Here are some of the key components student should list for decomposition by a biodigester and a compost pile.

Energy from Animal Waste

Biomass Decomposition

BIODIGESTER	COMPOSTING
Anaerobic environment – no oxygen	Aerobic environment – needs oxygen
Need water, bacteria, and manure which contains undigested carbohydrates	Need water, bacteria, and manure which contains undigested carbohydrates
Bacteria and microorganisms digest the carbohydrates	Bacteria and microorganism digest the carbohydrates
Carbohydrates broken down into CO_2 and methane gas CH_4	Carbohydrates broken down into CO_2 and H_2O
Due to the incomplete decomposition of carbohydrates in the absence of oxygen and the much slower process, little if any detectable heat generated by digestion	Rapid and nearly complete decomposition of carbohydrates can result in easily detectable heat generation.
The transfer of energy stored in carbohydrates is partially completed by microorganisms, the remainder of the stored energy can be released by igniting methane in the presence of oxygen	The transfer of energy stored in carbohydrates is completed entirely by microorganism

Transfer of Energy from Manure

Name: _____ Date: _____