

# COMPOSTING

1 Hour Basic Presentation for  
TK-5<sup>th</sup> Grade  
with  
Compost Building

Santa Clara County Master Composter  
K-12 Education Program

# NOTES FOR VOLUNTEER

What to bring to the Presentation:

- SCCMC Name Tag
- Sample of Green and Browns
- Sample of finished compost
- Sample of compost bugs

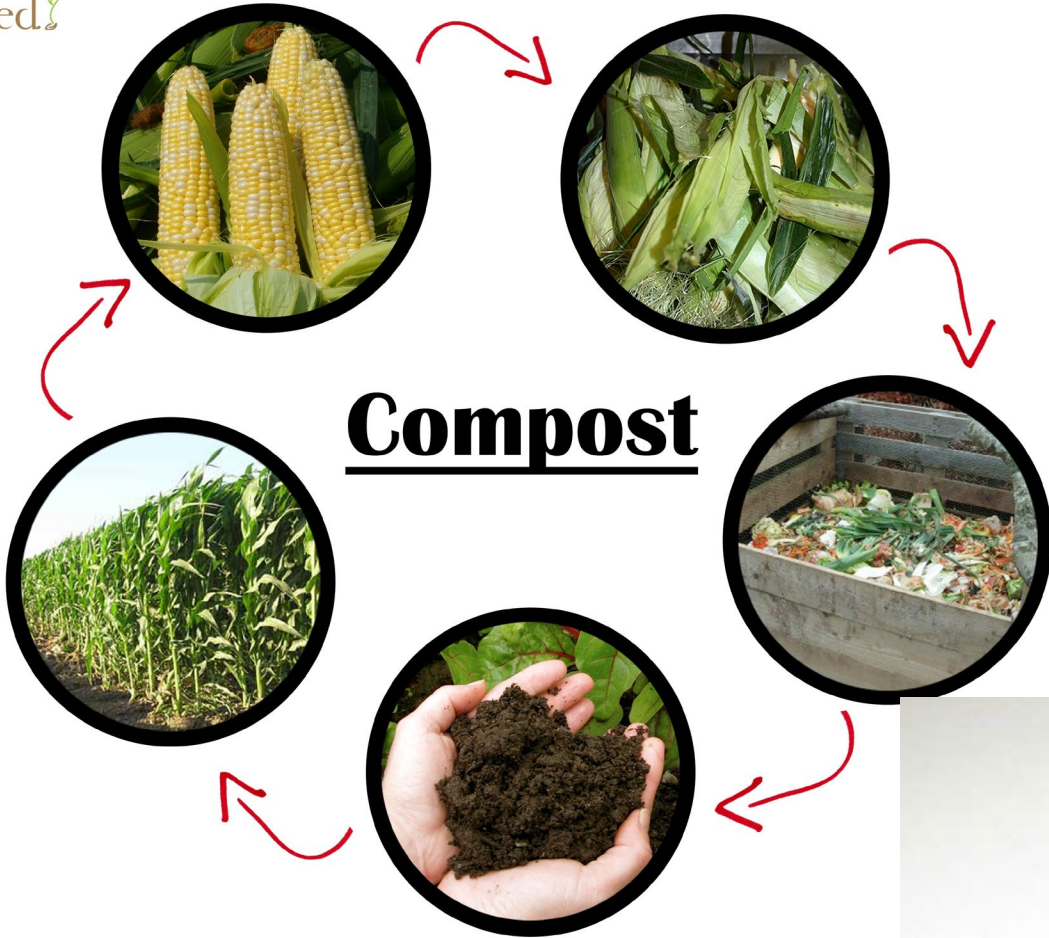
Other Stuff:

- Make sure you are parking in a legal Visitor parking spot and not in a Staff parking spot.
- Always check-in with the office first as you will need to sign in and possibly get a visitor tag.

# INTRODUCTION

- Good Morning/Afternoon?
- My name is \_\_\_\_\_ and I'm really excited to come today to talk with you all today about compost.

seed!



*From the dirt it came, to the dirt it shall*

# Compost



# What is Compost

- Raise your hand if you know what composting is?
  - Decomposing or breaking down of organic material like Food and yard waste
  - Nature's way of recycling organic material
- The end product is a dark soil that is...
  - Full of nutrients, minerals, organic matter and microbiology that plants need to grow.
- Here is a before and after photo of Composting.
  - Show photo



**AFTER**



# DECOMPOSERS

- I mentioned the word decomposers a minute ago. Let's think back to fall when all the leaves fall off the trees and cover the ground.
  - Show picture of the Fall leaves.
- Now it's spring time. Did all of the leaves get raked up? Did they disappear? Where did the leaves go?
  - No, The leaves naturally decomposed because there are tiny living things in nature called decomposers that help break down dead things on the ground and turn them into healthy soil and food for plants and trees.





# DECOMPOSER'S AKA FBI'S

- There are three types of living things in nature that we call decomposers. They are called FBI'S:
  - Fungi (fun-j-eye)
  - Bacteria
  - Invertebrates
- FBI's
  - Consume and break down green and brown materials
  - Transform organic matter into a nutrient rich soil amendment.

# FBI

**Fungi Bacteria**  
**Invertebrates**

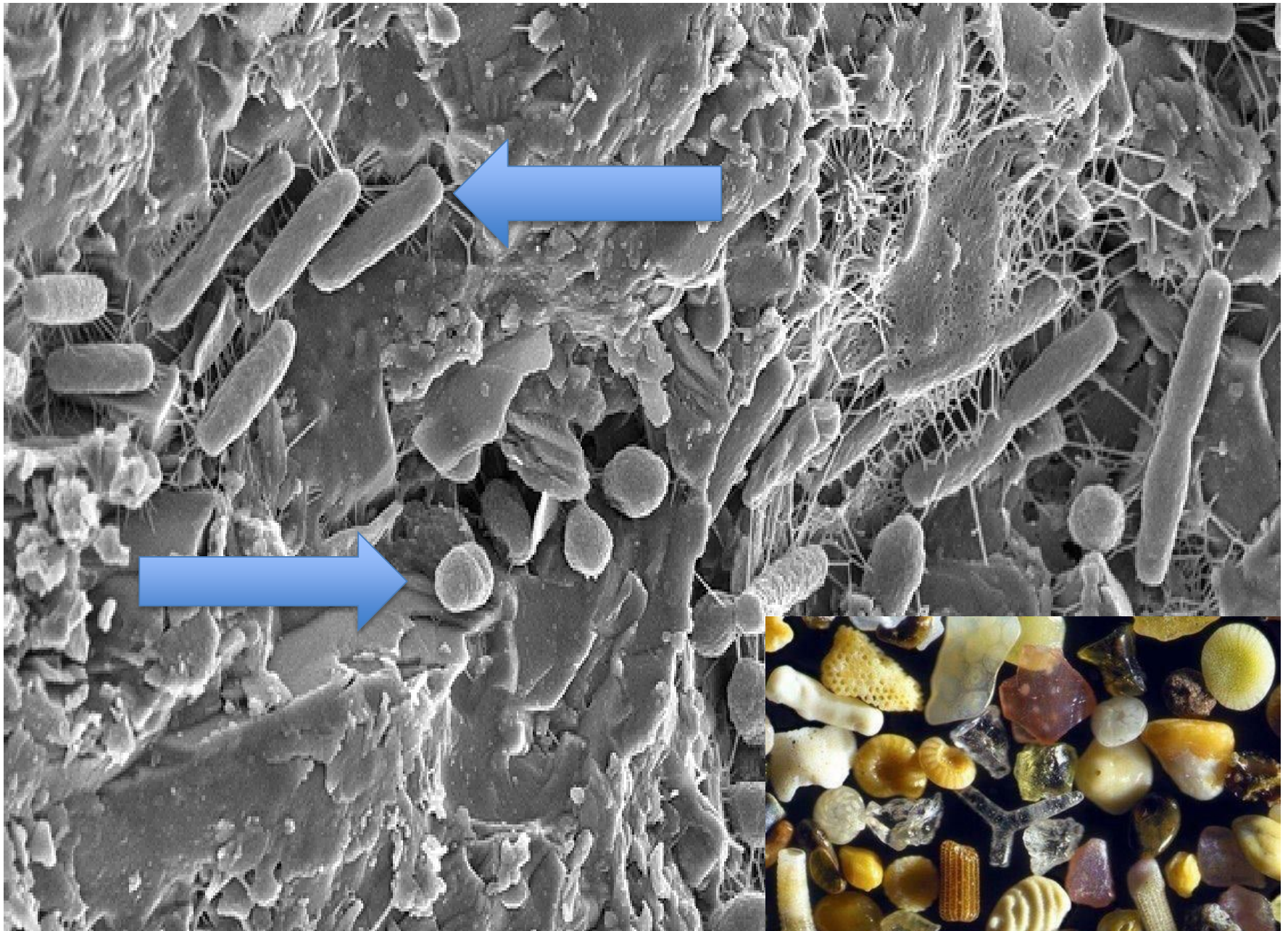
# FUNGI

- Examples of fungi are mushrooms and molds. Raise your hand if you know what mushrooms or molds looks like?
  - Show a picture of Mushrooms and Mold.



# BACTERIA

- Bacteria are really tiny . They are so tiny that we need a microscope to see them.
- Some Bacteria are bad and we call those germs and these bad bacteria can make us sick sometimes.
- But there are lots of good bacteria too.
  - Everyone blink your eyes. Did you know that there are good bacteria living on your eyelids and eye lashes that keep them clean?
  - Now everyone point to your stomach. Did you know that there are billions of good bacteria inside of us that help us digest our food? The human digestive track can hold about 3 pounds of bacteria.
- Show photo of Bacteria on a single grain of sand



# INVERTEBRATES

- Invertebrates
  - are living things that do not have backbones like we do.
  - Show photos of invertebrates.



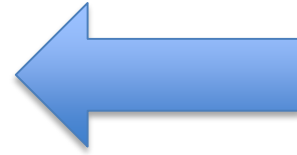
Sow Bug  
Soldier Fly Larve  
Millipede  
Snails or slugs







Beetles  
Mites  
Ants  
Centipedes



Earthworms

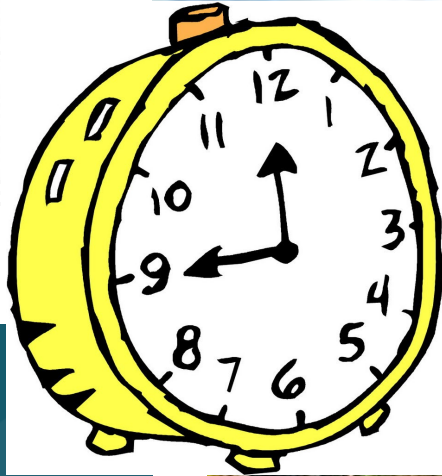
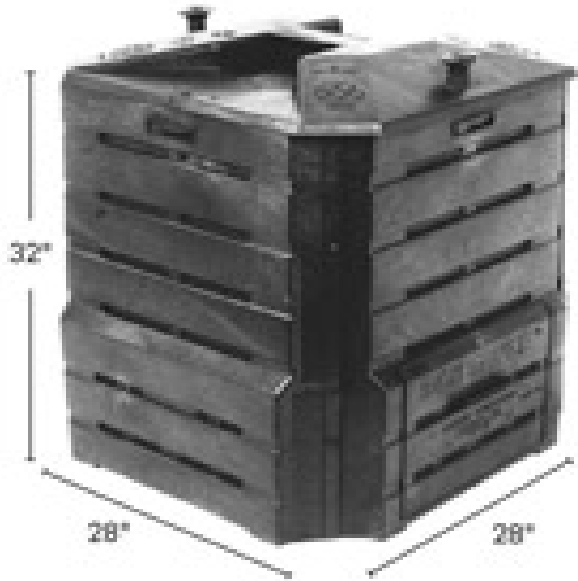


Redworms



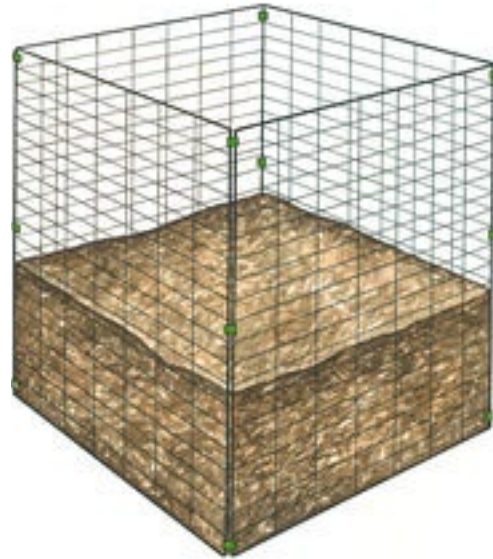
# WHAT DOES COMPOST NEED

- Let's talk about what we need to live. Compost basically needs the same things we need to live. What do we need to live?
  - Shelter or containment but can also be an open pile
  - Air (Show holes in the shelter)
  - Water or moisture (wrung out sponge... not dripping)
  - Food (Browns/Carbon and Greens/Nitrogen)
  - Time



# COMPOST BINS/SHELTER

- Here are some samples of shelters or bins.
  - 3 Bin Style
  - Tumbler
  - Homemade types
  - Open Pile
  - Mesh or metal wire fencing
- You can see the shelters have holes for plenty of Air. Some are completely closed and others open.
  - Point out the holes in the bins.



# COMPOST FOOD

- Compost piles need food just like we do! I like to think that all compost piles are vegans. Does anyone know what vegan means?
  - Vegan means that they only eat food from plants.
- What kinds of food come from plants?
  - Yard Trimmings, Fruit and vegetable waste, shredded paper.
- Compost likes to have an equal amounts of browns and greens.
  - Here is a list of some browns and greens you could feed your compost pile.

# BROWN

- ✓ leaves
- ✓ hay & straw
- ✓ paper & cardboard
- ✓ woody prunings
- ✓ eggshells
- ✓ tea bags
- ✓ sawdust

# GREEN

- ✓ vegetable peelings
- ✓ fruit peelings
- ✓ grass clippings
- ✓ coffee grounds
- ✓ green plant cuttings
- ✓ annual weeds
- ✓ young hedge trimmings



# WHAT NOT TO FEED COMPOST

- Vegans do not eat anything that comes from animals:
  - Cheese
  - Milk
  - Meat
  - Eggs (Shells are ok and welcomed)
  - Oils: No cooked foods in oils or butters
- What about animal Manures?
  - Ok only from animals that only eat vegan
  - Cows, rabbits, chickens, etc. but not from cats or dogs.



# Compost Building Recipe

- **Chop materials:** Smaller pieces decay faster
- **Layer browns and greens (1:1)**
  - Layer larger brown stalks and branches to create good aeration on the bottom.
  - Always bury greens and top off with browns.
- **Maintain Moisture:** By adding water or allowing it to dry out (want wrung out sponge)
- **Maintain Air:** By turning pile
- **Time:** Give your bin some

# A COMPOST RECIPE TO FEED YOUR SOIL.

Mix up all the ingredients maintaining the **BROWN to GREEN** recipe

Always cover with a **BROWN** layer

Next: **GREEN**

Next: **BROWN**

Third Layer **GREEN** (max 2" - 4")

Second Layer **BROWN** (Dried leaves)

First Layer **Sticks** 4" - 6" in the bottom of the composter



**KEEP MOIST:** As wet as a wrung out sponge.

**AERATE:** Air helps to speed up decomposition. Aeration should be done throughout the entire composting process.

**KEEP COVERED:** Use a compost lid, cardboard or canvas over top of your pile.

# Problems in the Compost

- **Fruit Flies, White Flies** – Too much moisture or fruit/food waste. Always cover greens with thick layer of browns.
- **Pot Worms** – PH too Low and too much moisture. Add more browns and do not add any food waste for two weeks.
- **Rodents** – meat or greasy foods or bins is accessible. Need to prevent access.
- **Smelly** – Too many greens and/or moisture. Add more browns.
- **Material composting slowly** – Too dry. Check moisture, turn pile, add manure to speed things up.



# Application of Compost

- Now that you have learned how to make compost it time to harvest it and give it to your plants. Be generous when applying compost because you can not hurt plants with too much compost.
  - One to two inches on the surface with each planting once or twice per year. Mixed into the top few inches of soil.
  - Add to bottom of hole when transplanting.
  - Use it in your seedling mix.

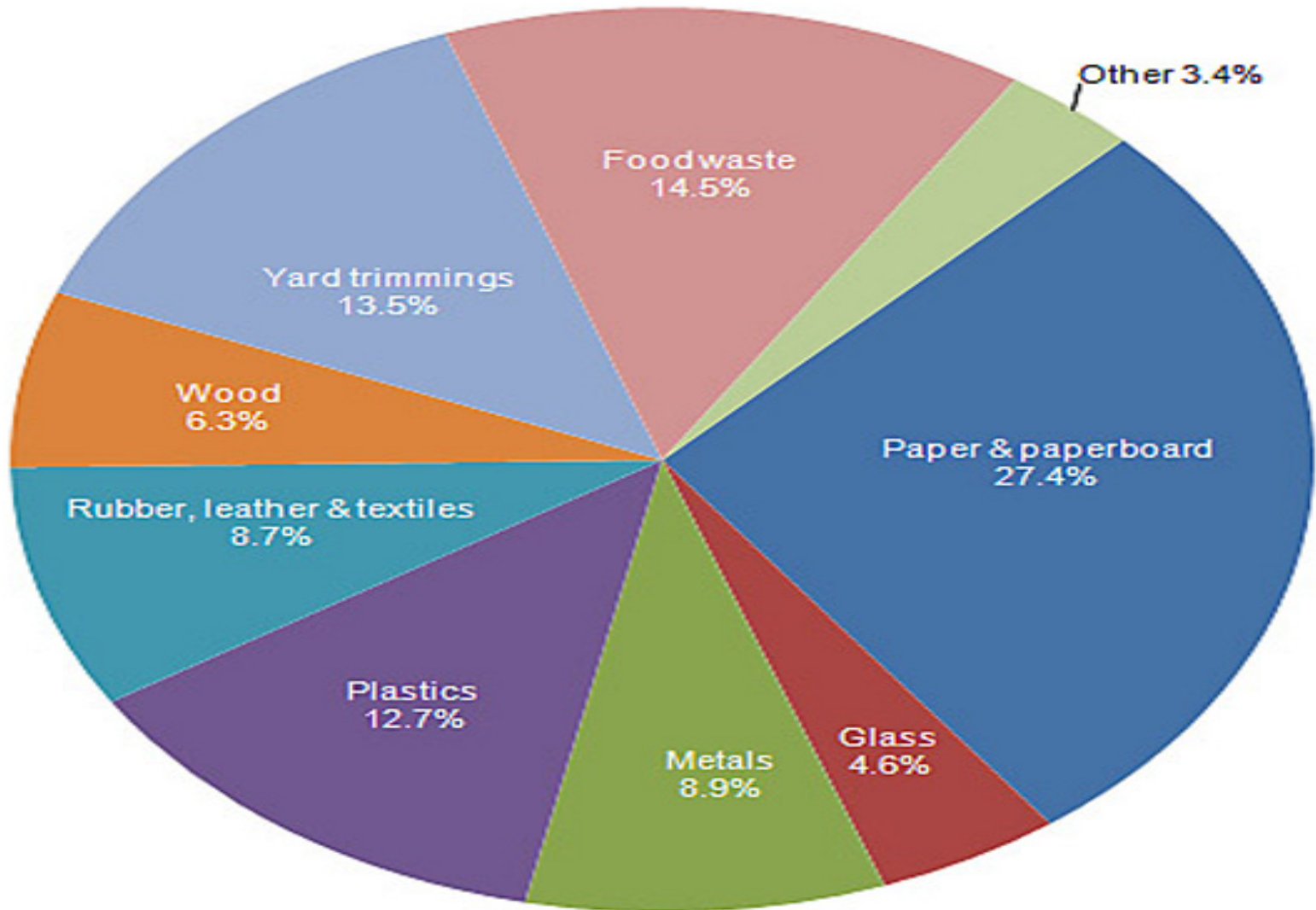




# Why Compost?

- Now that you know all about how to compost and what to do with it. Let's talk about why do we need to compost. Raise your hand if you have any ideas why we might need to compost?
  - Show photo of graph of US Trash for one year.
  - Waste Diversion: To keep trash that can be composted out of landfills.
    - Yard Trimmings, Food Waste, Paper = 55.4% not composted
    - Compostable material creates methane gases in landfills
  - Soil Fertility – Compost Feeds the plants and trees saving money by not buying fertilizer or soil conditioners
  - Water Retention and quality: soil will stay moist longer, reduce runoff and save water.

**Figure 5. Total MSW Generation (by material), 2012  
251 Million Tons (before recycling)**



# CLOSING and TRANSITION

- Now that we have learned all about Composting, Do you have any questions?
- We are now going to go outside to 1) build your compost bin OR 2) explore a compost bin.