

FOUNDATIONS AI CURRICULUM

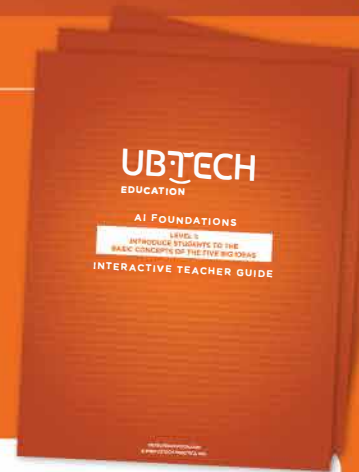
TARGET GRADE LEVELS:
K-12

CURRICULUM FOCUS:
Artificial Intelligence

COMPATIBILITY:
No hardware required

HIGHLIGHTS

- Appropriate for any K-12 classroom, without the need for hardware
- Introduce and reinforce the Five Big Ideas of AI in easy to implement foundational concepts using Five Big Ideas as developed by AI4K12
- Each leveled unit covers the concepts of: Perception, Representation & Reasoning, Learning, Natural Interaction, and Societal Impact



Give students a relevant, approachable, and hands-on introduction to the fundamental concepts of Artificial Intelligence.

CURRICULUM OVERVIEW

GRADES K-2: INTRODUCE STUDENTS TO THE BASIC CONCEPTS OF THE FIVE BIG IDEAS

- Main Objectives:
- Explore the five senses
 - Create a model that represents your family
 - Practice making facial expressions to represent your emotions
 - Discuss how good and bad behavior can affect others
 - How to identify AI
 - Learn how signals are sent to the brain

GRADES 3-5: BUILD ON STUDENT'S UNDERSTANDING OF THE FIVE BIG IDEAS

- Main Objectives:
- Learn how sensors help a computer perceive its environment
 - Write stories that model AI decision making before training a model to recognize images and sounds
 - Perform your own Turing tests in order to differentiate between a computer and a human
 - Research the impacts of AI on our present and future society

GRADES 6-8: DEEPEN AND BROADEN STUDENT'S KNOWLEDGE OF THE FIVE BIG IDEAS

- Main Objectives:
- Play a game that explores the binary system to understand input through sensors
 - Learn how AI systems use models to make decisions by creating your own representations based on tic-tac-toe
 - Learn about machine learning utilizing hands-on activities of labelling data and allowing the machine to recognize patterns and classification of data
 - Explore "Natural interaction of AI" through chatbots and evaluating poetry created by AI
 - Discuss unintended consequences of AI and algorithmic biases that occur

GRADES 9-12: APPLYING AND EXPLORING DIFFERENT AI TECHNIQUES USING FIVE BIG IDEAS

- Main Objectives:
- Explore binary conversions
 - Research the difficulties computers have with and the code behind speech recognition
 - Review the different types of search and machine algorithms
 - Introduce training neural networks
 - Discuss and debate different AI-related topics

After completing the Foundations course, students will be ready to extend their knowledge with UBTECH's K-12 AI Curriculum and UKITs.