



Practice Worksheet on Circular Economy and Waste Management

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Subject: Environmental Science

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Long Answer Questions

1. Explain Achim Steiner's perspective on the importance of circular economy approaches in building a green economy.
2. Summarize Pradeep Kurukulasuriya's key message in the foreword.
3. Describe the challenges posed by many industrial chemicals.
4. Define a circular economy and explain how it can be leveraged to achieve Sustainable Development Goals (SDGs).
5. Outline the main challenges of plastic waste management, emphasizing the importance of reducing usage and improving management practices.
6. Describe the environmental and socio-economic issues associated with the short lifespans of e-products.

7. Explain the challenges of the current textile system, highlighting the environmental and socio-economic impacts of linear processes.

8. Discuss the effects of pesticide use in agriculture, considering both the benefits and drawbacks.

Multiple Choice Questions

1. Which of the following statements best describes sustainable agriculture?

- a) Sustainable agriculture relies solely on non-chemical methods.
- b) Sustainable agriculture combines biological, physical, and chemical tools.
- c) Sustainable agriculture promotes the unlimited use of pesticides.
- d) Sustainable agriculture ignores environmental impact.

2. What is the correct waste hierarchy order?

- a) Reduce, reuse, recycle, recover, sanitary landfill
- b) Recycle, reuse, reduce, recover, landfill
- c) Reduce, recycle, reuse, recover, sanitary landfill
- d) Reuse, recycle, reduce, sanitary landfill, recover

3. What economic model aims to eliminate waste and pollution, keeping materials in use for longer periods?

- a) Linear economy
- b) Circular economy
- c) Traditional economy
- d) Command economy

4. Where is the problem of improper waste management significant?

- a) Low-income countries only

- b) High-income countries only
- c) Both high-income and low-income countries
- d) Neither high-income or low-income countries

5. What is a significant environmental drawback of burning plastic waste?

- a) Reduces biodiversity
- b) Improves air quality
- c) Releases toxic chemicals
- d) Enhances soil fertility

6. To achieve a circular economy for metals, what needs to be prioritized?

- a) Increase use of virgin materials
- b) Increase recycling rates
- c) Decrease resource efficiency
- d) Promote linear economy models

7. What is crucial to achieving a sustainable textile industry?

- a) Increased production of textiles
- b) Shift to circular economy models
- c) Continue linear take-make-dispose system
- d) Ignore environmental impact

8. What is a major concern regarding the use of mercury in artisanal and small-scale gold mining (ASGM)?

- a) It is a non-toxic substance
- b) It is a significant source of pollution
- c) It promotes biodiversity
- d) It has no economic impact

Answer Key

Long Answer Questions - Expected Responses

1. Explain Achim Steiner's perspective on the importance of circular economy approaches in building a green economy.

Expected Answer: Minimizes negative impact of chemicals and waste; offers new decarbonization opportunities.

2. Summarize Pradeep Kurukulasuriya's key message in the foreword.

Expected Answer: Reduce ecological footprint by changing production and consumption; manage natural resources efficiently.

3. Describe the challenges posed by many industrial chemicals.

Expected Answer: Toxic, persistent in environment, harm human health, damage natural resources.

4. Define a circular economy and explain how it can be leveraged to achieve Sustainable Development Goals (SDGs).

Expected Answer: Eliminates waste, keeps materials in use, regenerates natural systems; contributes to achieving SDGs.

5. Outline the main challenges of plastic waste management, emphasizing the importance of reducing usage and improving management practices.

Expected Answer: Reduce use, improve management; address health and environmental impacts of plastic pollution.

6. Describe the environmental and socio-economic issues associated with the short lifespans of e-products.

Expected Answer: Short lifespans, environmental impact in production and

material extraction; hazardous chemicals.

7. Explain the challenges of the current textile system, highlighting the environmental and socio-economic impacts of linear processes.

Expected Answer: Excessive resource use, high pollution levels, linear system; shift to circular economy needed.

8. Discuss the effects of pesticide use in agriculture, considering both the benefits and drawbacks.

Expected Answer: Increased yields, improved quality; harms to human health, environment, biodiversity; waste management.

Multiple Choice Questions - Correct Answers

1. Which of the following statements best describes sustainable agriculture?

Correct Answer: Sustainable agriculture combines biological, physical, and chemical tools.

2. What is the correct waste hierarchy order?

Correct Answer: Reduce, reuse, recycle, recover, sanitary landfill

3. What economic model aims to eliminate waste and pollution, keeping materials in use for longer periods?

Correct Answer: Circular economy

4. Where is the problem of improper waste management significant?

Correct Answer: Both high-income and low-income countries

5. What is a significant environmental drawback of burning plastic waste?

Correct Answer: Releases toxic chemicals

6. To achieve a circular economy for metals, what needs to be prioritized?

Correct Answer: Increase recycling rates

7. What is crucial to achieving a sustainable textile industry?

Correct Answer: Shift to circular economy models

8. What is a major concern regarding the use of mercury in artisanal and small-scale gold mining (ASGM)?

Correct Answer: It is a significant source of pollution