Grade 11 Biology Worksheet: Camouflage and Mimicry

Instructions:

- Answer all questions carefully.
- For multiple-choice, click on the correct option.
- For matching, draw a line to connect the correct pairs.
- For fill-in-the-blank, choose the correct answer in the space provided.

Section A: Multiple-Choice Questions (Circle the correct answer)

1. **What is the primary purpose of camouflage in animals?**
    - a) To attract mates
    - b) To avoid being seen by predators
    - c) To increase body temperature
    - d) To improve sensory perception



2. **Which of the following is an example of Batesian mimicry?**
    - a) A harmless moth mimicking a poisonous wasp
    - b) Two poisonous frogs sharing the same bright coloration
    - c) A lizard blending in with its desert surroundings
    - d) A lion stalking prey in tall grass
3. **Which type of camouflage involves an animal having a dark back and a light belly to blend with both ground and sky?**
    - a) Mimicry
    - b) Counter-shading
    - c) Disruptive coloration
    - d) Warning coloration

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4. **Müllerian mimicry occurs when:**
    - a) A predator mimics its prey to hunt more efficiently
    - b) A harmless species mimics a harmful one
    - c) Two harmful species resemble each other
    - d) An organism mimics inanimate objects like leaves or rocks
5. **Which of the following is NOT a form of camouflage?**
    - a) Mimicking the appearance of a dangerous species
    - b) Matching the color of the environment
    - c) Having a striped pattern to break up the outline
    - d) Blending in by resembling a tree bark or leaves

Section B: Matching (Draw a line to connect the terms with their correct descriptions)

Term	Description
1. Batesian mimicry	a) Animal resembles a harmful species for protection
2. Camouflage	b) Blend into the surroundings to avoid detection
3. Müllerian mimicry	c) Bright colors warning predators of toxicity
4. Counter-shading	d) Dark back, light belly for blending into different environments
5. Warning coloration	e) Two toxic species share similar coloration

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Section C: Fill in the Blanks

1. **Camouflage** helps organisms avoid _____ by blending in with their surroundings.
2. **Mimicry** is when one species resembles another species to gain an advantage, often to avoid being _____.
3. In **Batesian mimicry**, a harmless species mimics a _____ species.
4. An example of an animal that uses **camouflage** is the _____, which can change its skin color to match its environment.
5. **Müllerian mimicry** occurs when two or more _____ species resemble each other, which reinforces predator learning.

Section D: Identify the Type of Mimicry: Batesian or Müllerian?

1. A harmless hoverfly resembles a stinging wasp, which deters predators from attacking the hoverfly.
   Type of mimicry: _____
2. Two species of poisonous frogs from different regions develop the same bright color patterns. Predators that avoid one species will also avoid the other.
   Type of mimicry: _____
3. The viceroy butterfly, which is not toxic, closely resembles the toxic monarch butterfly. Birds avoid both species, thinking they are both poisonous.
   Type of mimicry: _____
4. Coral snakes and king snakes look alike, but only the coral snake is venomous. The harmless king snake benefits from this resemblance.
   Type of mimicry: _____

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5. Several species of poisonous bees develop similar warning colors. Predators learn to avoid all bees with similar patterns.
   Type of mimicry: _____
6. A non-venomous milk snake imitates the color pattern of a venomous coral snake, tricking predators into thinking it is dangerous.
   Type of mimicry: _____
7. Two species of noxious butterflies from different families evolve to look alike, reinforcing the avoidance behavior of predators.
   Type of mimicry: _____
8. A harmless octopus mimics the appearance and behavior of a venomous sea snake to scare away potential predators.
   Type of mimicry: _____
9. Both the toxic monarch butterfly and toxic queen butterfly share similar coloration, making it easier for predators to learn to avoid them.
   Type of mimicry: _____
10. A harmless snake evolves to look like a highly venomous rattlesnake, causing predators to avoid it even though it poses no threat.
    Type of mimicry: _____

Section E: Case Study



Read the passage below and answer the questions:

The Viceroy and Monarch Butterflies

The viceroy butterfly closely resembles the monarch butterfly in both appearance and coloration. Monarch butterflies are toxic to most predators because they ingest poisonous milkweed during their larval stage. Viceroys, on the other hand, are not toxic but are avoided by predators because they look so similar to the monarch. This is an example of Batesian mimicry, where a harmless species mimics a harmful one for protection.

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Questions:

1. What type of mimicry is demonstrated by the viceroy butterfly?

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2. Why do predators avoid the viceroy butterfly?

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3. How does this type of mimicry benefit the viceroy butterfly?



Section F: Short Answer

1. **Explain the difference between camouflage and mimicry.**

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2. **Describe one example of an animal that uses mimicry and explain how it helps the animal survive.**

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