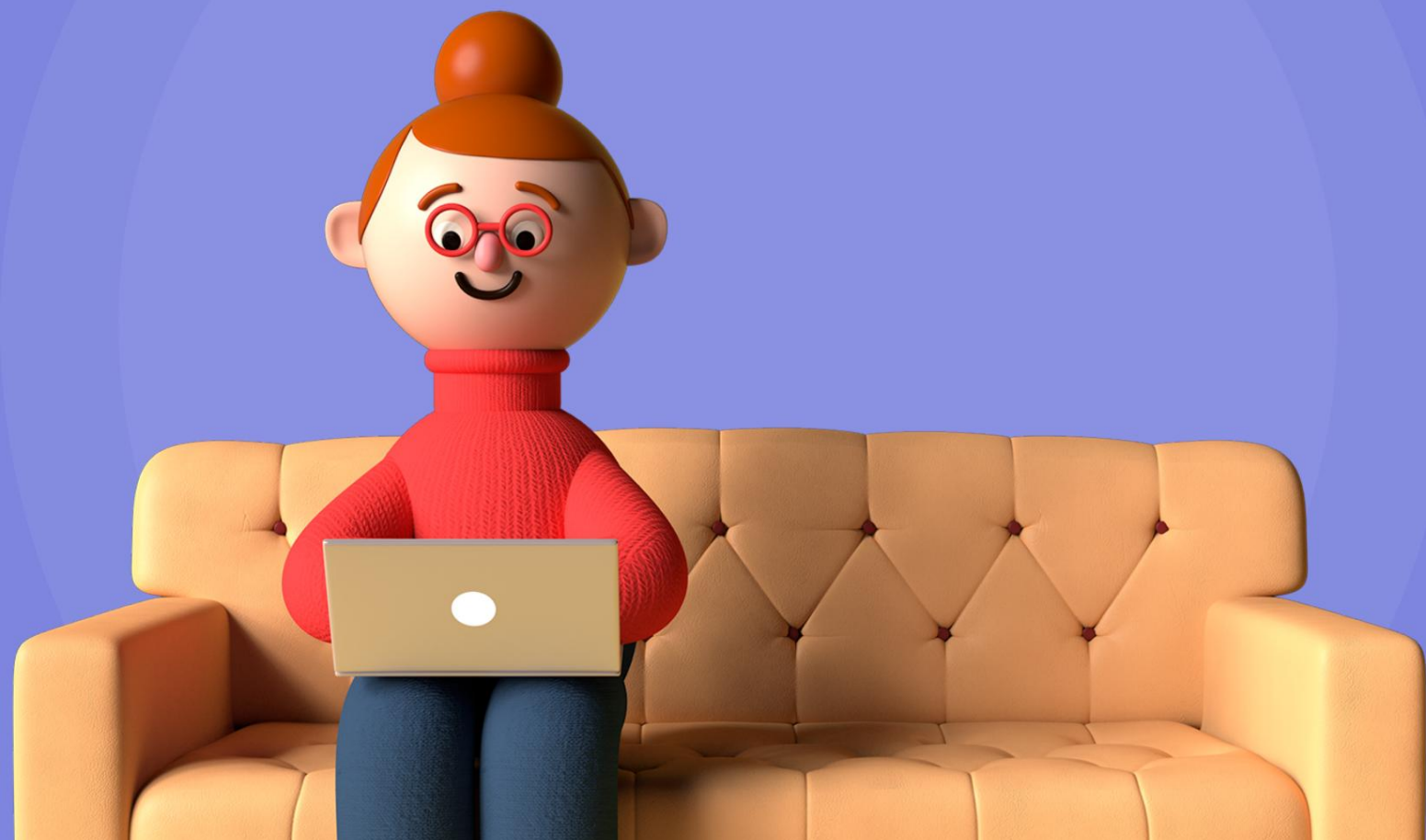# COURSE PROGRAM

## Making games
## in Minecraft

EASYSKILLS

# HOW DOES TRAINING GO?

The course consists of 4 modules

16 lessons once a week

1.5 hours each (2 academic hours)

# DESCRIPTION

# COURSE

For many children, Minecraft has become not just a game, but a way of self-expression: small cubes allow you to model entire worlds and control the actions of heroes. While learning to program in Minecraft, the guys perform various tasks and go through mini-games. Game elements

govern             with the help of special
program commands that look like small blocks. These blocks must be placed in a certain sequence in order for the program to put them into action. Thus, the guys write the program code.
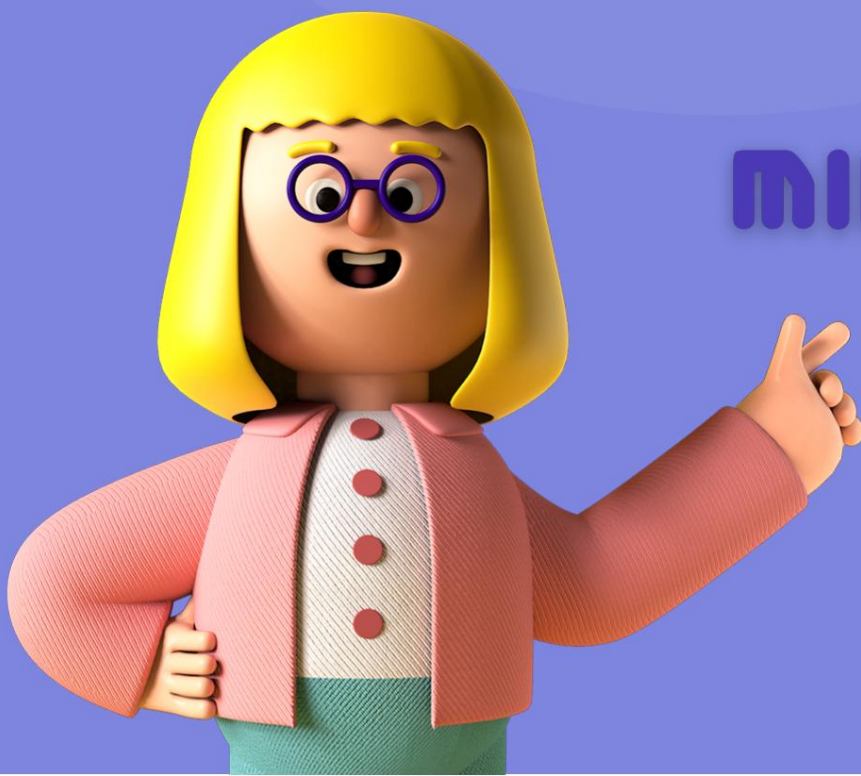
MINECRAFT

# RESULTS TRAINING

By the end of the Making Games in Minecraft course, your child will:

- master the basics of programming in Minecraft

- learn to apply the acquired knowledge in practice, creating game objects

- will develop        skills              planning, algorithmic and spatial thinking

- learn how to work in a team turn the passion

- for the game into a useful learning process

# Children's online programming school EasySkills

The purpose of the course: to introduce children to the initial stages of programming using Minecraft.

**EASYSKILLS**

## Course program: module 1

**Lesson 1**   **What is a performer?**

- Passing the tutorial level, getting to know the interface and controls in Minecraft; New features of the Education Edition mod; Introducing Turtle Robots – Turtle
-
-

**Lesson 2**   **What is an algorithm, program?**

- Writing programs in a visual editor; Repeat Loops
-

**Lesson 3**   **More complex algorithms.**

- Changing active cell slots; Construction of
- colorful buildings

**Lesson 4**   **Control lesson - team projects.**

- Check of knowledge;
- Building bridges in teams

# Children's online programming school EasySkills

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**EASYSKILLS**

## Course program: module 2

**Lesson 5**  **The concept of a subroutine. Implementation of subroutines.**

- Using programs inside others; Subprograms
- - procedures; Ideas for improving
- procedures, functions

**Lesson 6**  **Procedures, large buildings.**

- Building walls;
- Construction of ceilings;
- Building rooms with foundations and ceilings

**Lesson 7**  **Construction of buildings in the city - team projects.**

- Application of knowledge when working in a
- team; Building castles; Building skyscrapers
-

**Lesson 8**  **Mining.**

- Consolidation of the studied material;
- Resource extraction algorithms and their implementation

The purpose of the course: to introduce children to the initial stages of programming using Minecraft.

**EASYSKILLS**

## Course program: module 3

**Lesson 9**     **while loops.**

- Improvement of resource extraction algorithms;
- Loops with conditions; Automation of extraction
- and transportation of resources

**Lesson 10**     **Conditional constructs if.**

- Improvement of the tunneling program;
- Conditional constructions If; Pinning While
- Loops

**Lesson 11**     **Labyrinths.**

- Construction of labyrinths;
- Passage of labyrinths; Fixing
- if conditions and while loops

**Lesson 12**     **City decoration.**

- Application of the studied material in team projects

# Children's online programming school EasySkills

The purpose of the course: to introduce children to the initial stages of programming using Minecraft.

## Course program: module 4

**EASYSKILLS**

**Lesson 13**    **Optimization of algorithms.**

- The time it takes the turtle to complete certain tasks

- commands; What is and why optimization of algorithms
- is needed; Analysis of examples - tasks to simplify algorithms

**Lesson 14**    **Optimization of interaction of programs with the user.**

- Useful features of the turtle; Turtle
- communication with the user; Why a
- good software interface is important

**Lesson 15**    **Turtle and redstone.**

- Creating traps in the maze with the help of turtles; Creation
- of logical quests; Small mini-games
- 

**Lesson 16**    **Control session.**

- The last lesson with the turtles;
- Application of the studied material in team projects