**Discover the Microbes Within! The *Wolbachia* Project &**

**Next Generation Science Standards**

**HS-LS1-1: From Molecules to Organisms: Structures and Processes**

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.

**HS-LS1-2: From Molecules to Organisms: Structures and Processes**

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

**HS-LS1-6: From Molecules to Organisms: Structures and Processes**

Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

**HS-LS2-2: Ecosystems: Interactions, Energy, and Dynamics**

Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.

**HS-LS2-7: Ecosystems: Interactions, Energy, and Dynamics**

Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

**HS-LS3-1: Heredity: Inheritance and Variation of Traits**

Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.

**HS-LS4-1: Biological Evolution: Unity and Diversity**

Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.

**HS-LS4-2: Biological Evolution: Unity and Diversity**

Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.

**HS-LS4-3: Biological Evolution: Unity and Diversity**

Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.

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