



Task 1. FILL IN THE GAPS WITH THE CORRECT TERM.

1. _____ The process of identifying and recognizing potential sources of harm, danger, or adverse effects to health or the environment.
2. _____ The systematic evaluation of the potential risks or dangers associated with a particular hazard.
3. _____ The process of identifying, assessing, and prioritizing risks, followed by implementing measures to control or mitigate these risks.
4. _____ A substance or agent capable of causing cancer in living tissues. Carcinogens can include chemicals, radiation, or biological agents that have been identified as having the potential to initiate or promote the development of cancerous cells.
5. _____ The process of evaluating and estimating the extent and frequency of exposure to a hazardous substance or agent.
6. _____ A measure used in risk assessment to estimate the potential health risks associated with exposure to a particular hazard.

TASK 2. IDENTIFY THE CORRECT TERM ACCORDING TO ITS FUNCTION.

1. _____ It can include chemicals, radiation, or biological agents that have been identified as having the potential to initiate or promote the development of cancerous cells.
2. _____ This involves identifying specific hazards that may exist within a workplace, product, or process.
3. _____ This involves analyzing the likelihood of exposure to the hazard and the severity of its potential consequences to determine the level of risk.
4. _____ This involves assessing how individuals come into contact with the substance, as well as the duration and intensity of exposure.
5. _____ It is calculated by comparing the level of exposure to a hazardous substance to an established reference dose or concentration.
6. _____ This includes developing and implementing strategies to minimize the likelihood of exposure to hazards and reduce the severity of potential consequences.

TASK 3. CHOOSE THE CORRECT OPTION TO FILL IN THE GAPS IN THE SENTENCES.

1. Environmental engineers conduct **hazard identification** / **risk management** studies in polluted areas.
2. Environmental engineers utilize **exposure assessment** / **risk management** strategies to develop sustainable solutions for environmental challenges, such as pollution control, waste management, and habitat restoration.
3. By analyzing the **hazard identification** / **hazard index**, environmental experts can prioritize interventions to reduce exposure to harmful substances and protect public health.
4. They use **exposure assessment** / **hazard Quotient** techniques to evaluate air quality in urban environments.
5. **Dose – response assessment** / **Hazard quotients** are calculated by environmental engineers to determine the safety of agricultural pesticides.
6. Environmental engineers conduct **risk assessments** / **reference dose calculations** for potential environmental disasters.

Task 4. Match the beginning of the sentences with their endings.

1. Environmental engineers conduct risk assessments	a) by comparing pollutant concentrations to established guidelines.
2. Hazard identification surveys conducted by environmental engineers help	b) and implementing safety measures to protect workers from exposure to harmful chemicals.
3. Human exposure assessments are performed by environmental engineers	c) to evaluate potential hazards in water treatment facilities.
4. Hazard quotients calculated by environmental engineers help determine the safety of drinking water	d) to evaluate the health risks posed by air pollutants in urban areas.
5. In industrial settings, environmental engineers play a key role in identifying workplace hazards	e) identify potential sources of contamination in groundwater aquifers.

Task 5. Fill in the gaps with the most appropriate words from the box.

exposure assessment, measuring, accidental contact, substance, dose-response assessment, hazard identification assessment, information, risk characterization, causes, identify, actual dose, incomplete, combines

Risk Assessment in Environmental Engineering Risk assessment is a way of 1)_____ the possible danger of a substance or activity. It is usually done by a government agency before it allows new products to be sold or new activities to take place. The first step in risk assessment is 2)_____. What is the substance or activity? How does it work? Does it cause cancer, for example? If so, how much? The second step is 3)_____. Who will come into contact with this substance? How often and for how long? What are the chances of 4)_____? The third step is 5)_____ How much of this substance can people be exposed to before it becomes dangerous? Finally, there is 6)_____. What is the actual risk? What is the Hazard Quotient (HQ) - the ratio of the 7)_____ to the dangerous dose? There are many problems with risk assessment. First, we cannot always 8)_____ all the hazards of a 9)_____. Second, we do not know how much of a substance is bad for us. Third, the risks of different substances are not always easy to compare. For example, we know that asbestos 10)_____ cancer, but we do not know if one kind of asbestos is more dangerous than another. Fourth, we do not know how dangerous a substance is when it 11)_____ with other substances. Fifth, risk assessment is only as good as the 12)_____ on which it is based. Sometimes, the information is 13)_____ or even wrong. Finally, risk assessment is only about the dangers, not the benefits. For example, we know that radiation can cause cancer, but it also kills cancer cells. So should we use radiation to treat cancer?

Task 6. Put the sentences in the correct order.

_____ However, there are several challenges with risk assessment, including the inability to identify all hazards, comparing risks between different substances, and the inability to determine the danger of a substance when combined with other substances.

_____ Additionally, the information based on risk assessment is often incomplete or incorrect. Finally, risk assessment is mostly concerned with the risks rather than the advantages.

_____ Risk assessment is a process used by government agencies to measure the potential danger of a substance or activity.

_____ It involves hazard identification, exposure assessment, dose-response assessment, and risk characterization.