**ACTIVITY #1**

Use your reading guide to answer the following questions about the immune system.

1. Compare invertebrate and vertebrate immune responses.
2. In general, explain how innate immune responses work.
   1. Why do we consider them to be “innate/non-specific”?
3. Describe the difference between innate and adaptive immune responses.

**ACTIVITY #2**

Create a concept map that summarizes the major pathways through the adaptive immune system.

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| --- | --- | --- | --- | --- |
| **Humoral immune response** | **Cell mediated immune response** | **Antigen (1st exposure)** | **Helper T cell** | **Cytotoxic T cell** |
| **Memory helper T cells** | **B cell** | **Memory B cells** | **Antigen-presenting cell** | **Macrophage** |
| **Antigen (2nd exposure)** | **Plasma cells** | **Cytokines** | **Cytokines** | **Memory T cells** |
| **Antibodies** | **Adaptive immune response** | **Perforin** | **Infected cell** | **Granzymes** |
| **Primary immune response** | **Secondary immune response** | **Cell-cell recognition** | **Paracrine signaling** |  |