



Decomposers

Nature's janitors and chemists!

Rotten fingers

How many ways can we clean up the world, (tapping head)

Recycling all sorts of rot, (hands mixing)

Nutrients and minerals, (pointing to mouth)

And different things a lot. (fingers spreading to side)

Dung beetles roll, (rolling hands)

And scavengers eat. (pointing to mouth)

Fungi break bonds, (breaking motion)

Help soil, that's neat! (clapping)



Singing rotten to *Oh My Darling Clementine*

I am rotten (fingers mixing)

And I'm rotting,

Seeking help to decompose.
(fingers spreading out)

Will it be a fine dung beetle,
(hands rolling)

Fungus, vulture, (arms
flapping)

Which of those! (hands out to
side)



Decomposers

Nature's janitors!



Rolling rotten

Dung beetles wave their antennae to locate dung. They lay their eggs in a pile of manure. There are 3 kinds of dung beetles: dwellers, tunnelers and rollers. The beetles introduce oxygen into the dung, so it decomposes faster



And assorted arthropods.....

- Dung beetles: dwellers, tunnelers, rollers, working on their backs
- Grubs: rhino, ox, Hercules beetles
- Soldier flies
- Filth flies--blowflies
- Cockroaches--American, German, Oriental, Smoky brown, wood roach, Cuban, banana, brown banded, Surinam, Boll's sand roach
- And isopods, millipedes, termites and borers!



Eating rotten

Scavengers, like vultures, help reduce dead animal matter. When dead animals decompose the proteins break down into cadaverine and putrescine which smell stinky but lead the vultures to find food. Their stomachs have strong chemicals to protect them from diseases. Vultures' bald heads prevent food getting stuck in feathers. Raccoons, opossums and skunks also scavenge. Blowflies lay their eggs on dead flesh and the larvae eat the carrion. Even sharks, fish, crabs and rays are decomposers.





Slurping rotten

Fungi start out as a spore, and when they germinate, they send out weblike threads—mycelia. A fungus is not a plant that can make its own food. It eats by first sending enzymes to digest the food, and then they slurp it. Some fungi eat pollutants like pesticides and oil spills!



Rotten log hotel

Let's visit life in a rotting log! Tree cell walls are made of cellulose and lignin. Beetles bore holes and fungi and bacteria enter to decompose the tissue into elements that living things need. The tree becomes a tree "hotel" and buffet for slugs, snails, millipedes and mice, and lots of other creatures.



Moving rotten

Earthworms, nature's farmers!
Earthworms provide many ecosystem services: aerating the soil, adding moisture, enriching the soil with castings (poop). They decompose dead leaves and twigs. Earthworms can heal the Earth damaged by mining, logging or construction, by loosening the ground and adding healthy castings.



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Decompose!

How many ways can we
clean up the world,
Recycling all sorts of rot?



Nutrients and minerals.....

Nutrients and minerals,
And different things a lot.



Dung beetles and scavengers....

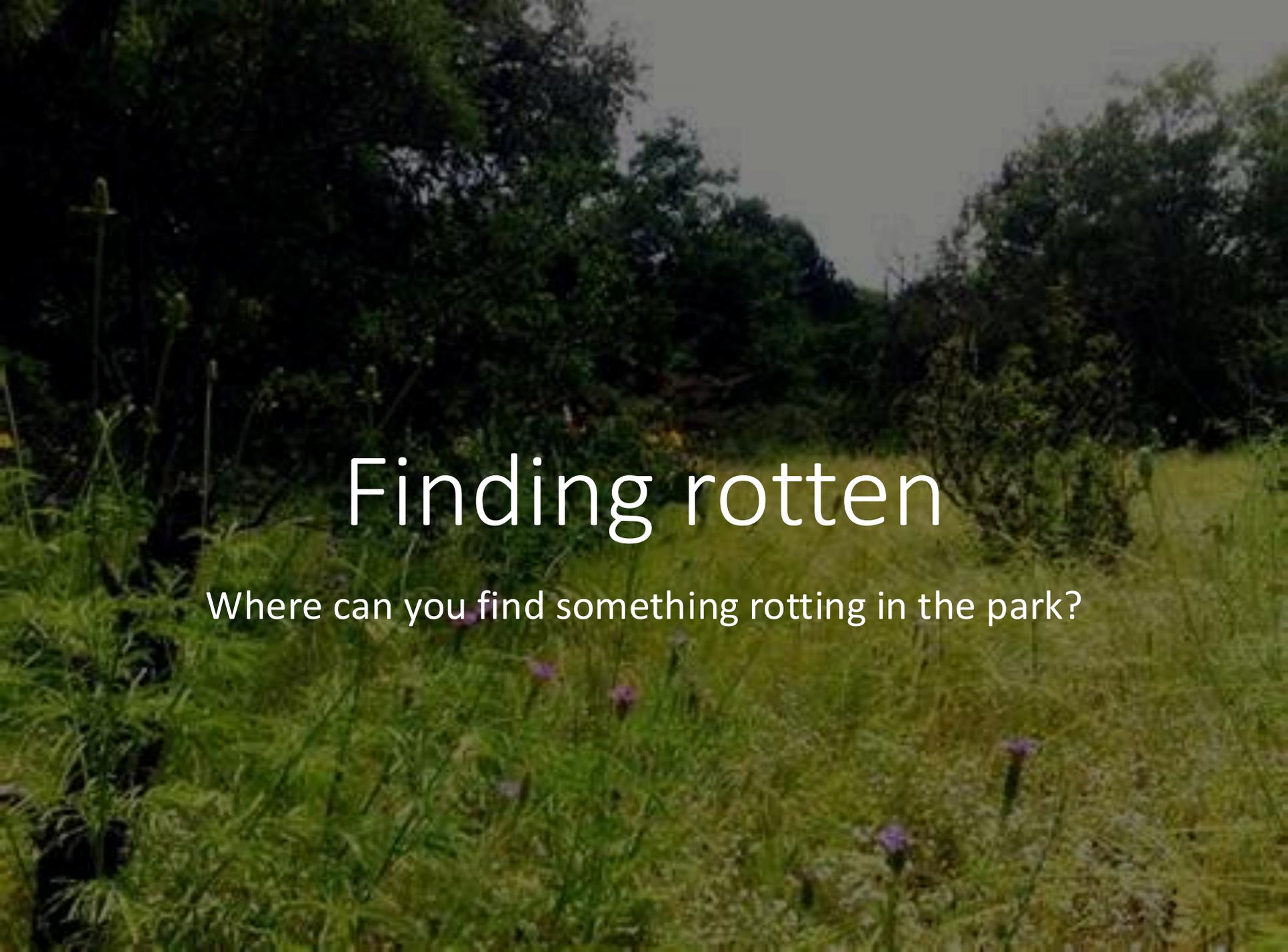
Dung beetles roll,
And scavengers eat.



Fungus!

Fungi break bonds,
Help soil, that's neat!



A photograph of a grassy field with purple flowers in the foreground and a dense line of trees in the background. The text is overlaid on the image.

Finding rotten

Where can you find something rotting in the park?



Rotten art

Can you “decompose” this picture to help the Earth?



Decomposition Art!

First find a picture from
nature.



Then
decompose
it....

...by cutting it into pieces.



Now
reassemble
the
pieces....

....in a decomposition
collage!



That's what
decomposers
do--

They take things apart to
make something new—sort
of like recycling!



Decomposer haute cuisine!

The various goodies represent
the organic and mineral
matter transformed by the
decomposers!



Decomposers....

....lots of ways of
disposing of dead
things!

