

# Manual on Scratch: A SynBio Game



**iGEM Thessaloniki and Patras 2021**

|  [@iGEMthessaloniki](https://www.facebook.com/igemthessaloniki)

[IGEM Patras](https://www.facebook.com/igempatras) | 

|  [igem.thessaloniki](https://www.instagram.com/igem.thessaloniki)

[igempatras](https://www.instagram.com/igempatras) | 

| [igemthessaloniki@gmail.com](mailto:igemthessaloniki@gmail.com)

[igempatras@gmail.com](mailto:igempatras@gmail.com) |

## Table of Contents

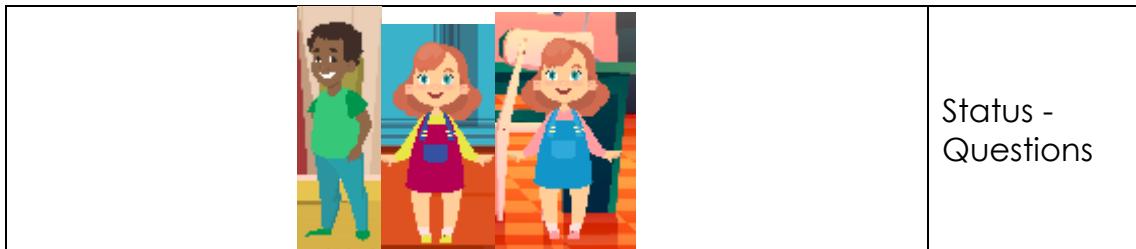
<b>Game Description</b>	<b>3</b>
<b>Game Rules</b>	<b>5</b>
<b>For programmers</b>	<b>5</b>

## Game Description

The SynBio Game is an educational game coded with Scratch, which consists of several questions concerning synthetic biology, based on the biology school book for gymnasiums. There are three different levels, each corresponding to the knowledge acquired during a school year. Each level consists of 8 up to 16 different multiple choice questions, with the answers being randomly assigned to answer scripts, so that there is no repeatability.

The table of all scripts and their role is displayed below:

Sprite	Role
	Start Game
	Educational Level
	Life
A      B      C      D	Answers
	Player



## Game Rules

Instructions on how to play the game are below:

- Step 1:** Click on start game
- Step 2:** Select the school level by clicking on the corresponding letter (A, B, C)
- Step 3:** Control your character with the arrow keys. The answer is given once the character meets the answer script you have selected for the question (A, B, C, D)

At the beginning of each level the player has two lives (three wrong answers). If there is a third wrong answer the game stops and the player loses, otherwise the game continues until all questions are answered and the player wins.

## For programmers

Analytical explanation of the sprites:

Sprite	Function
	Spite for the game to start. When it is clicked, it broadcasts message that the game has started
	Sprites for the educational levels. When it is clicked, it broadcasts a message that an educational level has been chosen by the user
	Sprites for the lives. These scripts count the lives of the player (hidden or shown).
	Sprites for the answers. They display the answers that are

	registered in the list "answers"
	Sprites for the Player. They initialize all the variables and can be used by the user to both select the answer and change the "life" variable.
	Sprites for the Questions. They display the questions registered in the list "Questions" and inform the player when the game is over.