Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Natural Selection PhET Simulation**

**https://phet.colorado.edu/en/simulation/natural-selection**

1) Play with the simulation for five minutes. Be prepared to share what you have found!

2) Fill in the table below with your observations.

|  |  |  |
| --- | --- | --- |
| How can you… | What did you change? | How many generations did it take? |
| …make more white bunnies? |  |  |
| …make 20 brown bunnies?  |  |  |

3) **Challenge 1:** Find a way to make the bunnies take over with brown fur! Fill in the table with your selections.

|  |  |  |  |
| --- | --- | --- | --- |
| Mutation | Environment | Selection Factor | Observations |
|  |  |  |  |

4) **Challenge 2:** Find a way to make 200 bunnies when food is a selection factor! Fill in the table with your selections.

|  |  |  |  |
| --- | --- | --- | --- |
| Mutation | Environment | Selection Factor | Observations |
|  |  |  |  |

5) **Challenge 3:** Find a way for the bunnies to take over when the environment is the artic! Fill in the table with your selections.

|  |  |  |  |
| --- | --- | --- | --- |
| Mutation | Environment | Selection Factor | Observations |
|  |  |  |  |

6) On your own: Simulations are useful for understanding how natural processes work but are not always representative of the real world. How does this simulation differ from what might happen in a true ecosystem?

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7) On your own: What changes would you make the simulation to make it a better representation of a true ecosystem?

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Vocabulary Words

|  |  |  |
| --- | --- | --- |
| Word | Definition | Examples from simulation |
| Trait |  |  |
| Adaptation |  |  |
| Mutation |  |  |
| Limiting Factor |  |  |
| Biotic |  |  |
| Abiotic |  |  |
| Natural Selection |  |  |