



The Journey of Waste Review Answer Key

1. Generators (households, businesses, schools) usually have the most connections because they produce waste and influence nearly every other part of the system. Their waste is collected by Haulers, sorted by Material Recovery Facilities, and ultimately sent to Disposal Facilities or returned to the system through recycling. Generators are also influenced by Community Leaders and Waste Associations that shape waste rules and education.
2. **Key connections that reduce disposal include:**
 - Generators** → Material Recovery Facilities (recycling instead of trash)
 - Material Recovery Facilities** → recovered materials → new products (reducing raw resource use)
 - Waste Associations** → Generators/Community Leaders (education and improved recycling participation)
 - STEM Professionals** → improved recycling systems and waste technologies

These connections help keep materials in use longer and reduce what goes to Disposal Facilities.
3. The Waste Ecosystem functions as a connected system where each group depends on the others. Generators create materials, Haulers move them, and Material Recovery Facilities sort and recover useful resources. Disposal Facilities handle what remains. Meanwhile, STEM Professionals improve efficiency, Waste Associations coordinate education and standards, and Community Leaders influence policies. The Environment is both affected by and benefits from how well the system works.
4. If Haulers were removed, the entire system would slow or stop because materials would not move between components. Generators would have no way to send waste to Material Recovery Facilities or Disposal Facilities. Recycling and disposal operations would be unable to function, leading to waste build-up at the source. Community systems and environmental health would be negatively impacted.

CHALLENGE QUESTIONS

Sample Answers

1. If recycling stopped, Material Recovery Facilities would receive little or no material, reducing their role in the system. More waste would be sent by Haulers directly to Disposal Facilities, increasing landfill use. Generators would lose access to recycling services, and Waste Associations and Community Leaders might need to respond with public communication or emergency planning. STEM Professionals might study the impacts or work on temporary solutions. Overall, the system would become less efficient and more waste would end up as disposal.
2. Material: Aluminium Can
 - a. Generator: A person uses an aluminium can and places it in a recycling bin.
 - b. Hauler: The can is collected along with other recyclables and transported to a facility.
 - c. Material Recovery Facility (Recycler): The can is sorted and separated from other materials.
 - d. Processing/Recycling Stage: The aluminium is prepared (cleaned and processed) for reuse.
 - e. Manufacturing/System Output: The recycled aluminium is turned into new cans or products and returned to the market for use by Generators.
 - f. Environment/System Loop (optional closure): Efficient recycling reduces raw material extraction, helping protect the environment by lowering mining and energy use.