Name:_____

IDENTITY: *Bee Occupation*

"The bee is more honored than other animals, not because she labors, but because she labors for others."

— St. John Chrysostom

During adolescents, valorization through meaningful work is of critical importance for aiming the burgeoning creativity and mental capacity of the developing individual towards a common good for oneself and society. Montessori discussed the importance of work on the land to learn science, math, and history while raising animals in order to sell their products— be them eggs, honey, or wool— all of which contribute to the economic prosperity of the local community. By using knowledge for purposeful means, adolescents grow their minds, their hands, and their hearts.

In parallel, the honeybee is all about big work for the good of the entire hive. Each bee has a specific job and needs to be a part of the community and contribute to the good of the hive. Bees constantly assess the situation of their hive and look for work that needs to be done, never leaving work for others to do. The queen's job is to lay eggs to assure that the community can live on, so during summer she tirelessly lays 1,500 eggs every day.

In this unit, we will explore the social and physical aspects of bees, continually comparing bees and their behavior to that of human society. We will use math to explore the flight of bees and the relationships between their waggle dances and the distance to nearby food sources. Through this journey, we will discover the importance of bees to humans, the local community, and the larger environment in our effort to plan and prepare our campus to establish and operate its own beehive community.

Essential Question

How can establishing a beehive on our campus benefit our school community and the larger environment beyond?

Guiding Questions

1. Can human beings survive on Earth without honeybees?
2. What role does the honeybee play within the larger ecosystem?
3. Are beehives a democracy or a monarchy?
4. Is it mathematically possible for a honeybee to fly?
5. What are the essential needs of a honeybee?

What You Will Learn

1. The benefits of honeybees to human beings (including microeconomy opportunities) and the natural environment.
2. The anatomy of a honeybee as compared to a human being.
3. The energy of bees (potential energy and kinetic energy in flight)
4. The physical requirements of a honeybee community and how to care for one.
5. Honeybee safety and community concerns.

Final Project Work

1. Students will prepare a proposal for a campus beehive including the following components:
    a. The proposal needs to have a site plan of the MCS campus based on future expansion, to scale, indicating two proposed locations for the hive. You must also provide written reasoning for the location based on the needs of the bees and the limitations of our campus.
    b. The proposal needs to provide compelling evidence that a hive on campus would benefit the larger ecosystem and the human community outside the MCS property lines (natural and human).
    c. The proposal needs to include a cost estimate for the installation of the hive, and a timeline of when different parts of the project could be completed.
2. Students must present their proposal to the MCS administration (Tim, Keturah, Angela, and Dave) in January.

Classwork

1. Participate in seminar (actively read and come prepared to discuss).
2. Participate in lessons, including follow-up work with student choice.
3. Participate in the final project for the Bee Occupation.

Homework

1. Complete follow up work if not completed during work block.
2. Actively read and annotate all seminar materials before class.
3. Any work on the final project that is not completed during work block.