

How to Build a Worm Compost Bin for a Classroom

Students should draw a creative picture of worms. Ask them to include food, the container, etc. Encourage them to use colors and be creative.

NAME _____

Worms are important organisms that break down dead plant, animal, and microbial material to make the soil healthy. Some farmers, gardeners, and scientists keep worms in bins. If these worms are kept in favorable conditions, the worms help break down food wastes to make great fertilizers for plants.

What type of worm should I use in my bin?

If you want to have your own worm compost bin inside of a classroom, it is important to make sure you have the correct type of worm. Most vermicompost, or worm compost systems, use red wiggler worms (*Eisania fetida*). These worms are smaller than the earthworms that are sometimes found in the garden. Red wiggler worms are really good at moving side to side, or horizontally. This means that the red wigglers are more likely to stay in your bin. Here is a drawing of red wiggler worms in a compost bin:



Where should I keep the worm bin?

Now that we know the right type of worm, we should think about the type of

shelter/home the worms need. The worm compost bins are kept in the classroom under a desk. This is a good place for a worm bin

because it is shady and cool

Worm bins should stay between 50 and 80 degrees F.

Here is a drawing of where you should keep your worm compost bin in a classroom.



What should a worm compost bin be made of?

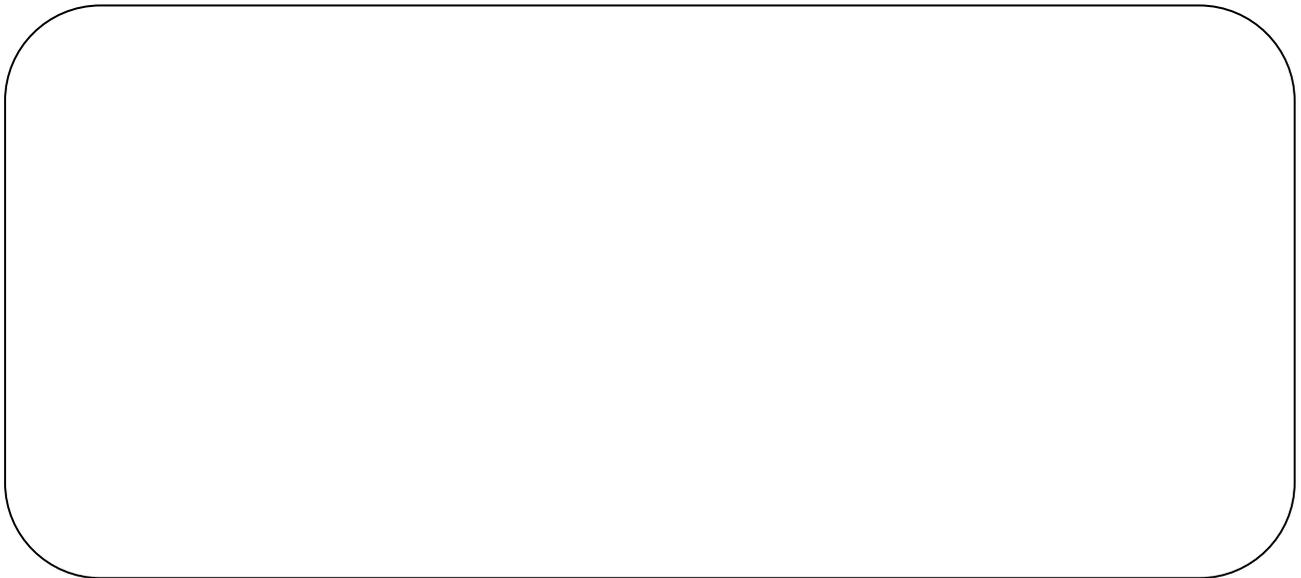
Worm compost bins can be made of many different materials. However, worms are sensitive to light. Worms probably do not like light because _____ they can dry out from the heat _____ they normally live _____ underground _____. This means that we should build our compost bin out of something that _____ does _____ not _____ let light through.

Worms also like to be kept moist; about as damp as a sponge that has been squeezed out. This means that sometimes you need to add a small amount of water to the bin and the bins need to have holes to let the water drain out. Some worm bins do not need to have holes, but it could be easy for the worms to get too _____ wet _____. If they are too moist they will not be able to breathe and could die!

Draw a cartoon picture of worms that are too wet, or something related

If the bins have holes in the bottom, then there needs to be something to capture the liquid that drains through. It is easiest to have one bin on the bottom that captures the liquid, and one bin on top with the worms in it.

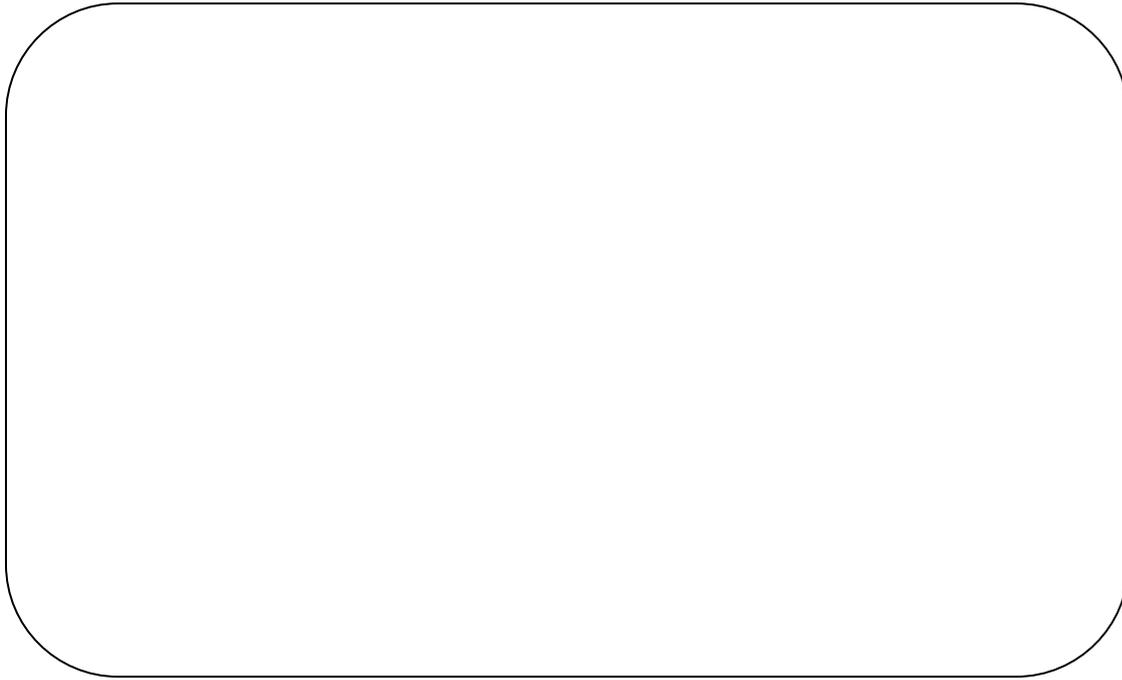
Here is a picture of our two stacked bins.



Did you know that the liquid that is collected on the bottom of a worm bin like this could actually be used as a fertilizer for plants?

For our worm bin, we drilled holes that were 1/4 inch wide. We drilled them 5 cm apart in the bottom of the first bin.

Here is a picture of our bin with the holes drilled. This bin will be stacked on top of a bin without holes.



What should go in a worm compost bin?

Next, it is important to know what should and should not go inside of a worm compost bin. To start a worm compost bin you should put 2 or 3 pieces of newspaper over the bottom of the top bin. This will keep most of the worms from trying to escape from the holes.

Draw a picture of worms crawling through holes on the bottom, or a picture of newspaper on the bottom of a bin

bacteria in your bin that will help the worms break down food faster. On top of that, you should now add shredded newspaper, or shredded cardboard that has been soaked in water.

It is important to know that worms are sensitive to the chlorine in white office paper. Do not add this type of paper to your worm bin.

Students should draw a picture warning not to put white paper in with worms.

Lastly, we need to add food scraps. Worms are able to eat many types of food like the newspaper and compost mentioned earlier.

Worms can also eat some food that people would normally just throw away.

Here are some foods that worms will eat: Lettuce, onion, melons, apple cores, carrots, pears, bread, etc. any fruit and vegetable that is not really acidic

Draw images of these here

Here are some foods that worms might eventually eat, but they might smell, be too acidic, or attract things that you do not want in your classroom: meat, dairy, citrus

Draw picture of the above items

To collect food for worms at school you could _____

How often should I feed the worms?

Worms can eat half of their weight each day! When feeding your worms, it is a good idea to feed them a small amount of food scraps everyday. It is best to add your food in a different spot each day, but near where you added the food the previous day. If you forget to feed your worms, do not worry; most worms will be okay for up to two weeks without food as long as they are not too hot/cold or too dry/wet. Remember, worms have small mouths and will eat food faster if it is in tiny pieces.

Why is it a good idea to keep a worm bin at school?

It would be a good idea to keep a worm bin at school because _____

What would I need to do differently if I wanted to keep a worm bin at home?

If you have a worm bin at home, you might want to keep it _____

_____.

You could collect food scraps from _____

_____.

Keeping a worm bin at home is also a good idea because _____

Keeping worms at home or at school is not for everybody; however, worms are important because _____

Draw a picture with worms in it.

Glossary:

Image:

New word: red wiggler worm
Definition:

Image:

New word: vermicompost
Definition:

Image:

New word: Chlorine
Definition:

Image:

New word: acidic
Definition:

Image:

New word: bacteria
Definition:

Image:

New word:
Definition: