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| **Open the TI-Nspire document *Paradise\_Island.tns***Welcome to Paradise! On this Island you will be able to control the populations of grass, mice, snakes, and hawks. You must provide a good balance in order to sustain all the populations within the island. If you are able to maintain all populations for 10 years, you win! However, if you do not provide the right balance, all organisms die and the island is lost.  |  |
| **Move to page 1.2.**  |
| 1. After reading the instructions on page 1.2, close the directions box by selecting .2. The goal is for students to choose the best number for each population to ensure their survival for a minimum of 10. Use the drop down boxes to select the amount for each population that you think will provide the right balance for the island. 3. Students will click on NEXT 🡪 at the bottom left corner of the screen and observe the outcome of the choices by pressing the Play button . If your choice does not work, you can click the Reset Button  and try again. Continue to select new outcomes until you can sustain an island community for 10 years. 4. Once you are able to keep all populations alive for 10 years, explore the graphs on pages 1.3 -1.6 and the table on 1.7 to see how each population fluctuated. If the data is hard to read on the graphs, select b and select 5: Window/Zoom then 2: Zoom –Data. |  |
| **Move to pages 2.1 – 2.11.** After completing the simulation on page 1.2, answer questions 1 – 11 below and/or in your .tns file.Q1. Identify the ecological relationship of each the following organism: GrassA. ProducerB. Primary ConsumerC. Secondary ConsumerD, Tertiary ConsumerQ2. Identify the ecological relationship of each the following organism: MouseA. ProducerB. Primary ConsumerC. Secondary ConsumerD, Tertiary ConsumerQ3. Identify the ecological relationship of each the following organism: SnakeA. ProducerB. Primary ConsumerC. Secondary ConsumerD, Tertiary ConsumerQ4. Identify the ecological relationship of each the following organism: HawkA. ProducerB. Primary ConsumerC. Secondary ConsumerD, Tertiary ConsumerQ5. What is a scenario that would sustain the island’s ecosystem for 10 years?Q6. Based on your response from question 5, why is this ecosystem successful? Use evidence from the scenario and graphs to defend your answer.Q7. What is a scenario that would not sustain the island’s ecosystem for 10 years?Q8. Based on your response from question 7, why is this ecosystem unsuccessful? Use evidence from the scenario and graphs to defend your answer.Q9. What tropic level would have the most number of organisms? A. ProducerB. Primary ConsumerC. Secondary ConsumerD, Tertiary ConsumerQ10. What tropic would have the least number of organisms? A. ProducerB. Primary ConsumerC. Secondary ConsumerD, Tertiary ConsumerQ11. Justify your answers for questions 9 & 10.  |