EDQUEST GA MIDDLE SCHOOL SCIENCE RESOURCES

Science Focus 7

UNIT TEST

Interactions and Ecosystems

_____ _____

Student Name **Class**

1. Living things have basic needs. Throughout the first topic in this unit the needs of living things were examined in depth. The four basic needs of living things are:

A. food, clothing, shelter, love
B. food, water, habitat, space
C. water, air, habitat, protection
D. air, water, food, habitat

2. Some living things depend on each other in a close relationship, which lasts over time. This relationship is called ...

A. mutualism
B. parasitism
C. symbiosis
D. commensalism

3. Adaptations are characteristics that help an organism to survive and reproduce in its environment. Looking both ways before crossing a street helps us survive because it is ...

A. inherited from our parents
B. learned through experience
C. a survival adaptation
D. an inherited survival experience

4. A salamander hides under the bark, fungi grows on a rotting log and other forest dwelling organisms use the hollow core as a home. This rotting decaying log is an ...

A. environment
B. ecological subsystem
C. ecotrust
D. ecosystem

5. Tapeworms live inside organisms and feed on the nutrients of the food they eat. A tapeworm is an example of ...

A. mutualism
B. parasitism
C. commensalism
D. cannibalism

6. The Nootka, an Aboriginal tribe from the West Coast of Canada, utilized the natural resources of the environment around them. They used the bark of the red cedar tree for ...

A. clothing
B. canoes
C. tipis
D. cooking utensils

7. Head-Smashed-In Buffalo Jump is in the Porcupine Hills, in southern Alberta. The Buffalo were hunted for their meat, hides, bones and sinew. Instead of hunting the Buffalo with spears and arrows they ...

A. shot them with weapons provided by the settlers
B. herded them into corrals
C. ran them over a cliff
D. cornered them up against a cliff

8. 'Wants' are things that make our life more enjoyable. Satisfying our needs and wants usually uses natural resources. Which of the following is an example of a luxury?

A. water from a well
B. potatoes from a garden
C. greenhouse tomatoes
D. crabapples from your tree

9. Do we learn from our mistakes? Using pesticides that contained DDT was very effective in controlling insect pests on many crops. It was subsequently banned because of this harmful side effect.

A. birth defects in baby chicks
B. soft egg shells
C. bioaccumulation in wolves
D. death of small mammals

10. Predators such as wolves and coyotes - and even bears - are moving closer and closer to highly populated areas. This is posing an increased danger to people, so predator populations are being culled (reduced in number). This can have a devastating effect on the ecosystem, because without this natural control ...

A. prey will also be reduced
B. prey will become overpopulated
C. prey will be kept in check
D. vegetation will be overgrown

11. The peregrine falcon, the swift fox and the burrowing owl were all once on the brink of extinction until these practices helped save them, EXCEPT for ...

A. banning of DDT
B. alternative food supply
C. captive breeding program
D. relocation of predators

12. Living beyond our means can have a devastating effect on our environment. So how much of an impact we make determines our ...

A. sustainability
B. ecosystem balance
C. ecological footprint
D. consumer bias

13. One way of changing our impact on the environment we live in is to ...

A. using a car instead of a bus to get to work
B. pack our garbage in smaller bags
C. take a bath every day instead of showering
D. become aware of all the resources you use

14. There are many waste-reducing practices, which are being suggested to lower the impact we are making in our environment. The most effective practice is ...

A. recycling
B. reusing
C. reducing
D. reclaiming

15. When used materials are turned into new materials like kitchen scraps placed in a compost bin the practice being used is ...

A. recycling
B. reusing
C. reducing
D. reclaiming

16. To determine your ecological footprint, all of the following calculations are necessary, EXCEPT for ...

A. area of the house you need
B. amount of water you use
C. energy supply needed
D. amount of waste you produce

17. An ecosystem thrives with biotic and abiotic component parts. An example of an abiotic part of an ecosystem is ...

A. micro-bacteria
B. fungus
C. water
D. decaying plants

18. To determine an organism's niche, all of the following must be determined, EXCEPT ...

A. how it is classified
B. what it eats
C. where it lives
D. what relationships it has with other organisms

19. Organisms in an eco system can be classified as producers or consumers. The producers provide food for the consumers. An organism that consumes both producers and other consumers is called a ...

A. herbivore
B. omnivore
C. carnivore
D. prey

20. Food chains and food webs are models in science which visually show us the different relationships within an ecosystem. The primary difference between the food chain and the food web is ...

A. a food chain shows how energy is stored
B. a food web shows how energy is used
C. a food web is a complex system of food chains
D. a food chain is a combination of different food webs

21. The clean-up crew are the decomposers. Decomposers and scavengers get rid of the garbage and waste in an ecosystem. Decomposers differ from scavengers because they ...

A. only eat dead organisms
B. do not eat dead organisms
C. break down larger organisms
D. only feed on dead plants and animals

22. Carbon is an integral part of an ecosystem. It is cycled throughout the ecosystem as it is used and then reused. It is necessary for all life to exist. Carbon is used by plants in the process of ...

A. respiration
B. photosynthesis
C. transpiration
D. decomposition

23. Petroleum products, which contain carbon, are burned, and the carbon escapes into the atmosphere, as carbon dioxide, BUT, how does it get into the petroleum in the first place?

A. refineries
B. plant respiration
C. decomposing plankton
D. photosynthesis in plants

24. Another very important cycle is the Water Cycle. All living things need water to live. This cycle has four main processes. The two processes that return water to the earth are ...

A. evaporation and condensation
B. condensation and precipitation
C. transpiration and condensation
D. evaporation and transpiration

25. The process in which water, in the water cycle, goes through a phase change, from a gas to a liquid, is called ...

A. evaporation
B. transpiration
C. condensation
D. precipitation

26. Pollution can cause problems within any ecosystem. The pollutants can enter this ecosystem by combining with the water vapour in the air. Their effect is felt when they become ...

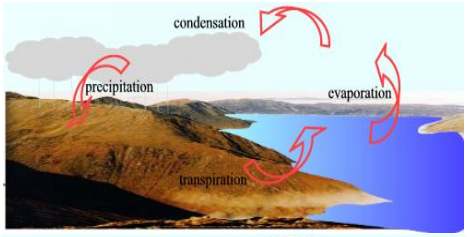
A. basic and cannot be decomposed
B. acidic and cannot be decomposed
C. basic and increase plant growth
D. acidic and destroy the ecosystem

27. Succession is a gradual process within an ecosystem in which some species replace other species. When a forest fire destroys a certain area, regeneration occurs. This is an example of ...

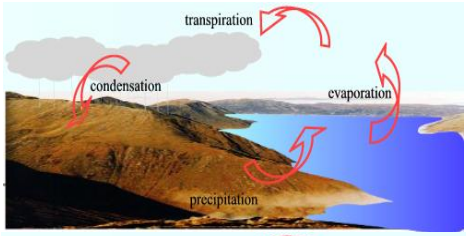
A. micro-succession
B. eco-succession
C. primary succession
D. secondary succession

28. Which of the following illustrations correctly represents the water cycle?

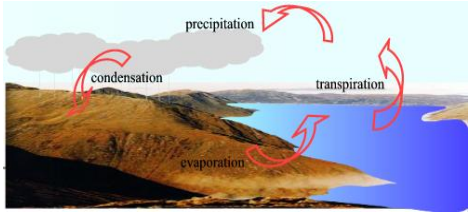
A.



B.



C.



D.

29. Succession is a gradual process within an ecosystem in which some species replace other species. When a forest fire destroys a certain area, regeneration occurs. This is an example of ...

A. micro-succession
B. eco-succession
C. primary succession
D. secondary succession

30. A forested area has been cleared and redeveloped as prime agricultural land. This change to the forest ecosystem has resulted in ...

A. an increase in the warbler population
B. a decrease in the warbler population
C. an decrease in the cowbird population
D. both bird populations decline

31. Adapting to change is easier for some species than for others. A bushy-grassland area was cleared to make room for a new housing development, in a city suburb. The original area was home to many species that thrived. The species likely to adapt most easily to the new habitat was ...

A. rabbit
B. fox
C. coyote
D. wolf

32. Biological control is used to control pests. Unfortunately there are risks involved if the biological control is a new species to the area. The reason for this is because it ...

A. might not have enough food to survive
B. may get killed off more quickly than expected
C. has no natural predators, so it will overpopulate the area
D. could restore the balance and be ineffective

33. Numbers of organism populations, in a particular area, may increase and decline over time, depending on the conditions. Extinction means that there are no individual organisms of a particular species left. An extinct species in Canada is the ...

A. blue walleye
B. swift fox
C. burrowing owl
D. bull trout

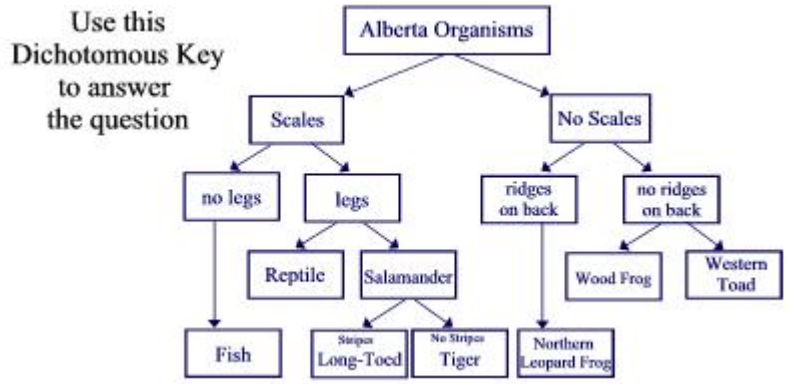
34. Different kinds of monitoring can occur to ensure that changes in the ecosystem are noticed and addressed. If the population of caribou suddenly declined in a particular area, it would be noticed by this type of ecosystem monitoring.

A. physical
B. environmental
C. chemical
D. biological

35. The use of satellites, to track the changes in landscape over time due to construction of cities or deforestation, is an example of this type of monitoring ...

A. physical
B. environmental
C. chemical
D. biological

36. A dichotomous key is used to identify things by their distinguishing structural characteristics.



The Alberta Organism that has scales, legs and no stripes is a ...

A. Wood Frog
B. Long-Toed Salamander
C. Tiger Salamander
D. Northern Leopard Frog

37. Whenever an ecosystem is monitored to see what types of changes occur over a period of time, it is very important to identify what the ecosystem was like before the change was noticed. This information is called ...

A. impact assessment
B. baseline data
C. permanent plot
D. quadrant sample

38. The economic development of the Northern River Basins Region in Alberta has threatened the lifestyle of the Aboriginal people living in this area. The Northern River Basins Study concluded that ...

A. the pulp mills were environmentally safe
B. industrial waste was being disposed of properly
C. traditional Aboriginal knowledge of the area was not important
D. low oxygen levels were responsible for decreased fish populations

39. Indicator species are organisms that are very sensitive to change in the environment. Scientists can study the populations of these organisms to determine the overall health of our environment. The indicator species in Alberta that scientists study because they are affected by pesticides, acid rain, loss of habitat and the introduction of non-native species are …

A. reptiles
B. fish
C. amphibians
D. insects

40. When a study area is divided into sections, each $1m^2$, scientists can count and study samples from these areas and determine the overall health and population of a particular species. This technique is called …

A. baseline data
B. quadrant sampling
C. biological monitoring
D. ecosystem calculation

Sample …

1. Plants and animals need to adapt to their surroundings in order to survive. Match the plant or animal with the appropriate adaptation.

1 curlew
2 robin
3 worm
4 sea otter

__4__	__1__	__2__	__3__
flippers	long bill	special feet	breathe through skin

4	1	2	3

	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

2. Organisms depend on other organisms for survival. Match the interdependent relationship (**symbiosis**) with the description.

1 each organism benefits in the relationship
2 one organism benefits the other is harmed
3 one organism benefits and nothing happens to the other organism
4 one organism appears to be like another

_____ commensalism _____ mutualism _____ mimicry _____ parasitism

	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

3. Protecting the environment by reducing the size of our ecological footprint. Match the action with its waste reduction description.

1 use it again
2 cut down on use
3 fix it
4 make it into something else

_____ reduce
_____ reuse
_____ recycle
_____ restore

	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

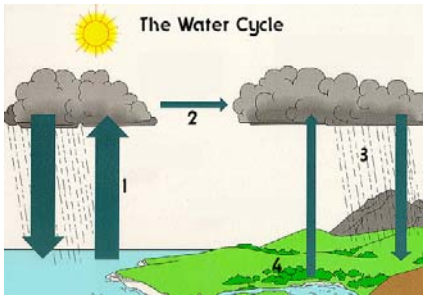
4. There are many different roles for organisms in an ecosystem. Match the role with its description.

1 are plant eaters
2 are meat eaters
3 are food for other organisms
4 eat other organisms

_____ producer
_____ consumer
_____ carnivore
_____ herbivore

	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

5. **Water Cycle** – the continuous movement of water through an ecosystem. Identify the parts as labeled.



_____ transpiration
_____ condensation
_____ evaporation
_____ precipitation

	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

6. There are different kinds of **monitoring practices** that help us check the health of an ecosystem. Match the description with the type of monitoring it describes.

1 physical
2 environmental
3 chemical
4 biological

_____ Changes in weather
_____ Quality of air, soil, and water
_____ Changes in organisms
_____ Changes in landscape

	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

EDQUEST GA MIDDLE SCHOOL SCIENCE RESOURCES

Science Focus 7

UNIT TEST

Interactions and Ecosystems

_____ _____

Student Name **Class**

1. Living things have basic needs. Throughout the first topic in this unit the needs of living things were examined in depth. The four basic needs of living things are:

A. food, clothing, shelter, love
B. food, water, habitat, space
C. water, air, habitat, protection
D. air, water, food, habitat

2. Some living things depend on each other in a close relationship, which lasts over time. This relationship is called ...

A. mutualism
B. parasitism
C. symbiosis
D. commensalism

3. Adaptations are characteristics that help an organism to survive and reproduce in its environment. Looking both ways before crossing a street helps us survive because it is ...

A. inherited from our parents
B. learned through experience
C. a survival adaptation
D. an inherited survival experience

4. A salamander hides under the bark, fungi grows on a rotting log and other forest dwelling organisms use the hollow core as a home. This rotting decaying log is an ...

A. environment
B. ecological subsystem
C. ecotrust
D. ecosystem

5. Tapeworms live inside organisms and feed on the nutrients of the food they eat. A tapeworm is an example of ...

A. mutualism
B. parasitism
C. commensalism
D. cannibalism

6. The Nootka, an Aboriginal tribe from the West Coast of Canada, utilized the natural resources of the environment around them. They used the bark of the red cedar tree for ...

A. clothing
B. canoes
C. tipis
D. cooking utensils

7. Head-Smashed-In Buffalo Jump is in the Porcupine Hills, in southern Alberta. The Buffalo were hunted for their meat, hides, bones and sinew. Instead of hunting the Buffalo with spears and arrows they ...

A. shot them with weapons provided by the settlers
B. herded them into corrals
C. ran them over a cliff
D. cornered them up against a cliff

8. 'Wants' are things that make our life more enjoyable. Satisfying our needs and wants usually uses natural resources. Which of the following is an example of a luxury?

A. water from a well
B. potatoes from a garden
C. greenhouse tomatoes
D. crabapples from your tree

9. Do we learn from our mistakes? Using pesticides that contained DDT was very effective in controlling insect pests on many crops. It was subsequently banned because of this harmful side effect.

A. birth defects in baby chicks
B. soft egg shells
C. bioaccumulation in wolves
D. death of small mammals

10. Predators such as wolves and coyotes - and even bears - are moving closer and closer to highly populated areas. This is posing an increased danger to people, so predator populations are being culled (reduced in number). This can have a devastating effect on the ecosystem, because without this natural control ...

A. prey will also be reduced
B. prey will become overpopulated
C. prey will be kept in check
D. vegetation will be overgrown

11. The peregrine falcon, the swift fox and the burrowing owl were all once on the brink of extinction until these practices helped save them, EXCEPT for ...

A. banning of DDT
B. alternative food supply
C. captive breeding program
D. relocation of predators

12. Living beyond our means can have a devastating effect on our environment. So how much of an impact we make determines our ...

A. sustainability
B. ecosystem balance
C. ecological footprint
D. consumer bias

13. One way of changing our impact on the environment we live in is to ...

A. using a car instead of a bus to get to work
B. pack our garbage in smaller bags
C. take a bath every day instead of showering
D. become aware of all the resources you use

14. There are many waste-reducing practices, which are being suggested to lower the impact we are making in our environment. The most effective practice is ...

A. recycling
B. reusing
C. reducing
D. reclaiming

15. When used materials are turned into new materials like kitchen scraps placed in a compost bin the practice being used is ...

A. recycling
B. reusing
C. reducing
D. reclaiming

16. To determine your ecological footprint, all of the following calculations are necessary, EXCEPT for ...

A. area of the house you need
B. amount of water you use
C. energy supply needed
D. amount of waste you produce

17. An ecosystem thrives with biotic and abiotic component parts. An example of an abiotic part of an ecosystem is ...

A. micro-bacteria
B. fungus
C. water
D. decaying plants

18. To determine an organism's niche, all of the following must be determined, EXCEPT ...

A. how it is classified
B. what it eats
C. where it lives
D. what relationships it has with other organisms

19. Organisms in an ecosystem can be classified as producers or consumers. The producers provide food for the consumers. An organism that consumes both producers and other consumers is called a ...

A. herbivore
B. omnivore
C. carnivore
D. prey

20. Food chains and food webs are models in science which visually show us the different relationships within an ecosystem. The primary difference between the food chain and the food web is ...

A. a food chain shows how energy is stored
B. a food web shows how energy is used
C. a food web is a complex system of food chains
D. a food chain is a combination of different food webs

21. The clean-up crew are the decomposers. Decomposers and scavengers get rid of the garbage and waste in an ecosystem. Decomposers differ from scavengers because they ...

A. only eat dead organisms
B. do not eat dead organisms
C. break down larger organisms
D. only feed on dead plants and animals

22. Carbon is an integral part of an ecosystem. It is cycled throughout the ecosystem as it is used and then reused. It is necessary for all life to exist. Carbon is used by plants in the process of ...

A. respiration
B. photosynthesis
C. transpiration
D. decomposition

23. Petroleum products, which contain carbon, are burned, and the carbon escapes into the atmosphere, as carbon dioxide, BUT, how does it get into the petroleum in the first place?

A. refineries
B. plant respiration
C. decomposing plankton
D. photosynthesis in plants

24. Another very important cycle is the Water Cycle. All living things need water to live. This cycle has four main processes. The two processes that return water to the earth are ...

A. evaporation and condensation
B. condensation and precipitation
C. transpiration and condensation
D. evaporation and transpiration

25. The process in which water, in the water cycle, goes through a phase change, from a gas to a liquid, is called ...

A. evaporation
B. transpiration
C. condensation
D. precipitation

26. Pollution can cause problems within any ecosystem. The pollutants can enter this ecosystem by combining with the water vapour in the air. Their effect is felt when they become ...

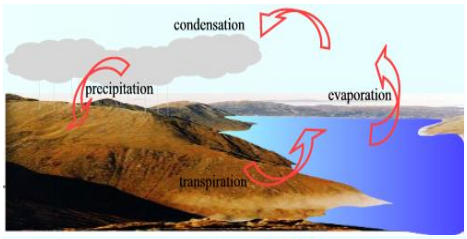
A. basic and cannot be decomposed
B. acidic and cannot be decomposed
C. basic and increase plant growth
D. acidic and destroy the ecosystem

27. Succession is a gradual process within an ecosystem in which some species replace other species. When a forest fire destroys a certain area, regeneration occurs. This is an example of ...

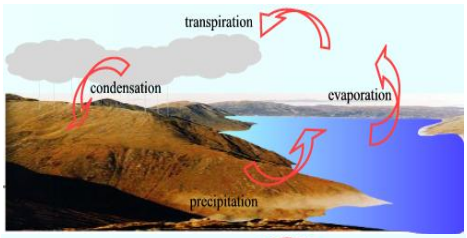
A. micro-succession
B. eco-succession
C. primary succession
D. secondary succession

28. Which of the following illustrations correctly represents the water cycle?

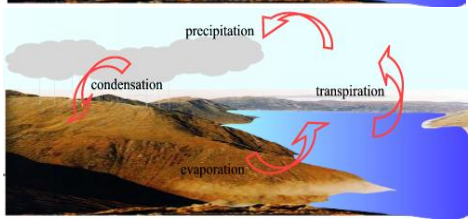
A.



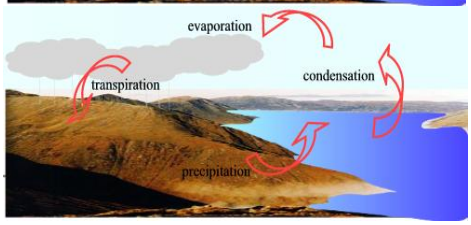
B.



C.



D.



29. Succession is a gradual process within an ecosystem in which some species replace other species. When a seed lands on a rocky slope where nothing grew before this occurs ...

A. **micro-succession**
B. **eco-succession**
C. **primary succession**
D. **secondary succession**

30. A forested area has been cleared and redeveloped as prime agricultural land. This change to the forest ecosystem has resulted in ...

A. **an increase in the warbler population**
B. **a decrease in the warbler population**
C. **an decrease in the cowbird population**
D. **both bird populations decline**

31. Adapting to change is easier for some species than for others. A bushy-grassland area was cleared to make room for a new housing development, in a city suburb. The original area was home to many species that thrived. The species likely to adapt most easily to the new habitat was ...

A. **rabbit**
B. **fox**
C. **coyote**
D. **wolf**

32. Biological control is used to control pests. Unfortunately there are risks involved if the biological control is a new species to the area. The reason for this is because it ...

A. **might not have enough food to survive**
B. **may get killed off more quickly than expected**
C. **has no natural predators, so it will overpopulate the area**
D. **could restore the balance and be ineffective**

33. Numbers of organism populations, in a particular area, may increase and decline over time, depending on the conditions. Extinction means that there are no individual organisms of a particular species left. An extinct species in Canada is the ...

A. **blue walleye**
B. **swift fox**
C. **burrowing owl**
D. **bull trout**

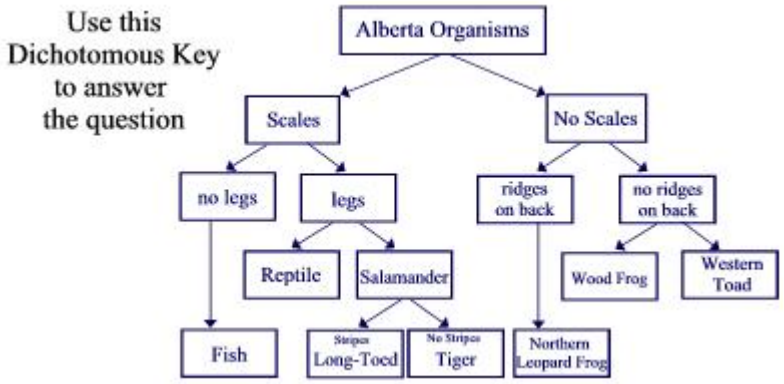
34. Different kinds of monitoring can occur to ensure that changes in the ecosystem are noticed and addressed. If the population of caribou suddenly declined in a particular area, it would be noticed by this type of ecosystem monitoring.

A. **physical**
B. **environmental**
C. **chemical**
D. **biological**

35. The use of satellites, to track the changes in landscape over time due to construction of cities or deforestation, is an example of this type of monitoring ...

A. physical
B. environmental
C. chemical
D. biological

36. A dichotomous key is used to identify things by their distinguishing structural characteristics.



The Alberta Organism that has scales, legs and no stripes is a ...

A. Wood Frog
B. Long-Toed Salamander
C. Tiger Salamander
D. Northern Leopard Frog

37. Whenever an ecosystem is monitored to see what types of changes occur over a period of time, it is very important to identify what the ecosystem was like before the change was noticed. This information is called ...

A. impact assessment
B. baseline data
C. permanent plot
D. quadrant sample

38. The economic development of the Northern River Basins Region in Alberta has threatened the lifestyle of the Aboriginal people living in this area. The Northern River Basins Study concluded that ...

A. the pulp mills were environmentally safe
B. industrial waste was being disposed of properly
C. traditional Aboriginal knowledge of the area was not important
D. low oxygen levels were responsible for decreased fish populations

39. Indicator species are organisms that are very sensitive to change in the environment. Scientists can study the populations of these organisms to determine the overall health of our environment. The indicator species in Alberta that scientists study because they are affected by pesticides, acid rain, loss of habitat and the introduction of non-native species are …

A. reptiles
B. fish
C. amphibians
D. insects

40. When a study area is divided into sections, each $1m^2$, scientists can count and study samples from these areas and determine the overall health and population of a particular species. This technique is called …

A. baseline data
B. quadrant sampling
C. biological monitoring
D. ecosystem calculation

Sample …

1. Plants and animals need to adapt to their surroundings in order to survive. Match the plant or animal with the appropriate adaptation.

1 curlew
2 robin
3 worm
4 sea otter

__4__	__1__	__2__	__3__
flippers	long bill	special feet	breathe through skin

4	1	2	3
	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

2. Organisms depend on other organisms for survival. Match the interdependent relationship (**symbiosis**) with the description.

1 each organism benefits in the relationship
2 one organism benefits the other is harmed
3 one organism benefits and nothing happens to the other organism
4 one organism appears to be like another

_____ commensalism _____ mutualism _____ mimicry _____ parasitism

3	1	4	2
	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

3. Protecting the environment by reducing the size of our ecological footprint. Match the action with its waste reduction description.

1 use it again
2 cut down on use
3 fix it
4 make it into something else

_____ reduce
_____ reuse
_____ recycle
_____ restore

2	1	4	3
	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

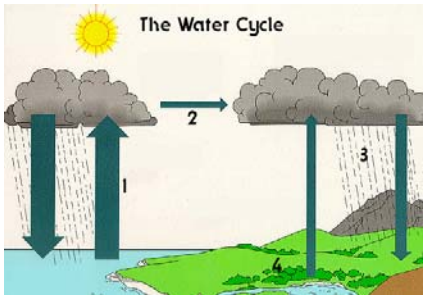
4. There are many different roles for organisms in an ecosystem. Match the role with its description.

1 are plant eaters
2 are meat eaters
3 are food for other organisms
4 eat other organisms

_____ producer
_____ consumer
_____ carnivore
_____ herbivore

3	4	2	1
	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

5. **Water Cycle** – the continuous movement of water through an ecosystem. Identify the parts as labeled.



_____ transpiration
_____ condensation
_____ evaporation
_____ precipitation

4	2	1	3
	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

6. There are different kinds of **monitoring practices** that help us check the health of an ecosystem. Match the description with the type of monitoring it describes.

1 physical
2 environmental
3 chemical
4 biological

_____ Changes in weather
_____ Quality of air, soil, and water
_____ Changes in organisms
_____ Changes in landscape

2	3	4	1
	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9