Name: _____

Insect Behavior

Using the knowledge you have gained at the Insectarium and Butterfly Pavilion, label each insect behavior as learned or instinctual. Then, describe how this behavior contributes to the survival of the insect. Possible answers can include but are not limited to the ability to reproduce, find food, or defend itself.

1. _____ Spinning a cocoon
   _____
   _____

2. _____ Disregarding repetitive stimuli (ex: hissers not hissing as much)
   _____
   _____

3. _____ Monarch migration
   _____
   _____

4. _____ Ants imprinting the scent of their hive
   _____
   _____

5. _____ Honeybee finding food source with waggle dance
   _____
   _____

6. _____ Firefly flash pattern
   _____
   _____

Science and Technology

Be Creative! Choose one of the above 6 insect behaviors above or come up with your own. Describe a new technology that could be derived from this behavior.

_____
_____
_____
_____

Name: _____

Teacher: This handout covers the Pennsylvania Academic Standards 3.1.6A5, 3.1.6C1, and 3.4.6A3. We also cover NGSS MS-LS1-4.

Insect Behavior

Using the knowledge you have gained at the Insectarium and Butterfly Pavilion, label each insect behavior as learned or instinctual. Then, describe how this behavior or characteristic contributes to the survival of the insect. Possible answers can include but are not limited to the ability to reproduce, find food, or defend itself.

1. Instinctual Spinning a cocoon
   Spinning a cocoon allows the pupa inside to defend itself through camouflage and some cocoons are even covered with small stinging hairs.

2. Learned Disregarding repetitive stimuli (ex: hissers not hissing as much)
   A hissing cockroach hisses to defend itself when it feels threatened. If the insect is always being threatened, they will stop hissing as frequently. They learn not to feel threatened and can therefore save energy.

3. Instinctual Monarch migration
   Migration is an instinctual behavior that allows the butterflies to continue their life cycle, reproduce, and find food.

4. Learned Ants imprinting the scent of their hive
   Imprinting the scent of the hive is important for any newly hatched grub. This helps them navigate to their hive when they finally start to explore and recognize others from their hive.

5. Learned Honeybee finding food source with waggle dance
   Honeybees can learn where to find food from other individuals in the hive. This helps the hive by sharing information about the best sources of food.

6. Instinctual Firefly flash pattern
   Fireflies use their own instinctual flash patterns to find their mate. Without this flash pattern, they wouldn't recognize each other and therefore would not reproduce.

Science and Technology

Be Creative! Choose one of the above 6 insect behaviors above or come up with your own. Describe a new technology that could be derived from this behavior.

An example being the use of firefly chemicals as a more efficient flashlight. Answers will vary.