**Environmental Health and Toxicology: Chapter 14 Reading Guide**

1. Read and summarize the case study on BPA (How used / Cause for concern / Regulation).
2. Identify the four types of environmental hazards and give an example of each.

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| --- | --- |
| **Hazard** | **Example** |
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|  |  |
|  |  |
|  |  |

1. SUPPORT the following statement: “Infectious disease is a greater threat to human health than is non-infectious disease and injury”.
2. Explain why pathogenic agents are able to spread so quickly today. Give an example.
3. Identify 2 ways that environmental changes are impacting the spread of disease.

a.

b.

1. Explain the meaning of the statement “The dose makes the poison”.
2. Differentiate between natural and synthetic chemicals. Give examples of each.

SYNTHETIC =

NATURAL =

1. Who was Rachel Carson? How was she important to the study of toxicology?
2. Identify the impact on human health for each of the following toxicants:

|  |  |
| --- | --- |
| **Toxicant** | **Impact on Human Health** |
| Carcinogen |  |
| Mutagen |  |
| Teratogen |  |
| Neurotoxin |  |
| Allergen |  |
| Endocrine disruptor |  |

1. Compare and contrast pesticide movement in water and air:

 **Water Both Air**

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1. Annotate the diagram to explain the processes of “bioaccumulation” and “biomagnification”.



1. Identify 2 methods used to study the effects of hazards on wildlife and 3 methods used to study the effects of hazards in humans.

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| --- |
| **Studying the Effects of Hazards** |
| **On Wildlife** | **On Humans** |
|  |  |
|  |  |
| xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx |  |

1. Answer the questions about the diagram below:

What is the name for this type of graph? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
At what dosage is the “threshold” of toxicity? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

At what dosage is the LD50? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Identify some situations in which determining the LD50 or ED50 of a toxicant can be beneficial.
2. Explain the concept of “synergy”.
3. Name the steps involved in risk assessment:

i)

ii)

1. Explain the 2 approaches that are used in determining safety of chemical substances:

i)

ii)

1. Complete the chart summarizing policy regarding hazardous substances:

|  |  |  |
| --- | --- | --- |
| **Policy** | **Where** | **What it says** |
| Toxic Substances Control Act |  |  |
| REACH |  |  |
| Stockholm Convention on POPs |  |  |