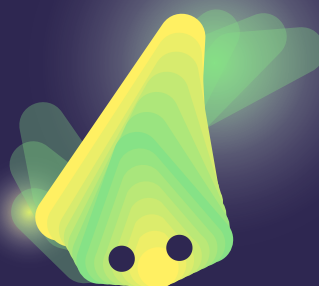




# Tiny

## What If...

Using Tinybots to develop students' thinking  
in any subject



[tiny.school/en/teacher-materials](https://tiny.school/en/teacher-materials)

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Proofreading: not yet done  
Last updated: 09/2026  
Version: 02

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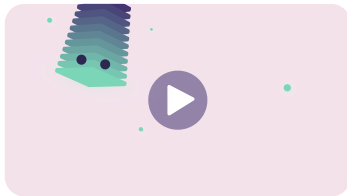
# Using Tinybots to Develop Thinking

## Introduction

The goal of meaningfully integrating generative AI (GenAI) into teaching is to use chatbots as guides for students' thinking and learning. Rather than handing out ready-made answers, the chatbot should lead students to think, ask questions, make connections, and build arguments. That is why we created Tinybots. This teaching material walks you step by step through using Tiny to bring chatbots into your lessons in a way that truly supports students' growth and thinking. We wish you every success!

The activities in this teaching material require registration in Tiny, an AI app developed by the nonprofit AI for Children. Please register in the app. If you need help, we have prepared video tutorials for you.

teacher.tiny.school

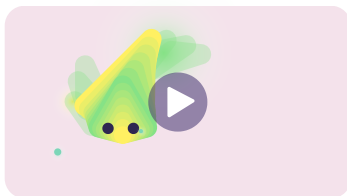


### How to Register for Tiny

Registering for Tiny is quick and easy. We have prepared two video tutorials for you:

+ teacher registration: [tiny.school/en/how-to-sign-up-as-a-teacher](https://tiny.school/en/how-to-sign-up-as-a-teacher)

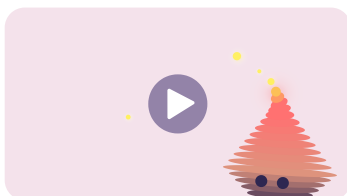
+ student registration: [tiny.school/en/how-students-sign-up](https://tiny.school/en/how-students-sign-up)



### Getting Started with Tiny

From a blank app to a live activity: create a class, set up a lesson, pick one of the eleven Tinybots, and give it a topic. Then just share the four-digit code with your students.

+ Video tutorial: [tiny.school/en/how-to-work-with-tiny](https://tiny.school/en/how-to-work-with-tiny)

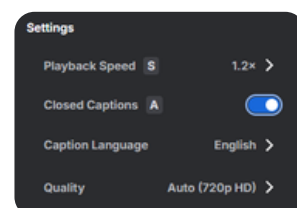


### How to Create a Lesson in Tiny

Three ways to prepare a lesson: with the Tiny Guide, from the Lesson Library, or from scratch.

+ Video tutorial: [tiny.school/en/how-to-create-a-lesson-in-tiny](https://tiny.school/en/how-to-create-a-lesson-in-tiny)

Please note that the videos are in Czech. English subtitles are available. To turn them on, click the gear icon (Settings) in the bottom right corner of the video, switch on Closed Captions, and select English under Caption Language.



# What If...

The What If... Tinybot helps students apply what they have learned to hypothetical situations. Its goal is neither to find one right answer nor to spin fantasy stories, but to guide students to think through the consequences of a change in a phenomenon or event. Students draw on their prior knowledge, connect causes and effects, and explore how the change would affect the world around them. Throughout the conversation, the chatbot also checks that their reasoning matches established facts.

## What If... at a Glance

- + Guides students through hypothetical scenarios,
- + helps them apply what they have learned,
- + develops cause-and-effect reasoning,
- + encourages them to look for connections,
- + leads with questions, not lectures,
- + connects school learning to the real world.

## When It Works Best

It works best with a clear starting scenario such as "What would happen if...?" Students apply what they already know and gradually think through the consequences in different areas. The chatbot keeps the reasoning logical and steers students toward concrete examples rather than general claims.

## What It Works Well For

- + Applying learned material to new situations,
- + developing causal thinking,
- + connecting knowledge across topics,
- + exploring effects of natural and social phenomena,
- + inquiry-based activities,
- + developing systems thinking,
- + preparing for a discussion or project.

## What It Is Not Suited For

- + Learning brand-new material,
- + memorizing facts,
- + pure fantasy stories unrelated to the curriculum,
- + topics that leave no room for cause and effect.

## How What If... Works

The What If... Tinybot is neither a lecture nor a debate, but a tool that guides students to think step by step through the consequences of a specific change. Through follow-up questions, it helps them link causes and effects and move gradually from a concrete situation to the bigger picture. Along the way, it highlights real causal links and occasionally adds short prompts or interesting connections that can take students' thinking further. If factual errors appear in their answers, it asks further questions that help students spot and correct them.

## What to Watch Out For

The chatbot is most valuable when the hypothetical scenario is specific enough and builds on material students have already covered. This is not a contest for the wildest ideas. The goal is to build plausible chains of causes and effects grounded in established knowledge.

If the scenario is based on natural laws or scientific models, the chatbot guides students to keep their reasoning consistent with known mechanisms. For alternative history or social scenarios, it allows for more than one possible outcome, as long as the reasoning is logically sound.

It is also important to remind students that the chatbot can make mistakes and that claims should be checked against reliable sources.

## Recommended Follow-Up Activities

To make the Tinybot more than a standalone activity and turn it into a meaningful step toward your learning outcome, we recommend planning a follow-up task. Here are a few ideas for building on it:

- + creating a cause-and-effect mind map,
- + group discussion,
- + arguing for and against different scenarios,
- + working with a graph, map, or article,
- + a short written reflection,
- + comparing several hypothetical scenarios.

## How to Set Up the Activity in Tiny

For the most relevant results, we recommend including the following in the Tiny system prompt:

- + the topic or curriculum content,
- + a hypothetical scenario in the form "What would happen if...?",
- + the expected outcome or goal of the activity,
- + the students' age or level.

It can also help to specify whether the chatbot should focus on natural, social, or technological consequences, and whether it should use concrete examples or work with a map, graph, or text.

### Example of a Good Prompt

"Lead a 9th grader through a discussion of this question: What would happen if the Gulf Stream stopped? Guide them from explaining the role of the Gulf Stream, through changes in climate, to the effects on agriculture and people's daily lives. Focus on chaining causes and effects and on concrete examples. Avoid general claims and jumping between topics."

### Example of a Poor Prompt

"What would happen if there were no oceans?"

## Sample Prompts

### English Language Arts

**Topic:** Punctuation

**Age:** 12 to 13

**Length:** 10 minutes

**Learning outcome:** Students understand the role of commas in a sentence and explain how they affect the meaning of a message.

#### Enter this prompt into the chatbot:

Lead a discussion on the question: "What would happen if English had no commas?" Start with simple sentences whose meaning changes when a comma is left out, such as "Let's eat, Grandma!" Then think together about how everyday communication, written texts, or schoolwork would change. Encourage the student to give concrete examples. Focus on changes in sentence meaning, practical consequences, and concrete examples. Avoid long explanations of rules and overly abstract reasoning.

## Math

Topic: Pythagorean Theorem

Age: 13 to 14

Length: 10 minutes

**Learning outcome:** Students understand why the Pythagorean theorem matters and can explain its practical uses.

**Enter this prompt into the chatbot:**

Lead a discussion on the question: "What would happen if the Pythagorean theorem did not hold?" Start with simple situations (measuring distances), then move on to construction, maps, navigation, or technology. Help the student find connections between math and everyday life.

Focus on practical uses of math, causes and effects, and real-world connections. Avoid abstract reasoning without concrete examples.

## Geography

Topic: Water on Earth

Age: 12 to 14

Length: 10 minutes

**Learning outcome:** Students explain the importance of the water cycle and describe the consequences of a long-term drought.

**Enter this prompt into the chatbot:**

Lead a discussion on the question: "What would happen if it didn't rain in California for a whole year?" Start with how the student would notice the change in their own life. Then gradually move on to nature, agriculture, water supply, electricity generation, and people's everyday lives. Encourage the student to connect the individual consequences and explain how they build on each other. Focus on chaining causes and effects, linking natural and social impacts, and concrete examples. Avoid catastrophic scenarios without explanation and jumping between topics.

## History

Topic: The Roman Empire

Age: 15 to 16

Length: 10 minutes

**Learning outcome:** Students explain the possible consequences of the Roman Empire's survival and support their reasoning with historical context.

**Enter this prompt into the chatbot:**

Lead a discussion on the question: "What would happen if the Roman Empire had never fallen?" Start with Europe, then move on to culture, languages, law, and systems of government. After each answer, develop one specific consequence and guide the student to base their reasoning on well-known historical facts. Focus on historical connections, chains of consequences, and concrete examples. Avoid unsupported speculation and general claims.

## Computer Science

Topic: The Internet

Age: 10 to 12

Length: 10 minutes

**Learning outcome:** Students describe the consequences of an internet outage and explain their causes.

**Enter this prompt into the chatbot:**

Lead a discussion on the question: "What would happen if the internet stopped working for one day?" Start at a personal level (home, school), then move on to transportation, banking, health care, or retail. After each answer, help the student develop further follow-up consequences. Focus on concrete situations, causes and effects, and connections between different areas of life. Avoid general claims and overly technical details.

# More Tinybots

**Tiny offers eleven chatbots that don't hand out ready-made answers but guide students' thinking.**

To keep things clear, we have grouped them into categories based on the revised Bloom's Taxonomy. The flower diagram shows the cognitive levels (labeled at the bottom), with the individual Tinybots branching out from them (at the top). This grouping helps Tiny set the right learning outcomes and rubrics, which we use to give you and your students feedback on their conversations. You'll find a description of each Tinybot type, along with its teaching material, here: [tiny.school/tinybots](https://tiny.school/tinybots)

