Evidence for Evolution:
**HOMOLOGOUS & ANALOGOUS STRUCTURES**

Gathering Information:

Using COMPLETE SENTENCES answer the following questions.

1. What is **anatomy**?

2. How does anatomy provide **evidence for evolution**?

3. What is a **homologous structure**?

4. Give an **example**.

5. What is an **analogous structure**?

6. Give an **example**.

7. Decide if the anatomical structures listed below are examples of **homologous structures or analogous structures**:

   C. Evolved from the same ancestor but now have different functions.
      
      **Answer:** ________________

   D. Evolved from different ancestors, but because they were placed in the same environment, they have the same function.
      
      **Answer:** ________________

   E. A poisonous spider and a poisonous snake both have venom sacs.
      
      **Answer:** ________________
F. A whale and a fish both have fins to swim underwater, however, a whale is a mammal and a fish isn’t.

   Answer: _______________________

G. A house cat and a lion evolved from the same ancestor but no longer look alike (the house cat is much smaller than the lion).

   Answer: _______________________

Comparing Homologous Structures:

**Purpose:** In this activity you will observe parts of different animals and look for evidence that these animals are related to each other (that is, that they could have evolved from the same common ancestor).

**Procedure:**

1. With your partner, observe the seven limbs in the picture that was given to you.
2. Right your observations in the chart below.
3. Answer the conclusion questions.

<table>
<thead>
<tr>
<th>animal</th>
<th>shape of limb</th>
<th># of bones in the upper limb</th>
<th># of bones in the lower limb</th>
<th>function of the limb (what does it help the organisms do?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frog front leg</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Whale flipper</td>
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<tr>
<td>Horse front leg</td>
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<tr>
<td>Lion front leg</td>
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<tr>
<td>Human arm</td>
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<tr>
<td>Bat wing</td>
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<tr>
<td>Bird wing</td>
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</tbody>
</table>
Conclusion:

1. How are the limbs of the frog, whale, horse, lion, human, bat, and bird the same?

2. How are the limbs of the seven animals different?

3. Are these limbs examples of **homologous** structures or **analogous** structures?

4. Explain your answer to question # 3.

5. What is the **difference** between a **homologous** structure and an **analogous** structure?