiments, always make sure that everybody wears protective gear.



Teaching scenarios can be a collection of tasks you may want to achieve in the classroom. Each teaching scenario should be paired with a technology-based solution on how to achieve that task. These teaching scenarios may help you to create narrated slides or better explain a difficult concepts.





#### **Creating items from recycled materials**

Using materials that are commonly considered waste helps increase children's environmental awareness. There are many beautiful and useful objects that can be made from recycled materials. It is important to explain to children why using such materials is so important for our planet.

#### **Treasure hunt**

A treasure hunt game is a great way to learn about environmental protection! The rules are very simple: all you need to do is create a list of items that children must find in a limited time. The items can vary, depending on where the game is being carried out – recyclable items if you're playing indoors or elements of nature if you're outdoors.





#### School/home gardens

Most people don't have the chance to create a real garden with tomatoes, onions, carrots, radishes and a small lemon tree, but even a minigarden on a balcony or in the school yard can go a long way toward educating children about nature. In addition, having your own small garden will contribute to maintaining a healthy diet.



#### **Beehive**

The creation of hives in urban spaces has become a common phenomenon throughout Europe. Bees, due to the use of pesticides on a massive scale, are susceptible to extinction. Each newly created hive is a small step towards improving the situation

Construction and colonization of the hive should be preceded by theoretical preparation, as it is not an easy task and can be carried out by older children



#### Engine

A lesson explaining what an engine is and the most common engine models. Explanation of the history of the origin and principles of the steam engine, internal combustion engine and electric engine. Demonstration of the operation of engine models illustrating noise and emissions.





A visit to a local farm to learn about the process of raising animals and growing crops. To make students aware of the importance of plant protection products and the need for a modern approach to food production in order to obtain a satisfactory economic result while not leading to environmental degradation.





#### **Designing the park**

Students together with the teacher on the basis of maps and plans of their cities to create a park , taking into account any external factors that hinder this task. The neighborhood of industrial plants, shopping centers or highways will limit the benefits of the park. At the same time, a park serving residents should be easily accessible by public transportation. The level of complication and realism of the project should depend on the age of the students and their abilities. The lesson can be implemented at any school level.

#### **Birdhouse**

Birds are looking for a place to lay their eggs and raise their chicks. Many of them need a suitable place that could imitate a tree hollow. To create a safe and comfortable environment for them, all you need to do is make a suitable bird house. Students will learn about the diversity of nature and their important role in the urban ecosystem. Intensive landscaping eliminates potential breeding sites for wild birds and affects their population.

#### TRAINING KIT

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# STOP Wishing, START Doing.