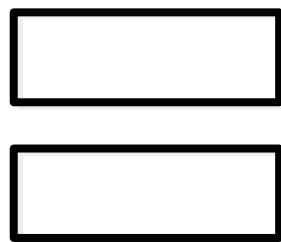


# Kids ADS Activity Book

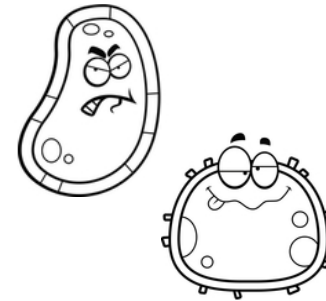


KB BioEnergy, Inc.

**POO = POWER**

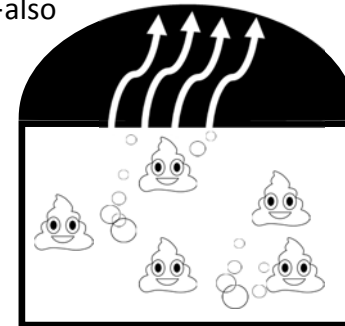
## What is anaerobic digestion?

Anaerobic digestion (or AD for short) is when bacteria breaks down biodegradable materials—like biosolids, food waste, and animal waste—without air. Humans need air to eat, but the microorganisms (bacteria) don't need air to eat their food!



## What happens at the AD plant?

The plant works like a big, concrete stomach! We “feed” the waste to the tanks—also called digesters. Inside the digesters, the waste is constantly mixed. At the same time, the bacteria eat and digest the waste.

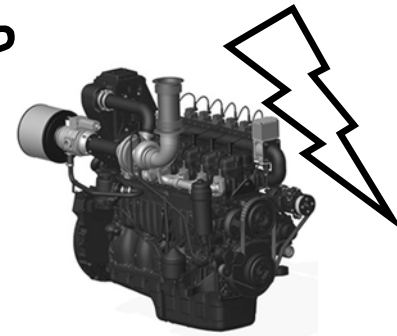


## The bacteria does...what?!

It eats the waste! Some types of bacteria can make methane gas, along with other gasses. But instead of letting the gases escape, the tanks trap and store it. This is called biogas.

## So, what do you do with biogas?

Biogas at our plant is used to produce electricity! We do this by feeding it to an engine. Biogas can also be used to power vehicles, or it can be used for heating and cooking in homes.



## What about the solid waste?

The waste that is left is still full of nutrients! We put it through a dryer—and then it can be used as a fertilizer to grow more food.



## What does it all mean?

Anaerobic digestion means that **POO EQUALS POWER!** It is also good for the environment—it keeps waste out of landfills, it recycles a source of energy that is always available, it stops gases from going into the air, and it puts nutrients back into soil!



## ENERGY WORD SEARCH

Can you search up, down, forward, backward, and diagonally to find the hidden energy words?

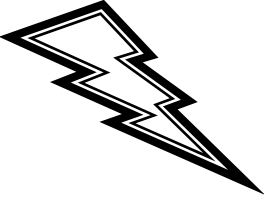
BIOSOLIDS	POWER
DIGESTER	RECYCLE
DOMES	RENEW
ELECTRICITY	REUSE
ENERGY	SLUDGE
ENGINES	SUSTAIN
ENVIRONMENT	TRANSFORM
GREEN	WATER
HEAT	



Help! Our anaerobic digestion process is all mixed up. Can you put these steps in the right order using numbers 1 through 4?

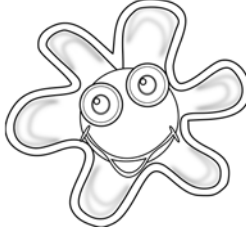
Step # \_\_\_\_\_

The biogas is sent to an engine and becomes electricity




Step # \_\_\_\_\_

Waste is fed to the digesters.




Step # \_\_\_\_\_

The leftover solid waste is dried and used as fertilizer.



Step # \_\_\_\_\_

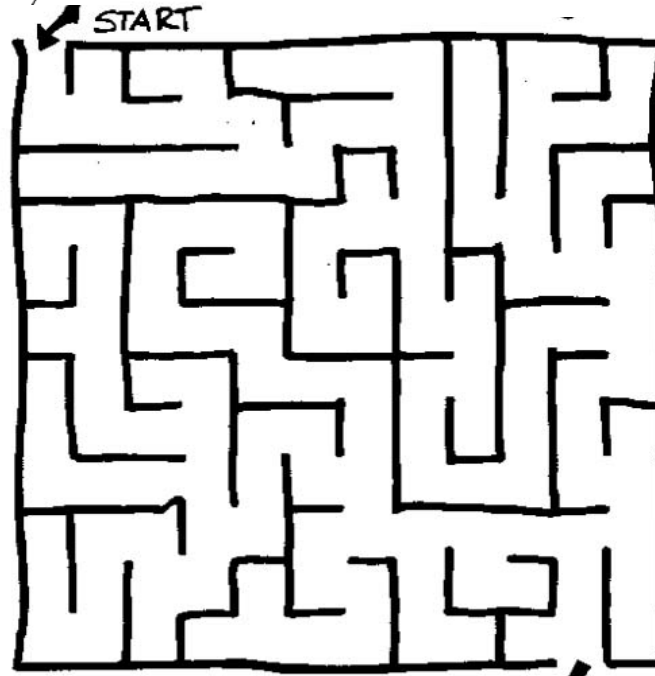
The bacteria eat the waste and produce biogas.



Can you help the  
water get from  
your house to the  
treatment plant?



KB BioEnergy, Inc.



FINISH



P00 = POWER