

The Impact of Global Warming on Sea Turtles



Lesson Plan

Designed by Mgr. Hana Maxerova, Zakladni skola, Velehrad, okres Uherské Hradiste, Czech Republic

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| Title of Activity: The Impact of Global Warming on Sea Turtles | Subject area: Environmental Education, Science, English as a Foreign Language (EFL Integration) |
| Grade Level(s): 8-9th Grade, 13+ | Duration: 90 minutes or more |

Learning objectives:

- Students will identify and describe physical differences between aquatic and terrestrial turtles.
- Students will explain how global warming affects sea turtles (e.g., rising ocean temperatures, nesting beach loss, temperature-dependent sex determination).
- Students will use digital tools (iPads, Google Lens) to investigate and identify turtle species.
- Students will collaborate in groups to create short presentations in English.
- Students will propose personal actions that contribute to environmental protection and climate change mitigation.
- Students will develop positive attitudes toward nature conservation through direct experience with live animals.

Teaching Method:

Inquiry-based learning combined with experiential and cooperative learning.

Teaching Techniques: Dialogue, group work, guided observation, discussion, practical investigation, digital research, cooperative presentation, interactive quiz, multimedia viewing.

Materials / Resources / Technology use:

- Live freshwater and terrestrial turtles for observation
- iPads with internet access
- Google Lens for species identification
- Projector and speakers
- Document: *ČEŠI zachraňují* (documentary excerpt about turtle rescue in Indonesia)
- Plickers app for interactive quiz



- Sticky notes and turtle-shaped paper cutouts for final reflection
- Czech and English texts for group work (provided as attachments)
- Book source: *Klimatická dobrodružství* (Tereza, vzdělávací centrum, z.ú., 2024)

Activity Description

Introduction:

Students are introduced to the day's theme: how global warming affects sea turtles. The teacher briefly explains that turtles will serve as a "flagship species" to understand broader climate impacts.

Step 1: Motivation – Short Film "Hope"

The teacher plays the short film *Hope*, showing the journey of a newborn sea turtle overcoming obstacles such as pollution and predators. After the film, students briefly discuss what challenges the turtle faced and how these relate to real sea turtles in today's environment.

Step 2: Observation of Live Turtles (Teacher-led + experiential)

- The teacher presents live aquatic and terrestrial turtles.
- Students observe differences in shell shape, limbs, feet, and body structure.
- The teacher prompts discussion: How do these features relate to their environment? Students sketch the turtles.

Step 3: Species Identification Using Technology

- Students use iPads and Google Lens to identify the turtle species.
- They compare digital results with their sketches.
- Visiting Slovenian teachers join the groups and communicate with students in English.

Step 4: Research on Climate Change Impacts

- In groups, students read provided texts (Czech + English).
- Using tablets, they search for additional information.
- Each group prepares a short English presentation explaining:
 - How ocean warming affects turtles
 - How rising temperatures influence sex ratios
 - How beach erosion and sea-level rise reduce nesting areas
 - Other threats connected to climate change.

Step 5: Group Presentations

- Students present their findings to the class
- Short Q&A with support from teachers.

Step 6: Interactive Quiz—Plickers



- The teacher runs a quiz to check understanding of turtle biology and climate change impacts.
- Students answer using Plickers cards; results appear live on screen.

Step 7: Documentary Viewing

- Students watch a segment of *Češi zachraňuj – Saved by the Czechs* focused on turtle rescue efforts in Indonesia.
- Class discussion follows: How are people helping? Which actions are most effective?

Step 8: Personal Action Proposals (Reflection)

- Each student receives a turtle-shaped paper cutout.
- They write ideas on how they personally can help protect turtles, oceans, or the climate.
- These are placed on a classroom board or poster titled “How We Can Help”.

Closure:

The teacher summarizes key points, highlighting how small actions collectively contribute to environmental protection. Students share selected reflections with the Slovenian visitors.

Assessment:

Alternative assessment:

- Observation of participation in group work
- Quality of presentations
- Accuracy of species identification using technology
- Reflection ideas on turtle cutouts

Formative assessment:

- Results from the Plickers quiz
- Teacher feedback during discussions

References:

Book (printed material):

Tereza, vzdělávací centrum, z.ú. (2024). *Klimatická dobrodružství*.

Documentary – Češi zachraňují:

Česká televize. (n.d.). *Češi zachraňují* [Documentary].

<https://www.ceskatelevize.cz/porady/11467245921-cesi-zachranuji/216562260250005/>

Short film – HOPE (YouTube):

Next Animation Studio. (2019). *Hope* [Video]. YouTube.

https://www.youtube.com/watch?v=1P3ZgLOy-w8&list=RD1P3ZgLOy-w8&start_radio=1