NOVA RNA LAB STANDARDS ALIGNMENT

Next Generation Science Standards

The following performance standards are addressed by the RNA Lab videos and game*:

Middle School

Structure, Function, and Information Processing (MS-LS1)

- ✓ MS-LS1-1--Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.

Engineering Design (MS-ETS1)

- ✓ MS-ETS1-2--Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
- ✓ MS-ETS1-3--Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

High School

Structure and Function (HS-LS1)

- ✓ HS-LS1-1--Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins, which carry out the essential functions of life through systems of specialized cells.

Natural Selection and Evolution (HS-LS4)

- ✓ HS-LS4-1--Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.

Engineering Design (HS-ETS1)

- ✓ HS-ETS1-2--Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
- ✓ HS-ETS1-4--Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

*Please note standards are referenced from the Next Generation Science Standards.
Find the full standards here: www. nextgenscience.org

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Next Generation Science Standards | **RNA Lab Components**

Three Dimensions	Protein Synthesis in the Cellular Factory	The RNA Origin of Life	Virus Wars	RNA Game
Scientific & Engineering Practices				
1. Planning and carrying out investigations				√
2. Developing and using models				√
3. Engaging in argument from evidence				√
4. Analyzing and interpreting data				√
6. Constructing explanations and designing solutions				√
7. Using mathematics and computational thinking				√
Crosscutting Concepts				
1. Scale, proportion, and quantity	√			
2. Structure and function	√	√	√	
3. Patterns		√	√	√
4. Systems and system models				√
Disciplinary Core Ideas				
Life Science				
– LS1.A Structure and function	√	√	√	
– LS4A: Evidence of common ancestry and diversity		√	√	
Engineering Design				
– ETS1.B Developing possible solutions				√
– ETS1.C Optimizing the design solution				√

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