Name _____
Date _____
Period _____

The Rusty Patched Bumble Bee

Change in RPB System: Temperature		
Data Source: National Oceanic and Atmospheric Administration https://www.ncdc.noaa.gov/cag/statewide/time-series		
What patterns do you notice in the data?	*Add the change in the RPB system to your RPB ecosystem model.* *Using your model, identify what components and interactions would be impacted by this change.*	*Describe how this change would affect the RPB.*
Could this change be a cause of the RPB population decline, or is it just correlated? What evidence supports your claim?		

Name _____
Date _____
Period _____

The Rusty Patched Bumble Bee

Change in RPB System: Precipitation		
Data Source: National Oceanic and Atmospheric Administration https://www.ncdc.noaa.gov/cag/statewide/time-series		
What patterns do you notice in the data?	*Add the change in the RPB system to your RPB ecosystem model.* *Using your model, identify what components and interactions would be impacted by this change.*	*Describe how this change would affect the RPB.*
Could this change be a cause of the RPB population decline, or is it just correlated? What evidence supports your claim?		

Name _____
Date _____
Period _____

The Rusty Patched Bumble Bee

Change in RPB System: Pesticides

Data Source: United States Geological Survey
https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2016&map=IMIDACLOPRID&hilo=L&disp=Imidacloprid

Background: Insecticides, fungicides, and herbicides are all considered pesticides. All three categories of pesticide are used to protect crops and other desired plants. Insecticides protect against insects; fungicides protect against fungus, and herbicides protect against weeds and other undesirable plants.

The data provided is for the use of *Imidacloprid* which is the most widely used insecticide in the world. *Imidacloprid* is often used to pre-treat seeds. The chemical insecticide is then present in all parts of the plant as it grows and develops.

What patterns do you notice in the data?	*Add the change in the RPB system to your RPB ecosystem model.* *Using your model, identify what components and interactions would be impacted by this change.*	*Describe how this change would affect the RPB.*

Could this change be a cause of the RPB population decline, or is it just correlated? What evidence supports your claim?

Name _____
Date _____
Period _____

The Rusty Patched Bumble Bee

Change in RPB System: Land Use		
Data Source: Early 1800's: https://drive.google.com/file/d/1z8NBR4Uz1LfD2waEM_NF2tB61vFjn78Z/view?usp=sharing 2016: https://drive.google.com/file/d/1QbmeHE1W-EclQYRp9gpnitYkG_vFoKPe/view?usp=sharing		
What patterns do you notice in the data?	*Add the change in the RPB system to your RPB ecosystem model.* *Using your model, identify what components and interactions would be impacted by this change.*	*Describe how this change would affect the RPB.*
Could this change be a cause of the RPB population decline, or is it just correlated? What evidence supports your claim?		

Name _____
Date _____
Period _____

The Rusty Patched Bumble Bee

Parent/Guardian Interview

Name of person interviewed:

Question	*Response*

Name _____
Date _____
Period _____

The Rusty Patched Bumble Bee
