**ICE5 Worksheet on Adaptations**

**Goal: You will gain experience using your GPS units while reviewing the information from this morning’s lab. (All GPS waypoints are on campus.)**

Directions

1. Each group will have a different and UNIQUE set of instructions. DO NOT FOLLOW other groups.
2. The order of the stations is NOT the same for every group.
3. You will be given your first waypoint number. Using the “Find” command on your GPS, proceed to that waypoint, find the envelope with your group’s name, and then follow the directions in that envelope. If your group’s name is NOT in the envelope you find, then you’re at the wrong location. Backtrack to your last confirmed waypoint, and redo the steps to find your next waypoint.
4. Continue this pattern until you have found all six waypoints.
5. Summarize the data you collect in the table on the back of this page.
6. A “key” is provided below to help you decode the clues for your waypoints.

**NOTE: For our purposes all waypoints that are numbers will have 3 digits. Insert “0’s” in front of any number to make it a 3 digit number. Example: 2 becomes 002; 45 becomes 045.**

**(When you design your lab you can have waypoints with more or less than 3 digits.)**

Key to decode your clues:

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| a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | z |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |

Example: The word ICE would have a numerical value of 9 + 3 + 5 = 17

The number 17 would then become waypoint 017.

After finding your five waypoints go to the Quad and look for an ICE5 leader. A leader will check your answers (page 2), and then give you the last waypoint.

Group name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| |  |  | | --- | --- | | Current Waypoint |  | | Elevation |  | | Latitude |  | | Longitude |  | | | Answer to Question | | Math to calculate  Next waypoint | Next waypoint # |
| |  |  | | --- | --- | | Current Waypoint |  | | Elevation |  | | Latitude |  | | Longitude |  | | |  | |  |  |
| |  |  | | --- | --- | | Current Waypoint |  | | Elevation |  | | Latitude |  | | Longitude |  | | |  | |  |  |
| |  |  | | --- | --- | | Current Waypoint |  | | Elevation |  | | Latitude |  | | Longitude |  | | |  | |  |  |
| |  |  | | --- | --- | | Current Waypoint |  | | Elevation |  | | Latitude |  | | Longitude |  | | |  | |  |  |
| |  |  | | --- | --- | | Current Waypoint |  | | Elevation |  | | Latitude |  | | Longitude |  | | |  | |  |  |
| Groups | | Question #1 for each group | | Math Work | | | |
| Producers | | (6 X 5) + 9 | | Way point = \_\_\_ \_\_\_ \_\_\_ | | | |
| Consumers | | 47 - 24 | | Way point = \_\_\_ \_\_\_ \_\_\_ | | | |
| Herbivores | | (200 [http://tbn1.google.com/images?q=tbn:02TNhZ_K0utS0M:http://upload.wikimedia.org/wikipedia/commons/b/b2/Division_Sign(a).png](http://images.google.com/imgres?imgurl=http://upload.wikimedia.org/wikipedia/commons/b/b2/Division_Sign(a).png&imgrefurl=http://commons.wikimedia.org/wiki/File:Division_Sign(a).png&usg=__t4E4qtDBj5jE8LG7M56uHhZOcw0=&h=124&w=146&sz=3&hl=en&start=22&um=1&tbnid=02TNhZ_K0utS0M:&tbnh=81&tbnw=95&prev=/images?q=divide+sign&ndsp=18&hl=en&sa=N&start=18&um=1) 2) +11 | | Way point = \_\_\_ \_\_\_ \_\_\_ | | | |
| Omnivores | | (100 X 3) +6 | | Way point = \_\_\_ \_\_\_ \_\_\_ | | | |
| Carnivores | | (300[http://tbn1.google.com/images?q=tbn:02TNhZ_K0utS0M:http://upload.wikimedia.org/wikipedia/commons/b/b2/Division_Sign(a).png](http://images.google.com/imgres?imgurl=http://upload.wikimedia.org/wikipedia/commons/b/b2/Division_Sign(a).png&imgrefurl=http://commons.wikimedia.org/wiki/File:Division_Sign(a).png&usg=__t4E4qtDBj5jE8LG7M56uHhZOcw0=&h=124&w=146&sz=3&hl=en&start=22&um=1&tbnid=02TNhZ_K0utS0M:&tbnh=81&tbnw=95&prev=/images?q=divide+sign&ndsp=18&hl=en&sa=N&start=18&um=1) 10) [http://tbn1.google.com/images?q=tbn:02TNhZ_K0utS0M:http://upload.wikimedia.org/wikipedia/commons/b/b2/Division_Sign(a).png](http://images.google.com/imgres?imgurl=http://upload.wikimedia.org/wikipedia/commons/b/b2/Division_Sign(a).png&imgrefurl=http://commons.wikimedia.org/wiki/File:Division_Sign(a).png&usg=__t4E4qtDBj5jE8LG7M56uHhZOcw0=&h=124&w=146&sz=3&hl=en&start=22&um=1&tbnid=02TNhZ_K0utS0M:&tbnh=81&tbnw=95&prev=/images?q=divide+sign&ndsp=18&hl=en&sa=N&start=18&um=1) 5 | | Way point = \_\_\_ \_\_\_ \_\_\_ | | | |
| Decomposers | | (630-30) [http://tbn1.google.com/images?q=tbn:02TNhZ_K0utS0M:http://upload.wikimedia.org/wikipedia/commons/b/b2/Division_Sign(a).png](http://images.google.com/imgres?imgurl=http://upload.wikimedia.org/wikipedia/commons/b/b2/Division_Sign(a).png&imgrefurl=http://commons.wikimedia.org/wiki/File:Division_Sign(a).png&usg=__t4E4qtDBj5jE8LG7M56uHhZOcw0=&h=124&w=146&sz=3&hl=en&start=22&um=1&tbnid=02TNhZ_K0utS0M:&tbnh=81&tbnw=95&prev=/images?q=divide+sign&ndsp=18&hl=en&sa=N&start=18&um=1) 3 | | Way point = \_\_\_ \_\_\_ \_\_\_ | | | |

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| Name of Group | Waypoint Name |
| Producers | You are at “039” |
| Question  What I the relationship between a fox and a mouse in a food chain?   1. Parasite to host 2. Predator to prey 3. Consumer to producer | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2, C=3. Refer to key.  Multiply your answer by 6 =\_\_\_\_\_\_  Add 5 =\_\_\_\_\_\_  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Producers | You are at “023” |
| Question  Brown bears eat nuts, berries, insects, and small mammals. What is the role of the brown bear? | To calculate your next waypoint:  Find the sum of the numerical value of all the letters in your answer.  Waypoint is : \_\_\_ \_\_\_ \_\_\_ |

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| Name of Group | Waypoint Name |
| Producers | You are at “111” |
| Question  How are the terms snails, mice, rabbits, and squirrels alike? | To find your next waypoint  Find the sum of the numerical value of all the letters in your answer =\_\_\_\_\_\_  Multiply by 3 =\_\_\_\_\_\_  Waypoint is: \_\_\_\_ \_\_\_\_ \_\_\_\_ |

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| Name of Group | Waypoint Name |
| Producers | You are at “306” |
| Question  Choose the correct statement.   1. Mushrooms are fungus and not good for anything. 2. Mushrooms are important, because they are decomposers that will break down dead and animals. | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Multiply your answer by 7 =\_\_\_\_\_\_  Add 10 =\_\_\_\_\_\_  Divide by 4 =\_\_\_\_\_\_  Waypoint is: \_\_\_\_ \_\_\_\_ \_\_\_\_ |
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| Name of Group | Waypoint Name |
| Producers | You are at “006” |
| Question  What can happen in an ecosystem if energy transfer is interrupted? | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |
| Name of Group | Waypoint Name |
| Consumers | You are at “023” |
| Question  What percentage of energy is transferred from one organism to another? | Find the numerical value of the three letter word.  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| Name of Group | Waypoint Name |
| Consumers | You are at “039” |
| Question  The further along in the food chain you go, \_\_\_\_\_\_\_\_ energy is transferred and usable for the consumer. | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Then, subtract 5 =\_\_\_\_\_\_\_  Multiply by 4 =\_\_\_\_\_\_\_  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| Name of Group | Waypoint Name |
| Consumers | You are at “200” |
| Question  Which consumer lies at the top of the energy pyramid? | To find your next waypoint  Determine the numerical value of the answer =\_\_\_\_\_\_  Then subtract 100 =\_\_\_\_\_\_  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| Name of Group | Waypoint Name |
| Consumers | You are at “005” |
| Question  Which trophic level creates the energy for the energy pyramid? | Find the sum of the even numbers letters in your answer= \_\_\_  Multiply by 2 =\_\_\_\_\_  Waypoint is : \_\_\_ \_\_\_ \_\_\_ |

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| Name of Group | Waypoint Name |
| Consumers | You are at “086” |
| Question  What can happen in an ecosystem if energy transfer is interrupted? | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |
| Name of Group | Waypoint Name |
| Herbivores | You are at “111” |
| Question  Which is a correct example of the energy flow?  A)Producer -> 1st consumer -> 2nd consumer-> 3rd consumer  B)3rd consumer -> 2nd consumer -> 1st consumer -> producer | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Add 11 =\_\_\_  Multiply by 2 =\_\_\_\_ |

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| Name of Group | Waypoint Name |
| Herbivores | You are at “180” |
| Question  What I the relationship between a fox and a mouse in a food chain?   1. Parasite to host 2. Predator to prey 3. Consumer to producer | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2, C=3. Refer to key.  Multiply your answer by 6=\_\_\_\_\_\_  Add 5 =\_\_\_\_\_\_  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| Name of Group | Waypoint Name |
| Herbivores | You are at “023” |
| Question  Choose the correct statement.   1. Mushrooms are fungus and not good for anything. 2. Mushrooms are important, because they are decomposers that will break down dead and animals. | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Multiply your answer by 7=\_\_\_\_\_  Add 10=\_\_\_\_\_  Divide by 4=\_\_\_\_\_\_  Waypoint is: \_\_\_\_ \_\_\_\_ \_\_\_\_ |

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| Name of Group | Waypoint Name |
| Herbivores | You are at “006” |
| Question  What percentage of energy is transferred from one organism to another? | Find the numerical value of the three letter word.  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| Name of Group | Waypoint Name |
| Herbivores | You are at “039” |
| Question  What can happen in an ecosystem if energy transfer is interrupted? | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| Name of Group | Waypoint Name |
| Omnivores | You are at “306” |
| Question  Brown bears eat nuts, berries, insects, and small mammals. What is the role of the brown bear? | To calculate your next waypoint:  Find the sum of the numerical value of all the letters in your answer.  Waypoint is : \_\_\_ \_\_\_ \_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Omnivores | You are at “111” |
| Question  Which is a correct example of the energy flow?  A)Producer -> 1st consumer -> 2nd consumer-> 3rd consumer  B)3rd consumer -> 2nd consumer -> 1st consumer -> producer | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Add 11 =\_\_\_  Multiply by 2 =\_\_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Omnivores | You are at “180” |
| Question  What I the relationship between a fox and a mouse in a food chain?   1. Parasite to host 2. Predator to prey 3. Consumer to producer | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2, C=3. Refer to key.  Multiply your answer by 6=\_\_\_\_\_\_  Add 5 =\_\_\_\_\_\_  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Omnivores | You are at “023” |
| Question  The further along in the food chain you go, \_\_\_\_\_\_\_\_ energy is transferred and usable for the consumer. | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Then, subtract 5 =\_\_\_\_\_\_\_  Multiply by 4 =\_\_\_\_\_\_\_\_  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Omnivores | You are at “200” |
| Question  What can happen in an ecosystem if energy transfer is interrupted? | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Carnivores | You are at “006” |
| Question  How are the terms snails, mice, rabbits, and squirrels alike? | To find your next waypoint  Find the sum of the numerical value of all the letters in your answer =\_\_\_\_\_\_  Multiply by 3 =\_\_\_\_\_  Waypoint is: \_\_\_\_ \_\_\_\_ \_\_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Carnivores | You are at “306” |
| Question  What percentage of energy is transferred from one organism to another? | Find the numerical value of the three letter word.  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Carnivores | You are at “039” |
| Question  Brown bears eat nuts, berries, insects, and small mammals. What is the role of the brown bear? | To calculate your next waypoint:  Find the sum of the numerical value of all the letters in your answer.  Waypoint is : \_\_\_ \_\_\_ \_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Carnivores | You are at “111” |
| Question  Which consumer lies at the top of the energy pyramid? | To find your next waypoint  Determine the numerical value of the answer =\_\_\_\_\_  Then subtract 100 =\_\_\_\_\_\_  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Carnivores | You are at “005” |
| Question  What can happen in an ecosystem if energy transfer is interrupted? | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

|  |  |
| --- | --- |
| Name of Group | Waypoint Name |
| Decomposers | You are at “200” |
| Question  Choose the correct statement.   1. Mushrooms are fungus and not good for anything. 2. Mushrooms are important, because they are decomposers that will break down dead and animals. | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Multiply your answer by 7=\_\_\_\_\_  Add 10=\_\_\_\_\_  Divide by 4=\_\_\_\_\_\_  Waypoint is: \_\_\_\_ \_\_\_\_ \_\_\_\_ |

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| --- | --- |
| Name of Group | Waypoint Name |
| Decomposers | You are at “006” |
| Question  Which trophic level creates the energy for the energy pyramid? | Find the sum of the even numbers letters in your answer= \_\_\_  Multiply by 2 =\_\_\_\_\_  Waypoint is : \_\_\_ \_\_\_ \_\_\_ |

|  |  |
| --- | --- |
| Name of Group | Waypoint Name |
| Decomposers | You are at “086” |
| Question  What percentage of energy is transferred from one organism to another? | Find the numerical value of the three letter word.  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

|  |  |
| --- | --- |
| Name of Group | Waypoint Name |
| Decomposers | You are at “039” |
| Question  Brown bears eat nuts, berries, insects, and small mammals. What is the role of the brown bear? | To calculate your next waypoint:  Find the sum of the numerical value of all the letters in your answer.  Waypoint is : \_\_\_ \_\_\_ \_\_\_ |

|  |  |
| --- | --- |
| Name of Group | Waypoint Name |
| Decomposers | You are at “111” |
| Question  What can happen in an ecosystem if energy transfer is interrupted? | To calculate your next waypoint find the value of your answer (letter). For example, A= 1, B=2. Refer to key.  Waypoint is: \_\_\_ \_\_\_ \_\_\_ |

**Teacher’s Key to Waypoint Clues: All Waypoints Must Be 3 Digits.**

**Word List**

Carnivore herbivore omnivore producer

Die ten two six

Less more producer consumer

decomposer