Teacher Guide:
Wolbachia & Reproductive Parasitism

Goals
In this lab activity, students will:

- Learn about reproductive parasitism
- Discuss the impact of *Wolbachia* symbiosis on arthropods

Learning Objectives
Upon completion of this activity, students will (i) understand that *Wolbachia* is associated with four types of reproductive parasitism; (ii) assess the potential impact of *Wolbachia* symbiosis on arthropod populations; (iii) differentiate between genotype and phenotype; (iv) differentiate between host and symbiont.

Activity Format
This activity is recommended as a class discussion. It may also be performed in small groups (2-4 students).

Prerequisite Skills
No prerequisite skills are required for this activity.

Teaching Time
The entire activity will take approximately one class period.

Supplies
Students will need a copy of the discussion questions and Figures A and B. A computer with internet access will be helpful if working in small groups.

Recommended background materials
The following videos provides background context to this activity, and to The *Wolbachia* Project in general. We recommend watching the videos as a class or assigning to watch on the evening before this activity.

I Contain Multitudes: Mosquitoes Might SAVE Lives, Thanks To Bacteria
https://www.pbs.org/video/mosquitoes-might-save-lives-thanks-to-bacteria-ufusya/
From PBS Digital Studios, Ed Yong talks with Dr. Scott O'Neill about the use of *Wolbachia* to combat mosquito-borne diseases. This 9-minute video introduces *Wolbachia*-induced reproductive parasitism and discusses *Wolbachia*'s ability to block the transmission of viruses.

Cytoplasmic Incompatibility Genes and Applications
https://youtu.be/tgUFKHm0eu4
From NSF Science Now, Dr. Seth Bordenstein discusses cytoplasmic incompatibility and the potential use of *Wolbachia* to control the spread of insect-borne diseases and agricultural pests.

Answer Key
To obtain an answer key, contact info@wolbachiaproject.org.