

WORMS

Worm facts:

- They do not have arms, legs, eyes, ears or a nose
- They have 5 hearts
- Do not have lungs, they breathe through their skin
- They have bristles (little hairs) along their bodies which help them move around
- They respond to temperature, light and vibrations
- They can feel pain
- They hibernate during winter
- Sunlight can kill worms, (expose under 1 hour for observations) -if their skin dries out they will die.
- Can eat its own weight in a day
- Are hermaphrodites but need 2 worms to reproduce
- Baby worms hatch from an egg capsule. Worms have a 'saddle' for the eggs. Each capsule contains from 2 to about 20 worms. They only hatch when conditions are right for them, they can stay dormant for years
- They aerate the soil with their tunnels, adding air and making healthy plants in
They break down organic matter becoming nutrients so plants can easily use
- They make holes in the soil so water can get down to the plant roots
- Their waste is called castings (It's a great fertilizer)
- The liquid they make can be made into tea for the plants (1:10 using 1 part tea to 10 parts water, preferably rain water)

Basic care

- Shelter: Place worm farm in a shady spot (not in sunlight) with easy access to feed and water.
- Water: They die if their skin dries out, keep damp cover on top of the worm food in the bin. May need to add ice blocks in summer.
- Food: Print and laminate the food like/dislike and put with a worm scraps tub in kitchen. Cut all food up small pieces and sprinkle on top of worm bin, under felt/cover. Feed small amounts often, no more than 5cm spread over top. Remove food that is mouldy or rotting if not eaten.

For the garden

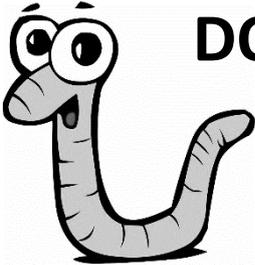
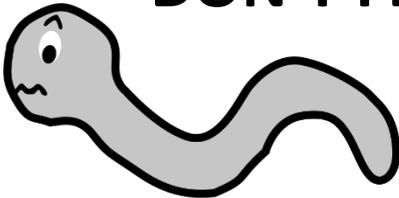
Worm juice and castings contain beneficial plant microbes for healthy plant growth.

-Worm Tea: Mix Worm juice with unchlorinated water ration 1:10

-Castings: Sprinkle on top of garden bed as a top-dressing.



WORMS

 DO FEED	 DON'T FEED
Veggie and fruit scraps, chopped finely, blended or shredded	Garlic, onion, chilli, leeks pineapple
Paper/newspaper/cardboard; torn or shredded. (Not glossy or coloured)	Citrus: lemon, lime, etc.
Vacuum dust and hair	Processed foods: Bread, cake, biscuits, pasta
Egg shells, crushed or grinded	Milk or dairy products
Coffee grounds	Glossy or coloured paper
Tea and Tea bags (remove bag, staple and string)	Oils and fats
	Meat or bones
	Twigs and branches
	Dog or cat faeces

Worm anatomy

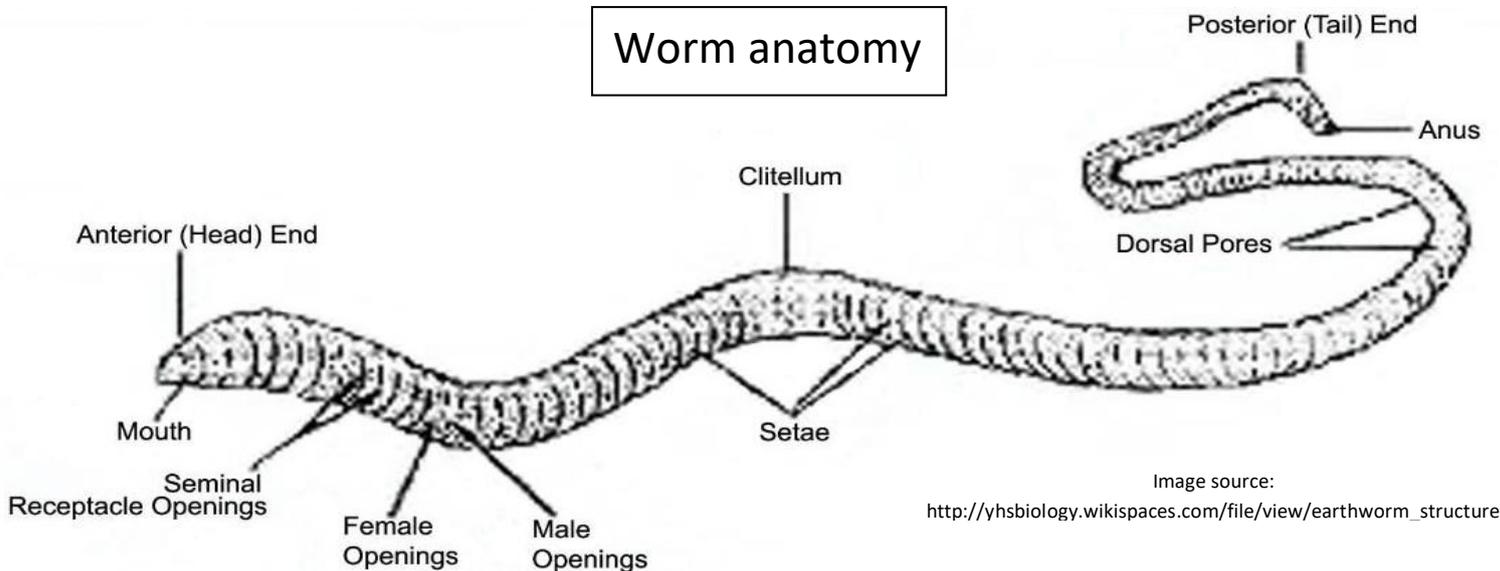


Image source:
http://yhsbiology.wikispaces.com/file/view/earthworm_structure



WORMS

Problems	Possible causes	Solutions to try
Too wet	Overfeeding Drainage problem	Decrease feeding Drain off excess liquid Mix in torn/shredded newspaper and a handful of dolomite in to absorb moisture and mix around gently with a stick. Aerate
Too dry	Underfed	Spray with water Cover with layers of wet newspaper/ hessian bag
Smelly	Over feeding Uncovered Drainage problem Incorrect PH	Preferred PH is neutral 6.5-7.5. Add eggshells crushed/ground up help to keep neutral and add minerals Reduce feeding-feed only when eaten last scraps Remove any moldy or smelly food Cover with layers of wet newspaper/hessian bag Drain excess liquid off Mix through top layer torn/shredded newspaper Don't use smelly worm castings or juice, tip it back through the worm farm
White flies	Uncovered Incorrect PH	Spread food scraps through top layer and cover well with wet newspaper/ hessian bag Reduce extreme numbers. Put a piece of bread on the top and insects will collect on it. Throw out/compost. Mix torn/shredded newspaper through the top layer
Worms climbing out	Overpopulated Unfavorable conditions (Too wet, too dry, too hot, too cold, incorrect PH)	Start a new worm farm Check conditions and temperatures, see relevant possible problem and solution Check PH level-add Dolomite to neutralize acidic soil
Hot and cold weather extremes	Extreme weather conditions	Store worm farm in a shady position In hot weather, add a frozen container to top layer to keep them cool Spray with water to keep top newspaper layer wet Place a car-window foil sun protector over top and hold in place with a brick in extremes of weather In Winter worms slow down and eat less so feed, place several layers of damp newspaper on top as extra insulation.
Going on Holidays	Worms starving	Feed as normal Ensure worm farm healthy (as above) Add layer of semi decomposed compost to worm farm &/or cow manure Place 10+ layers of damp newspaper on top (They will eat that if hungry) Ask a friend or neighbor to pop by and check every 2-4 weeks. (They are less active in Winter)

