

Narodowe Centrum Badań i Rozwoju ERANet LAC

UNIWERSYTET

Scenario 4: Extreme temperatures threaten the health and life of thousands of people
worldwide.Brief description of the lessonDuring the lesson, students learn about the causes of heat

	waves in cities, their social and health effects.
	They learn the concept of "urban heat island".
	They learn about the tools mitigating the effects of
	overheating of cities, they can identify tools that can be
	implemented in the existing urban structures to prevent
	overheating of cities.
Objectives of the classes	- students learn about the effects of heat waves, the causes
5	of their formation and the basic tools used in cities to lower
	the temperature within them.
Detailed objectives:	- students learn the causes of heat waves in cities.
Dounioù objechves.	- learn about the effects of sealing surfaces in cities, a large
	number of buildings and a decreasing amount of greenery.
	- role of urban infrastructure in shaping thermal comfort in
	the city
	- role of greenery in shaping thermal comfort in the city
	- individual NBS tools such as: street tree plantings green
	roofs and green walls, and alternative solutions - as
	curiosities in modern green designing in the city
Supplementing the information in the	- what the so-called urban heat island is
field of	- what the so-cance urban near Island Is,
	- mesentation of the effects of the greatest heat waves that
	bit European countries in the 21st century here it is worth
	describing the 2003 hast wave called "I writer" it was the
	describing the 2003 heat wave called Lucher - It was the
	cause of a large number of deaths in western European
Massagas:	the student knows and understands the effects of heat
the student knows and explains	- the student knows and understands the effects of heat
- the student knows and explains	waves, the causes of their formation and the basic tools to
Competences	The student learns the basis tools (NDS), such as tree
Competences:	The student learns the basic tools (NDS), such as the
	plantings, green roots, green walls as part of the adaptation
	of clues to climate change. He knows the fole of the
	implementation of vegetation in order to improve thermal
M-(11	Comfort in clues.
Method	Lecture with the use of presentations from the Citadine
	platform, the use of aids and news about heat waves and
	cooling of cities from the Citadine platform.
1ime span	- completion time 45 minutes.
Aids	Preparation of a presentation by the teacher.
Course of the lesson	At the very beginning of the lesson, the teacher reminds
	students of the basic information on the effects of climate
	change on the shaping of thermal comfort in the city and the
	formation of the so-called heat waves.
	Then, he/she presents content on the implementation of
	greenery in the city as a tool to mitigate the effects of
	increased air temperature - the presentation is assembled
	from selected content from the Citadine platform.
	At the end of the lesson, the teacher conducts a short

	discussion on how to change a given city space to minimize the effects of overheating.
Completion/	The lesson is to make students reflect on how to change
Summary	their immediate surroundings. How to increase the amount of greenery in a given area using selected NBS tools.
Resources/Bibliography	Citadine website materials:
	a) Presentation 1- "Introduction to general issues related to
	climate change and their impact on the functioning of the
	city and the people living in it"
	b) Presentation 2 - "Counteracting overheating of cities, improving biodiversity in cities by implementing nature- based solutions in the existing structure."
	c) Information on specific NBS tools on the Citadine website.
	d) Kardaś A., Malinowski Sz., 2021, Zmiany w pogodzie, [w:] Budziszewska M., Kardaś A., Bohdanowicz Z., (red.) "Klimatyczne ABC. Interdyscyplinarne podstawy współczesnej wiedzy o zmianie klimatu", Wydawnictwa Uniwersytetu Warszawskiego
Online references	https://drive.google.com/file/d/1S1F- 7ZqTiwmDDf69M75yAXL31yYmb0Pt/view