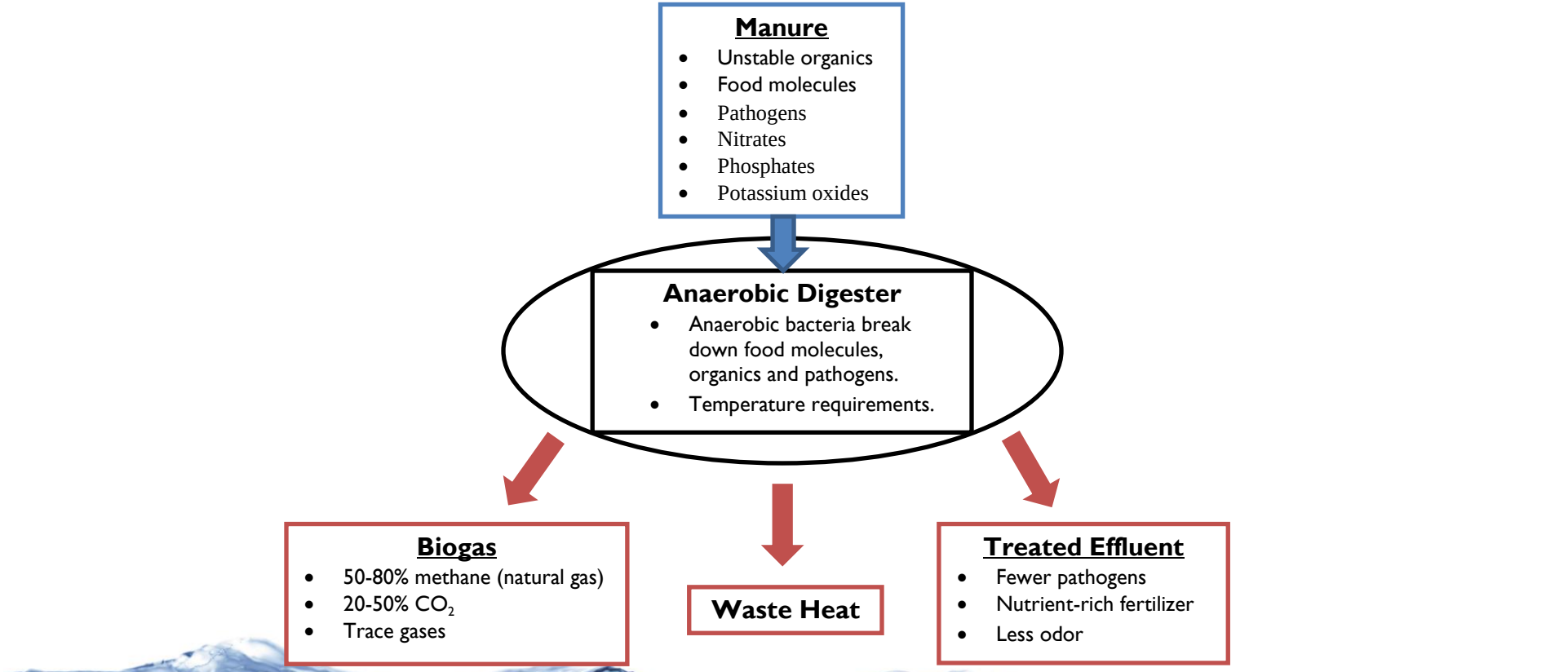
Anaerobic Digester – Bacterial Burps (Student Sheet #2)
Poop to Power

Directions: The chicken farmer has to do something to get rid of the excessive amount of poop generated by the chickens. One method used by concentrated animal feeding operations (CAFOs) harnesses anaerobic bacteria to convert the organic waste into useable fuel and byproducts. Use the diagram below to answer the following questions.



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1. Imagine that you are a farmer who is using an anaerobic digester (AD) to dispose of your chicken manure. The initial cost was hundreds of thousands of dollars. How will the AD operation pay back your investment?

    a. Treated effluent:

    b. Waste heat:

    c. Biogas:

2. Why would the electric utility in your area be able to pay back part of your investment to you?

3. Why might your neighbors approve or disapprove of your anaerobic digestion operation?

4. Another method of disposal for chicken manure is to dry and burn it. This process produces both steam that drives a steam turbine to generate electricity and ash rich in calcium and potassium.

    a. Where are the upfront costs to the farmer for this method?

    b. How would the farmer regain this investment?

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