AI for Children

Artificial Intelligence Curriculum for Elementary and Secondary Schools

# Chatbots in the Classroom

## Worksheets for students and teaching support for teachers

kurikulum.aidetem.cz/en

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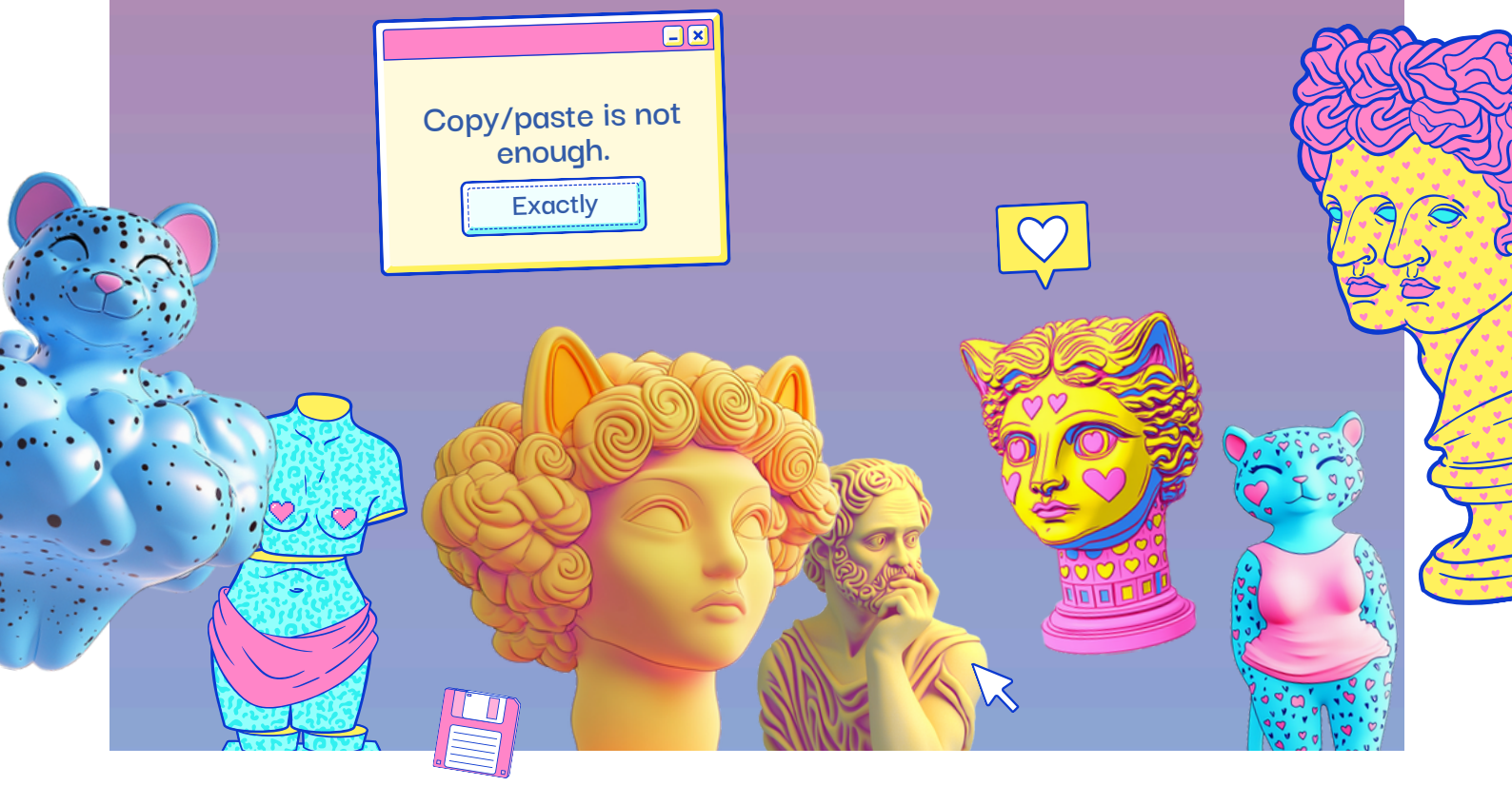


AI for Children's Artificial Intelligence Curriculum Teaching material
for the Development of Digital Competence for Elementary and Secondary Schools

# Chatbots in the Classroom

## A few words to begin

Dear Teacher,

You are receiving a teacher material developed to support the teaching of artificial intelligence at the elementary and secondary school levels. Chatbots are like millions of personalities with millions of expertise. They bring many opportunities for more effective education, but at the same time they place greater demands on critical thinking. Working with chatbots is a skill that needs to be systematically developed. This is exactly what this material is for – its goal is to provide you with methodological support and at the same time material that you can bring to your lessons in the form of worksheets.
May it be useful! And thank you for having the strength and motivation to educate students in the field of artificial intelligence!

– AI for Children team

**Introduction**

On the following pages you will find a guide to the necessary information regarding chatbots. The second part of this material is worksheets for students (on pages 5–9).

These teaching materials were translated using ChatGPT.
Please note possible imperfections in the expressions or wording.

Lesson presentation in PDF

Editable presentation in Canva

## Lesson Overview

**Recommended Age, Lesson Length**
Children aged 13-15, the length of the lesson depends on your concept.

**Building Blocks**
Chatbots.

**What Are the Students Learning?**
Chatbots can be helpful in work and learning, but they sometimes generate incorrect information. That's why it's important to think about their outputs and verify information.

**Why Are They Learning This?**
They develop learning competence, critical thinking and reading comprehension.

**How Do We Know They Have Learned It?**
Students analyze the strengths and weaknesses of chatbots, explore effective ways to use them, and reflect on the importance of ethical principles when working with them.

**Tools**
Teacher: Projection equipment and presentation.
Students: Printed worksheets and equipment for each student.

**Digital Competence**
Professional Engagement.
Communication and Collaboration.
Digital Content Creation.
Problem Solving.

**Bloom's Taxonomy**
Analyzing: Students analyze the quality of the chatbot's output.
Evaluating: Evaluates the quality of the chatbot's output.
Creating: Creates prompts for the chatbot.

**Five Big Ideas**
5-B-I AI & Culture (AI in Daily Life).

Note: Gender equality is key for AI for Children, but for brevity, we use masculine formulations in our methodologies.

# Glossary of terms

**Artificial Intelligence (AI)**
None of the definitions of the term artificial intelligence are actually fixed, but they all agree that it is a system that simulates human thinking and actions.
Artificial intelligence usually takes the form of a computer program and is used to solve tasks that previously required considerable human intellect and were therefore the domain of humans.
It is also, among other things, a scientific field with origins dating back to the first half of the 20th century. It seeks not only to understand intelligent systems, but especially to create them.

**Machine Learning (ML)**
Just as humans can learn from examples and experience, so too can man-made machines.
Machines use a method called machine learning to learn. This allows artificial intelligence systems to be more than just a set of pre-programmed actions, but to come up with new solutions on their own. The goal of machine learning methods is to discover patterns in large amounts of data. Machine learning is a subfield of artificial intelligence.

**Chatbot**
A chatbot is a computer program designed to automatically conduct a conversation with a user. It uses artificial intelligence or predefined rules to answer questions, provide information, or perform various tasks, such as booking a hotel or ordering food. Chatbots can operate in various applications, websites, or communication platforms.

**Generative Artificial Intelligence (GAI)**
Generative AI is a type of artificial intelligence that is designed to create new content, such as text, images, music, videos, and the like, based on the data it has been trained on. Unlike traditional AI systems that focus on analyzing or classifying information, generative AI uses algorithms such as neural networks to “learn” the style and structure of existing data in order to generate new, original content that is often indistinguishable from content created by humans.

**Large Language Model (LLM)**
A large language model (such as GPT-4o) is a sophisticated computer program designed to analyze and generate text. It can be used for machine translation, speech recognition, question generation, or literary synthesis, for example.
These models are trained on huge volumes of data (so-called corpora) – for example, on data obtained from the Internet (Common Crawl), digitized books, or Wikipedia. There are only a few of them in the world and, due to the demands on computer hardware, they are only created by large companies.
Currently, the best known are GPT (OpenAI), Claude (Anthropic), Gemini (Google), Llama (Meta) or LaMDA (DeepMind).

# What is a chatbot?

Previously, most of us associated chatbots with annoying automated machines on customer service lines that couldn't do much. Today, chatbots are applications that can generate and analyze texts, images, tables, etc. In short, they use so-called generative artificial intelligence.

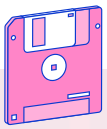
**What is generative artificial intelligence?**

Fortunately, the name completely describes what it is. These are systems that developers have shown (often) huge amounts of data and have learned how to generate new data. Specifically, texts, images, videos... but also, for example, 3D objects.

**How a chatbot generates texts**

What other word would you add to the following sentence?
She went to .....·

This is how chatbots work. They complete the next most likely word based on the context we provide it with. That's why it's very important what our input is.



## Available tools

**ChatGPT**

Chatbot from OpenAI. Free to use. No registration required. No age limits without logging in.

**Microsoft Copilot**

Chatbot from Microsoft. Free to use. No registration required. Age limits are waived without logging in.

**Claude**

Chatbot from Anthropic. Requires login, offers a free version, and can only be used by those aged 18 and over.

**Google Gemini**

Chatbot from Google. Free to use. Requires registration and can only be used by people over 18 years of age.

# Prompt

A prompt is simply an input text or command that you give to a chatbot (or other content-generating application) to create something. It's like a question or instruction that you give it to write or create something for you.

# How to create a prompt

For best results, it's crucial to phrase your questions and instructions clearly and specifically. The more specific you are with your requests, the more accurate your chatbot will respond. Try to include tone, context, format, role, goal, length, example, and limitations.

# How to teach and assess in the age of artificial intelligence

Because it is so easy to generate great-sounding text and other media in a matter of moments, we need to think about what tasks we assign, what activities we devise for students, and what and how we assess them. There are very practical strategies for this. **Based on the educational objective**, you can use AI at different levels. This strategy was developed by Australian Leon Furze and is described on his blog.

**Without AI**
The task must be completed entirely without the help of AI in a controlled environment. Students rely only on their own knowledge and skills.

**Preparation with AI**
AI can be used in preparation, for example for brainstorming, syllabus creation or initial orientation on a given topic. The main emphasis is on the effective use of AI for planning and idea generation, but students should be able to develop and refine these ideas independently.

**Collaboration with AI**
AI can assist with tasks such as generating ideas, writing, providing feedback, or editing text. Students should critically assess and edit AI outputs to demonstrate their understanding.

**Limitless AI**
Students can use AI freely, but they must focus on developing effective collaboration with AI and developing critical thinking skills. AI can be used to complete any part of the task. Students assign tasks to AI and use it to achieve the goals of the task. At this level, AI needs to be actively involved in achieving goals and solving problems.

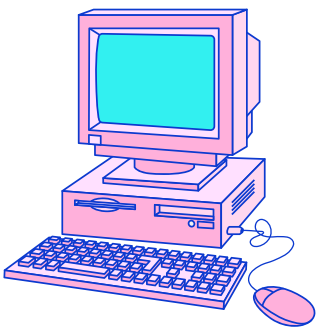
**Exploring AI**
AI is used creatively to solve problems, generate new knowledge, or find innovative solutions. Students and teachers can work together to create assignments that explore unique uses of AI in a given field.

# Emphasize understanding

What is your answer to the question: "Can you imagine giving an excellent grade to a paper that was completely generated by AI?"

Those who answer yes understand what it means. You need to have a vision, know what the result should look like. Break down complex problems into smaller parts. Be able to communicate correctly with applications (so-called prompting). And of course, the generated output needs to be critically assessed and understood. We should want students to be able to interpret such output and, ideally, work with it further.

The bottom line is that getting quality output from AI generative applications often doesn't mean making your job easier. It often requires a whole range of skills that need to be developed through practice. The main one is, of course, critical thinking.



# CHATBOTS

WHAT YOU DEFINITELY NEED TO KNOW

INFOSHEETS
VERSION 05
JANUARY 2025

## Chatbots are computer programs

They were created to be able to write like a human and answer your questions. They learned this from a large number of books, websites, and other texts and now they use this information to communicate with you.

## Sometimes they write nonsense!

Chatbots generate words and sentences based on probability. So sometimes they write something that doesn't make sense or isn't true. Think about everything they generate and verify the information.

## They don't feel anything. Really.

It may seem like the opposite sometimes, but don't be fooled. They don't understand what they're writing. So take everything they advise you with a grain of salt. Think about it with your own head or ask someone.

I take note

## Three simple but essential rules when working with chatbots

1. Create clear assignments
2. Think about the chatbot's text
3. Verify the information

# CHATBOTS

**PLEASE BE CAREFUL ABOUT THIS!**

INFOSHEETS
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## Pay attention to privacy.

Never write anything private to a chatbot – about yourself or anyone else.
Don't share anything you wouldn't say to a person on the street.

## Verify everything, think about everything. Twice.

Chatbots, by their very nature, sometimes write nonsense. Always try to understand the meaning of what they generate – even words you don't know. Automatically check facts.

## If you use a chatbot, say so.

A chatbot is just another tool. There's no reason to hide the fact that you used it, for example, to complete an assignment or something else.
Share with others how you used a chatbot. Maybe it will enrich them!

**Copy/paste is not enough.**

Exactly.

## A chatbot can be a great help in learning and work.

But it can't think like you. Learn to work with it and ask the right questions to get great results. Reflect on the generated content and evaluate it. Copy/paste is simply not enough.

## Qualities of chatbots

- They tend to have great and original ideas.
- They can teach you a lot.
- It can generate programs and many other things.

## Chatbots limits

- Sometimes they generate things that don't make sense.
- Sometimes they get their facts mixed up or miscalculate.
- They don't think like humans. They generate.

# CHATBOTS

## A FEW IDEAS ON HOW TO USE THEM

WORKSHEET
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## Let's try some prompts!

A prompt is anything you type into the chatbot. Simply put, an input.

You paste the prompt into the chatbot window. Then press Enter.

Tick if you have tried the prompt.

**Prompt ideas (replace everything in [square brackets] with your own expression and delete the brackets):**

### First greetings!

Prompt: **Hello, chatbot! This is my first time here. I enjoy [write what you enjoy]. What can you do for me?**

### Tables

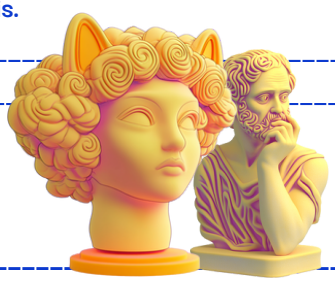
Prompt: **Create a table with [two] columns and [five] rows. In the left column, enter [fill in what should be there], in the right column [fill in here too].**

### Quizzes

Prompt: **Create a 5-question multiple-choice quiz that tests knowledge of [fill in here what it's about].**

### Emojis

Prompt: **Describe the plot of a book [write your favorite book here] using emojis.**



### Jokes

Prompt: **Come up with the funniest joke in the world.**

### Glossaries

Prompt: **Create a glossary of terms and definitions on [write topic here] for your classmates.**

Note: Don't forget to check all terms and definitions!

# CHATBOTS

## A FEW IDEAS ON HOW TO USE THEM

WORKSHEET
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### Fill-in-the-Blanks

Prompt: **Generate a text of approximately 150 words about [for example, Chuck Norris and his journey to Mordor], replacing all verbs with these symbols___.
Example: Chuck Norris ___ the steep path.**

### Role playing

Prompt: **You are [e.g., a Creeper from Minecraft]. Talk to me about how you're doing. At the same time, always give me a simple task that allows me to practice [working with Redstone]. Afterward, I will tell you how I completed the task, you will evaluate it, and then give me a follow-up task**

### Text games

Prompt: **I am trying to better understand [e.g., the Stone Age in prehistoric times]. Create an educational adventure text game that challenges me to choose one of the options before moving on to the next part of the story. The goal of the game is to understand [the Stone Age in prehistoric times], so work with known facts.**

### We learn about animals

Prompt: **Imagine you are [insert animal here] and tell me about your day! What do you experience during the day and what does your world look like? The goal is for me to learn how [insert the same animal here] lives.**

### Your older self

Prompt: **Simulate a conversation between me and my future self 20 years later. What advice would my future self give me? I am [insert your name and information about yourself here so the chatbot knows what advice the future self should give you].**

### Pointless meetings

Prompt: **Simulate a conversation between two historical figures who would never meet in real life. They are [Julius Caesar] and [Albert Einstein]. How would they talk? What would they say about their lives and work?**

### Poems and songs

Prompt: **Create a song or poem about [think of your topic]. Make sure it's fun and rhymes!**

5/5

# CHATBOTS

## A FEW IDEAS ON HOW TO USE THEM

WORKSHEET

VERSION 05
JANUARY 2025

### Comic book ideas

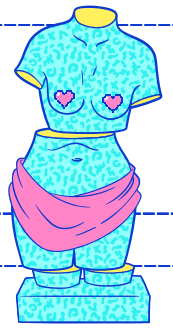
Prompt: **Help me create my own comic. Describe what is happening in each window – for example, the first window: [a computer mouse entered the mouse hole] so I can draw it.**

### Inventors!

Prompt: **Imagine I'm an inventor who needs to come up with a new way to solve a problem. Give me a problem to solve and help me design an unusual invention.**

### Small points of interest

Prompt: **Help me learn something new in 5 minutes! Explain something simple but interesting to me – like how a rainbow works or why it rains.**



### Explain it to an alien...

Prompt: **I'm a child and you're an alien learning about our planet. Ask me anything about [for example, our planet or the animals, nature, or technology we use]. I'll try to explain it to you and you tell me if you understand.**

### Top secret cipher

Prompt: **Create a super secret cipher that I have to break. You can use different types of ciphers, like Morse code or coded text, and then give me clues on how to break it.**

### Come up with another prompt!

Prompt:

### And one more...

Prompt: