



Learning situation:

Develop a sustainability concept for the city

Best practices:

“Level Green” – Experience sustainability up close and in a playful way





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Get your students excited about the topic of sustainability with an unforgettable trip to Autostadt Wolfsburg! The "Level Green" exhibition offers the perfect opportunity to promote sustainable thinking and action. Spend an exciting and educational day with your class that will inspire your students and make a lasting impression.

A) Visit the exhibition "Level Green"

Immerse yourself in the fascinating world of sustainability! The interactive exhibition "Level Green" brings the topic to life and makes it tangible. Your students can learn in a playful way how renewable energy, sustainable mobility and resource conservation help protect our environment.

B) Use the exploration sheet

To make the most of the exhibition visit, an exploration sheet is available. This guides the students through the various thematic areas of the exhibition and helps them to gather important information. The exploration sheet is not only a practical tool for imparting knowledge, but also encourages independent work and discovery.

C) Experience the escape game

As an alternative to the exploration sheet, the escape game awaits your class. This exciting and challenging game requires team spirit, problem-solving skills and knowledge about sustainability. Together, the students must solve puzzles and complete tasks in order to escape from the exhibition. The escape game is not only great fun, but also an excellent way to strengthen the class community.

D) Test your knowledge with the Level Green Quiz

After the tour of the exhibition, the students can put their newly acquired knowledge to the test in the Level Green Quiz. The quiz is a fun way to reinforce what has been learned while promoting understanding of sustainable topics.





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Develop a sustainability concept for the city

A) The exhibition “Level Green”

“Level Green” in Autostadt Wolfsburg is a fascinating exhibition that deals with the topic of sustainability. The exhibition offers various interactive installations and attractions that educate visitors about sustainable developments and environmental awareness in a playful and informative way.

Green energy:

This attraction showcases the different types of renewable energy, such as wind, solar and hydropower. Interactive models and displays explain how these energies are used and how they contribute to reducing CO2 emissions.

Sustainable mobility:

The future of mobility is presented here, including electric vehicles and other innovative modes of transport. Visitors can learn more about the benefits of sustainable mobility and its impact on the environment.

Conservation of resources:

This installation highlights the importance of conserving resources and the various methods for reducing resource consumption. Examples of recycling, upcycling and sustainable production are presented.

Ecosystems and biodiversity:

An attraction that showcases the diversity of ecosystems and the importance of biodiversity for the balance of nature. Visitors can experience interactive exhibits that illustrate the relationships between different habitats and the species that live in them.

Climate change:

This section provides information about the causes and consequences of climate change. Various interactive stations show the effects of climate change on the environment and offer solutions on how to counteract it.

Sustainable consumption:

An attraction that addresses the issues of sustainable consumption and conscious lifestyle. Visitors learn how their consumption habits affect the environment and how they can make more sustainable choices.

Interactive games and simulations:

Various interactive games and simulations allow visitors to test and deepen their knowledge of sustainability in a playful way. These interactive elements promote understanding of complex relationships and make learning entertaining.

Visions of the future:

An area that presents pioneering technologies and concepts for a more sustainable world. Here, visitors can discover innovative ideas and projects that have the potential to positively impact the environment.

Virtual reality:

By using virtual reality technology, visitors can immerse themselves in different scenarios to experience first-hand the effects of environmental changes.

This immersive experience aims to raise awareness of the urgency of environmental protection measures.



Learning situation:

Develop a sustainability concept for the city

B) Level Green Exploration Sheet

1. Green energy

Visit the exhibition on solar cells, wind turbines and hydroelectric power plants. Note the CO2 savings of each energy source.

o Solar cells: _____ kg CO2/year o Wind turbines: _____ kg CO2/year o Hydroelectric power plants: _____ kg CO2/year

2. Sustainable mobility

Find the models of electric car, bicycle and bus. Note the CO2 emissions per kilometer of each vehicle.

o Electric car: _____ g CO2/km o Bicycle: _____ g CO2/km o Bus: _____ g CO2/km

3. Conservation of resources

Look for examples of recycling and upcycling in the exhibition. Write down the first letters of the examples you find. o

Recycling: _____, _____, _____ o

Upcycling: _____, _____, _____

4. Ecosystems and biodiversity

Find the animals in the ecosystem diorama and write down their initial letters. o Animal

1: o Animal _____

2: o Animal _____

3: o Animal _____

4: _____

5. Climate change

Match the climate changes to the correct locations on the interactive world map and write down the numbers at the locations. o Polar

region: _____ o Tropics:

_____ o Coastal areas:

_____ o Cities:

6. Sustainable consumption

Find the sustainable products in the exhibition and write down their initial letters. o Product 1: o

Product 2: o _____

Product 3: o _____

Product 4: _____



Learning situation:

Develop a sustainability concept for the city

7. Interactive games and simulations

Play an interactive game and collect points through your decisions. Write down the points. o Saving energy:

_____ points o Separating waste: points

Using public transport: _____

o

_____ Points

o Total points: _____

8. Visions of the future

Find the information boards about future technologies and write down the first letters of the code words. o

Technology 1: o

Technology 2: o _____

Technology 3: o _____

Technology 4: _____

9. Virtual Reality

Put on the VR glasses and write down the letters you find at the stations. o Station 1: o Station

2: o Station 3: o _____

Station 4: _____

Summary

Collected codes and information:

1. Green energy: _____ 2.

Sustainable mobility: 3. _____

Conservation of resources: _____ 4.

Ecosystems and biodiversity: 5. Climate _____

change: 6. Sustainable _____

consumption: 7. Interactive _____

games and simulations: 8. Visions of the future: _____

9. Virtual reality: _____

Final code: _____



Learning situation:

Develop a sustainability concept for the city

To B) for the teacher: Exploration sheet solutions

This answer sheet helps teachers check student answers and moderate the exploration accordingly. It contains all correct answers and the final codes that students should have collected during the exploration.

1. Green energy

- o Solar cells: 50 kg CO₂/year
- o Wind turbines: 30 kg CO₂/year
- o Hydroelectric power plants: 20 kg CO₂/year

2. Sustainable mobility

- o Electric car: 0 g CO₂/km
- o Bicycle: 0 g CO₂/km
- o Bus: 50 g CO₂/km

3. Conservation of resources

- o Recycling: G (glass bottle), P (paper), P (plastic bottle)
- o Upcycling: T (T-shirt), H (wood), M (metal)

4. Ecosystems and biodiversity

- o B (bee)
- o F (frog)
- o A (eagle)
- o W (wolf)

5. Climate change

- o Polar region: 2
- o Tropics: 4
- o Coastal areas: 3
- o Cities: 5

6. Sustainable consumption

- o B (organic vegetables)
- o F (fair trade coffee)
- o W (reusable bag)
- o E (energy saving light bulb)

7. Interactive games and simulations

- o Saving energy: 3 points
- o Separating waste: 4 points
- o Using public transport: 2 points
- o Total points: 9

8. Visions of the future

- o S (Solar cells)
- o W (Hydrogen cars)
- o S (Smart Cities)
- o V (Vertical farming)





Learning situation:

Develop a sustainability concept for the city

9. Virtual Reality

- o E o
- C o O
- o G

Summary of codes

- 1. Green energy: 503020 • 2. Sustainable mobility: 0, 0, 50 • 3. Resource conservation: GPPTMH • 4. Ecosystems and biodiversity: BFAW • 5. Climate change: 2435 • 6. Sustainable consumption: BFWE • 7. Interactive games and simulations: 9 • 8. Visions of the future: SWSV • 9. Virtual reality: ECOG

Final code:

503020 00 50 GPPTMH BFAW 2435 BFWE 9 SWSV ECOG





Learning situation:

Develop a sustainability concept for the city

C) Level Green Escape Game: “The Path to Sustainability”

Introduction: Join us on an exciting journey through the world of sustainability.

At various stations in the “Level Green” exhibition you will find a puzzle that you must solve. Are you ready to accept the challenge?

Stations and puzzles:

Station 1: Green Energy

Puzzle: Find the exact number of solar cells at the exhibition station. The number of cells corresponds to the numerical value of the first letter in the answer word.

Station 2: Sustainable mobility

Puzzle: Find the license plate of the first electric vehicle on display. The last letter of the license plate is the second letter in the answer.

Station 3: Conservation of resources

Puzzle: Determine the exact weight of the recycled material indicated at the station. Divide the weight by 100. The letter that corresponds to the result in the alphabet is the third letter in the answer.

Station 4: Ecosystems and Biodiversity

Puzzle: Find the exact number of different plant species in the biodiversity area. The sum of this number is the fourth letter in the answer.

Station 5: Climate Change

Puzzle: Match the temperature increases to the correct decades. The number of correct assignments corresponds to the fifth letter in the answer.

Station 6: Sustainable Consumption Puzzle: Identify the product with the longest life cycle displayed at the station. The first letter of the product name is the sixth letter in the answer.

Station 7: Visions of the future

Puzzle: Find the model of a sustainable city and the name of the architect. The architect's initial is the seventh letter in the answer.

Station 8: Interactive games and simulations

Puzzle: Solve the puzzle that represents sustainable energy production. The letter that corresponds to the last puzzle piece (A=1, B=2, ...) is the eighth letter in the solution word.



Learning situation:

Develop a sustainability concept for the city

Station 9: Virtual Reality

Puzzle: Navigate through virtual reality and find the hidden sustainable city map. The first letter of the city map name is the ninth letter in the solution.

Station 10: Exit

Put the collected letters together to form the solution word. You need a lot of ?GAP for the last letter of the solution word.

Present the answer to your teacher to complete your mission!





Learning situation:

Develop a sustainability concept for the city

C) Answer sheet for the Level Green Escape game: “The path to sustainability”

Directions:

Use this sheet to write down your answers for each station. At the end of the game, you should have collected all the letters that make up the answer.

Once you have solved all the puzzles, put the letters together to reveal the solution.

Good luck and have fun solving the puzzles!

Stations and their solutions:

Station 1: Green Energy

• Your solution: _____

Station 2: Sustainable mobility

• Your solution: _____

Station 3: Conservation of resources

• Your solution: _____

Station 4: Ecosystems and Biodiversity

• Your solution: _____

Station 5: Climate Change

• Your solution: _____

Station 6: Sustainable Consumption

• Your solution: _____

Station 7: Visions of the future

• Your solution: _____

Station 8: Interactive games and simulations

• Your solution: _____





Learning situation:

Develop a sustainability concept for the city

To C) for the teacher: Solution to the Level Green Escape game: “The path to sustainability”

Note for the teacher:

Please check the current information and exhibits in Autostadt to ensure that the solutions are correct. These solutions are examples and may change as the exhibit is updated.

The puzzles are designed to be solved directly at the stations, without the need for guesswork or variable scores, and are intended to encourage visitors to think about the different aspects of sustainability and learn how to implement them in their everyday lives.

Station 1: Green Energy

- Solution: N (14)
- Explanation: The number of solar cells corresponds to the letter N in the alphabet (14th letter).

Station 2: Sustainable mobility

- Solution: A
- Explanation: The license plate of the electric vehicle ends with A.

Station 3: Conservation of resources

- Solution: C (3)
- Explanation: The weight of the recycled material is 300 kg divided by 100 results in 3, which corresponds to the letter C.

Station 4: Ecosystems and Biodiversity

- Solution: H (8)
- Explanation: There are 17 different plant species whose sum is 8, which corresponds to the letter H.

Station 5: Climate Change

- Solution: H (8)
- Explanation: There are 8 correct assignments of the temperature rises to the decades.

Station 6: Sustainable Consumption

- Solution: A
- Explanation: The product with the longest life cycle is a reusable Drinking bottle that starts with A.





Learning situation:

Develop a sustainability concept for the city

Station 7: Visions of the future

- Solution: L (12) •

Explanation: The architect's name is Lars, which starts with L (12th letter).

Station 8: Interactive games and simulations

- Solution: T (20) •

Explanation: The last puzzle piece represents wind energy and corresponds to the letter T (20th letter).

Station 9: Virtual Reality

- Solution: I (9) •

Explanation: The city plan is called "Innovacity", which starts with I.

Station 10: Exit •

Happiness

- Answer: SUSTAINABLE





Learning situation:

Develop a sustainability concept for the city

D) Level Green quiz questions for the board game

1. Green energy

1.1 Which renewable energy sources are presented in the "Level Green"?

- A) Coal and oil
- B) Wind, solar and hydropower
- C) Natural gas and nuclear energy

1.2 How can the use of renewable energies help to reduce CO2 emissions contribute?

- A) By replacing fossil fuels
- B) By producing more CO2
- C) By increasing air pollution

1.3 Which technology for the use of renewable energies is presented as particularly efficient in the "Level Green"?

- A) Wind turbines
- B) Solar energy
- C) Hydroelectric power plants

2. Sustainable mobility

2.1 What benefits do electric vehicles offer for the environment?

- A) They produce less noise and emissions
- B) They use more petrol
- C) They are more expensive to produce



Learning situation:

Develop a sustainability concept for the city

2.2 What is an example of an innovative means of transport presented in the "Level Green" becomes?

- A) Horse-drawn carriage
- B) Electric car**
- C) Steam locomotive

2.3 How can the use of bicycles contribute to sustainable transport?

- A) Due to increased CO2 emissions
- B) By reducing traffic and emissions**
- C) Due to higher noise pollution

3. Conservation of resources

3.1 Which method contributes to conserving resources?

- A) Throwing away old products
- B) Recycling and upcycling**
- C) Increased consumption of disposable products

3.2 What is upcycling?

- A) Burning waste to generate energy
- B) The reuse of waste materials to produce new products**
- C) The storage of waste in landfills

3.3 Why is recycling important for the environment?

- A) It increases the cost of disposal
- B) It reduces the amount of landfill waste and saves energy**
- C) It has no impact on the environment



Learning situation:

Develop a sustainability concept for the city

4. Ecosystems and biodiversity

4.1 Why is biodiversity important for the balance of nature?

- A) It increases the number of species that become extinct
- B) It promotes the health of ecosystems
- C) It makes nature less stable

4.2 What does the attraction show about ecosystems in the "Level Green"?

- A) The importance of habitat for different species
- B) Pollution of rivers and lakes
- C) The destruction of rainforests

4.3 What measures can help preserve biodiversity?

- A) Deforestation
- B) Protection of natural habitats
- C) Intensive agriculture

5. Climate change

5.1 What are the main causes of climate change explained in "Level Green"?

- A) Natural phenomena such as volcanic eruptions
- B) Human activities such as the burning of fossil fuels
- C) The Earth's orbit

5.2 How can we counteract climate change according to "Level Green"?

- A) Through the increased use of fossil fuels
- B) By saving energy and using renewable energy
- C) Through deforestation





Learning situation:

Develop a sustainability concept for the city

5.3 What impact does climate change have on ecosystems?

- A) Improved conditions for all species
- B) Loss of habitats and biodiversity
- C) Reduction of greenhouse gas emissions

6. Sustainable consumption

6.1 What impact does our consumption behaviour have on the environment?

- A) It has no impact on the environment
- B) It can increase environmental pollution and resource consumption
- C) It automatically improves environmental quality

6.2 How can we consume more sustainably?

- A) By purchasing disposable products
- B) Through conscious purchasing decisions and the choice of sustainable products
- C) By avoiding recycling

6.3 Why is it important to extend the lifespan of products?

- A) To produce more waste
- B) To conserve resources and reduce waste
- C) To buy new products more frequently

7. Interactive games and simulations

7.1 What role do the interactive games and simulations play in "Level Green"?

- A) They are intended for entertainment purposes only
- B) They help to promote understanding of complex relationships
- C) They have no educational value





Learning situation:

Develop a sustainability concept for the city

7.2 What can visitors learn about environmental issues through interactive games?

- A) Nothing relevant
- B) The complexity and impact of decisions
- C) Anything

7.3 What technology is used at Level Green to enable interactive learning experiences?

- A) Steam engines
- B) Virtual Reality
- C) Morse code

8. Visions of the future

8.1 What is presented in the area of future visions in "Level Green"?

- A) Old-fashioned technologies
- B) Innovative ideas and projects for a more sustainable world
- C) Historical developments

8.2 How can innovative technologies contribute to sustainability?

- A) They can offer new environmentally friendly solutions
- B) They exacerbate environmental problems
- C) They replace traditional methods without advantages

8.3 What challenges could innovative technologies for sustainability may not solve?

- A) Resource scarcity
- B) Climate change
- C) Loss of biodiversity





Learning situation:

Develop a sustainability concept for the city

9. Virtual reality

9.1 What does virtual reality technology enable in "Level Green"?

- A) A realistic experience of environmental changes
- B) Playing video games
- C) Watching movies

9.2 Why is virtual reality an effective method to raise environmental awareness

support financially?

- A) It makes visitors aware of the urgency of environmental protection measures
- B) It has no special influence
- C) It distracts from the actual issues

9.3 How can virtual reality be used in education to teach environmental issues?

- A) By showing fantasy scenarios
- B) By immersing yourself in realistic environmental problems and solutions
- C) By playing music videos





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Develop a sustainability concept for the city

To D) for the teacher: Solution quiz questions board game

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Learning situation:

Develop a sustainability concept for the city

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Learning situation:

Develop a sustainability concept for the city

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Learning situation:

Develop a sustainability concept for the city

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Learning situation:

Develop a sustainability concept for the city

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Learning situation:

Develop a sustainability concept for the city

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Learning situation:

Develop a sustainability concept for the city

E) Instructions for the board game "Level Green"

Goal of the game:

The team that first collects five different "car" pieces wins the game.

Game preparation:



Setting up the playing field:

Place the playing field in the middle of the table.

Sort question cards:

Sort the cards by color

Determine starting field:

Each team draws a station card to determine its starting square.





Learning situation:

Develop a sustainability concept for the city

Playing pieces:

Each team chooses a playing piece and places it on the corresponding starting square.



Car game pieces:

Place the "car" game pieces sorted by color next to the corresponding question cards on the game board. The "car" game pieces can be replaced by any other game pieces or victory point markers. Cars were chosen here in reference to the Autostadt Wolfsburg.



Dice:

Have the dice ready.

Gameplay:

Set order:

Determine the starting order of the teams (e.g. by rolling dice).

A team's move:

On each turn, a team rolls the dice and moves its piece according to the number rolled. The piece can only move to a colored square if the number rolled exactly matches the required number.

Example: If the figure is three spaces in front of a yellow space, a 3 must be rolled to reach the yellow space.

Answer question:

If a team reaches a colored field, it can answer one of the three questions at the corresponding station. If the question is answered correctly, the card is removed from the game.

Point received:

If the question is answered correctly, the team receives a "car" token in the corresponding color.

Each team may only answer one question per station and receive one token.



Learning situation:

Develop a sustainability concept for the city

Next train:

If the question is answered incorrectly or the team does not reach a colored field, the turn passes to the next team.

End of game:

The game ends as soon as one team has collected five different "car" pieces. This team is declared the winner of the game.

Have fun playing and learning about sustainability!

