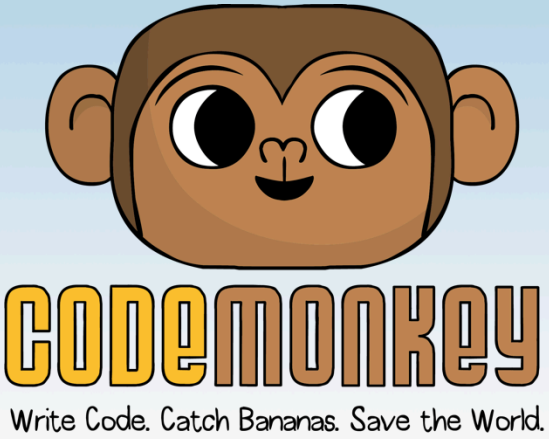

Courses & Curriculum

About CodeMonkey

CodeMonkey is a leading, fun and intuitive curriculum for kids to learn coding. Through game and project-based courses, students as young as 7 use real programming languages to solve puzzles and build games and apps. The majority of CodeMonkey's courses do not require prior coding experience to teach. All courses are designed for school, extra-curricular and home-use.

CodeMonkey is a game-based learning environment where children learn to code in real programming languages. Ever since CodeMonkey's founders started to code in the 1990's, they knew how powerful code literacy can be for a child's future. CodeMonkey was founded in 2014 based on one of the founder's successful experiences in teaching young children to code through playful activities. Today, CodeMonkey is made up of a team of experts in technology, gaming and pedagogy in order to deliver fun, educative content to millions of learners around the world. In addition, CodeMonkey provides parents, teachers and students the opportunity to attain the most cutting-edge computer programming education. Check it out for yourself and learn how to write code, catch bananas and save the world - one line of code at a time.

CodeMonkey's mission is to provide an inclusive path for youngsters into the ever-expanding world of code

December 2021
CodeMonkey Studios

CODING COURSES

❑ CodeMonkey Jr: Ages 4-6

- ❑ CodeMonkey Jr. teaches preschoolers the basics of coding
- ❑ With the progression of challenges, CodeMonkey Jr. eases pre-readers into gaining an advanced understanding of fundamental coding concepts.
- ❑ Using blocks, pre-readers will build a set of visual coding instructions to help lead a monkey to a treasure chest. Along the way, they will learn and practice coding concepts.
- ❑ Webpage
- ❑ 120 challenges

❑ CodeMonkey Jr: Sequencing and Loops

- ❑ Students will plan the monkey's journey to get to the treasure chest. Along the way, they will also need to collect bananas.
- ❑ Students will learn sequencing and loops.
- ❑ Webpage
- ❑ 30 challenges
- ❑ Number of Lessons: 10

❑ CodeMonkey Jr: Advanced Sequencing and Loops

- ❑ Students will continue the adventure to get to the treasure chest.
- ❑ As challenges get more advanced, students will need to first plan their moves to get the bananas and then plan their moves to get to the treasure chest.
- ❑ Students will practice sequencing and loops.
- ❑ Webpage
- ❑ 30 challenges
- ❑ Number of Lessons: 7

❑ CodeMonkey Jr: Conditional Loops

- ❑ Flowers are scattered along the way, students will code the monkey to move until reaching the flowers and then getting to the treasure chest.
- ❑ As challenges get more advanced, students will need to use more than one loop in order to get the bananas before getting to the treasure chest.
- ❑ Students will practice sequencing and conditional loops.
- ❑ Webpage
- ❑ 30 challenges
- ❑ Number of Lessons: 6

❑ CodeMonkey Jr: Procedures

- ❑ Procedures (square, triangle or circle) are placed along the monkey's journey. Students will need to drag blocks to the procedures to move the monkey along the path to the treasure.
- ❑ As challenges get more advanced, students will need to check which way to go first to get the bananas before getting to the treasure chest.
- ❑ Students will practice sequencing and procedures.
- ❑ Webpage
- ❑ 30 challenges
- ❑ Number of Lessons: 6

❑ **Beaver Achiever: Ages 6-8**

- ❑ Beaver Achiever is a block-based game.
- ❑ Using blocks, early-readers will build a set of visual coding instructions to help the beaver perform various tasks such as build a dam, build a house, prepare drinks. Along the way, they will learn and practice coding concepts.
- ❑ Each challenge includes a hint to assist in solving the challenge. The hint includes the structure of the code with most/some of the blocks needed.
- ❑ Webpage
- ❑ 115 challenges

❑ Beaver Achiever: Sequencing and Simple Loops

- ❑ Students will help the beaver build a dam. In each challenge sone logs are missing in the dam. The students will need to move the beaver left or right and drop the logs to build the dam.
- ❑ Students will learn sequencing, repeat loops, nested loops, loops with a counter.
- ❑ 40 challenges
- ❑ Number of Lessons: 8

❑ Beaver Achiever: Conditional Loops

- ❑ Students will help the beaver build a house and a roof.
- ❑ In the first part of this activity the beaver will build a wall in its house. In each challenge the beaver will need to chop wood until they are at the correct size (large, medium, or small). Each challenge includes the woods already chopped and placed in previous challenges until the wall is completed.
- ❑ In the second part, the beaver builds the roof to its house. In each challenge, the beaver needs to place a tile and move forward. The beaver also needs to turn. In some challenges, the tiles break and the beaver needs to fix them (instead of placing them).
- ❑ Students will learn sequencing, repeat loops, until loops, while loops.
- ❑ Students need to complete Beaver Achiever: Sequencing and Simple Loops before they can start this activity.
- ❑ 35 challenges
- ❑ Number of Lessons: 7

❑ Beaver Achiever: If Else Conditions

- ❑ Students will help the beaver prepare smoothies for his customers and will also open a factory.
- ❑ In the first part of this activity, the beaver will prepare smoothies for his customer. Each customer likes a different fruit smoothie. The beaver will decide which fruit to add to the blender based on the customer.
- ❑ In the second part, the beaver opens a factory and prepares bottles of drinks. The beaver needs to assort the fruits to the correct blender based on the fruits' color.

- ❏ Students will learn sequencing, if/else, or, nested if/else
- ❏ Students need to complete Beaver Achiever: Sequencing and Simple Loops before they can start this activity.
- ❏ 40 challenges
- ❏ Number of Lessons: 8

❏ Coding Adventure (parts I, II, III) Ages 9-12

- ❏ Coding Adventure is an educational game-based environment where students learn to code in a real programming language as they help a monkey catch bananas. Coding Adventure provides an easy entry into text-based coding, paving the way for students to proceed to learning advanced subjects in Computer Science, such as game design, algorithms, and data structures.
- ❏ Coding Adventure is made-up of over 400 total concept-building exercises. In each of these challenges, the screen is divided in half - with the editor on the right-side and the stage on the left.
- ❏ Editor: where students write their code and click on buttons to easily add statements and functions into the code.
- ❏ Stage: shows the results of the code occurring in real-time.
- ❏ Map: allows students to return to any previously completed lesson.
- ❏ Tips/hints: The system provides humanized explanations of syntax and runtime errors and specific hints designed to assist in the completion of each level.
- ❏ The system currently runs CoffeeScript.
- ❏ Trailer
- ❏ Webpage
- ❏ 210 Story Mode challenges and 210 Skill Mode challenges

❏ Coding Adventure Part I: Fundamentals

- ❏ Challenges 0-75

- ❏ Students need to help a monkey catch bananas in 75 fun-filled challenges. Throughout the game, they will meet cute characters as they learn coding the fundamentals of objects, loops, variables, array indexing and for loops.
- ❏ Personalized hints and tips included every step of the way.
- ❏ Recommended grades: 3rd – 5th grade
- ❏ Number of Lessons: 16
- ❏ Time per Lesson: 45 minutes
- ❏ 75 challenges + correlating Skill Mode challenges

❏ Coding Adventure Part II: Functions and Conditions

- ❏ Challenges 76-145
- ❏ In this part of Coding Adventure, students will learn functions and Boolean logic (if-else, AND, OR). They will meet cats in the desert, goats in the wintertime and learn how to unfreeze frozen bananas as they learn more advanced coding concepts.
- ❏ Recommended ages: 3rd – 5th grade
- ❏ Number of Lessons: 16
- ❏ Time per Lesson: 45 minutes
- ❏ 70 challenges + correlating Skill Mode challenges

❏ Coding Adventure Part III: Logic and Events

- ❏ Challenges 146-210
- ❏ In the final part of Coding Adventure, students will not only learn logic and events, but they will finally get to take on the gorilla. They will learn all about Operator NOT, comparisons, function return values and using events triggered by their mouse and keyboard.
- ❏ Recommended ages: 3rd – 5th grade
- ❏ Number of Lessons: 16
- ❏ Time per Lesson: 45 minutes
- ❏ 65 challenges + correlating Skill Mode challenges

❏ Trivia Chatbot Hour of Code: Ages 16+

- ❏ Trivia Chatbot introduces students to Python
- ❏ Objective: code a chatbot that can interact with users and test their trivia knowledge.
- ❏ Trivia Chatbot teaches python, server-side programming, chatbot development, string manipulation, data structures, loops, conditionals, and variables.
- ❏ Self-guided course
- ❏ 16 exercises

❏ Moon Lander Hour of Code: Ages 11-16

- ❏ In the game, students use code and 6-9th grade physics concepts in order to help a spaceship land safely. Along the way, they will learn about the power of gravity, understand the meaning of thrust force and learn more advanced concepts in coding and game design.
- ❏ 17 exercises
- ❏ Number of Lessons: 2

❏ Banana Tales: Ages 12-14

- ❏ Banana Tales is a comprehensive coding course that teaches 6th and 7th graders Python.
- ❏ The goal of the game is to move the banana to the monkey, by clearing a path and overcoming obstacles along the way. Every few challenges, new animals are introduced to help clear the path. After students write their code, they will click on the banana to get it moving.
- ❏ Hints and tips included.
- ❏ Webpage
- ❏ 150 challenges

❏ Banana Tales: Python Fundamentals

- ❏ Challenges 1-87

- Students will help feed a baby monkey by bringing him a banana using unusual modes of transportation. Along the way, they will write Python code in order to overcome different obstacles such as fiery dragons and unpredictable terrain.
- Students will learn sequencing, lists, indexing, for loops, variables, if/else conditionals, while loops, Boolean operators and functions.
- 87 challenges
- Number of Lessons: 12

- Banana Tales: Advanced Topics
  - Challenges 88-150
  - Students will continue the tale of getting a baby monkey his bananas, except this time they will use advanced Python to do so! Along the way, they will come across all types of creatures and realms.
  - Students will complete their journey having learned classes, input, string manipulation, advanced data types, 2D lists and bubble sort.
  - 63 challenges
  - Number of Lessons: 10

- **Coding Chatbots: Ages 13+**
  - Coding Chatbots is a project-based course where students learn Python and chatbot interface elements as they program a popular-guessing game and a chatbot.
  - Students will learn variables (strings, numbers & Boolean), conditionals, loops, Python built-in functions, Classes and Class Methods.
  - Webpage
  - 74 exercises
  - Number of Lessons: 16

- **Challenge Builder: Ages 7-16**

- Challenge Builder is a project-based platform that allows students to create their own Coding Adventure-styled challenges.
- Equipped with an editor on the left and game-screen on the right, students can showcase their knowledge by writing code that incorporates recently-learned coding concepts.
- Teachers can utilize this platform in their lessons to help to bring out student creativity and assess student knowledge.
- Create and share challenges.

GAME DESIGN COURSES

- **Game Builder: Ages 12-16**
  - Game Builder enables students to execute every stage of the game-creation process - from choosing their own backgrounds to programming the rules of their games. Advanced learners can build their own games from scratch while beginners can work their way up by choosing a pre-built template or remixing an already-built game.
  - The Game Design Courses are fully-guided courses that help students reinforce the code-literacy skills they learned during the Coding Adventure and apply them in a game-building environment.
  - Trailer
  - Webpage

- Platformer Course
  - Teach the fundamentals of game design
  - Master keyboard user-interface and game mechanics, including keyboard events, timers, collision events, and more!
  - Afterwards, students will be able to share their very own Super Mario™ styled games.
  - Self-guided course
  - 35 fully detailed exercises
  - Number of Lessons: 7

- ❏ Frogger Course
  - ❏ Students will learn how to create their own versions of the classic game Frogger™.
  - ❏ Student-created games will be controlled via touch interface and can be played on mobile phones.
  - ❏ Self-guided course
  - ❏ 30 fully detailed exercises
  - ❏ Number of Lessons: 7

- ❏ Sprite Animations Course
  - ❏ Students will draw images, program animations, and create original sprites for their very own games.
  - ❏ Self-guided course
  - ❏ 26 exercises
  - ❏ Number of Lessons: 5

- ❏ Create Games
  - ❏ Platform for freestyle game-creating.
  - ❏ Share games
  - ❏ Student creations are compatible with any PC, laptop or mobile device.

- ❏ **Game Builder Hour of Code**
  - ❏ Get a preview for the endless possibilities with code. This course provides a sample experience of what it's like to learn game design with CodeMonkey.
  - ❏ Recommended ages: 5^{th} – 6^{th}+ grade
  - ❏ 15 exercises

MATH THROUGH CODING COURSES: Ages 7-10

❑ Dodo Does Math

- ❑ Dodo Does Math consists of three courses that help students practice their math and coding skills.
- ❑ Each course covers a different math topic from measuring distances and angles to skip counting and multiplication.
- ❑ In each challenge, students need to help get the dodo to its eggs through using math and code.
- ❑ Students need to complete the first 30 challenges in Coding Adventure to prepare for Dodo Does Math
- ❑ Trailer
- ❑ Webpage
- ❑ 60 total challenges

❑ Dodo Does Math: Distances

- ❑ Practice distances with an interactive platform for adding, subtracting and measuring using a life-like ruler. Enjoy fun characters and graphics in 20 distance-oriented challenges that focus on holistic thinking.
- ❑ 20 challenges
- ❑ Number of Lessons: 3

❑ Dodo Does Math: Angles

- ❑ This course incorporates writing real code as users need to add angles and distances together to help get the dodo to the eggs.
- ❑ Life-like protractor for measuring angles.
- ❑ 20 challenges
- ❑ Number of Lessons: 3

- Dodo Does Math: Multiplication
  - With guidance throughout the way, students get to learn and practice the fundamentals of multiplication.
  - 20 challenges
  - Number of Lessons: 3

- Dodo Does Math Hour of Code: Ages 7-10
  - Students will improve their math skills while helping the Dodo retrieve her missing eggs
  - Tools: Ruler and protractor to measure distances and angles
  - 20 challenges

Write code. Catch bananas. Save the world.