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4. Superheroes have superpowers such as amazing strength and speed. They can also do super tricks such as flying over tall buildings. They defeat their enemies and make the world a better place. But superheroes aren't real, or are they?

### **Undercover Heroes**

In the world of insects, many beetles are superheroes. They have what it takes to live almost everywhere in the world and in all habitats. They also have to battle many enemies. Animals such as bats, fish, raccoons, snakes, and birds want to eat them. So what makes beetles superheroes? It's the amazing skills they use to get away from their enemies, survive in difficult habitats, and make the world a better place.

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**Super Strength  
(Dung Beetle)**

5. Dung beetles are one of the strongest insects on Earth. The amount of weight they can pull at their small size is like a superhero pulling six double-decker buses full of people. [Art note: Could possibly use an illustration of a superhero pulling 6 double decker buses or an use an actual photo image of 6 double decker buses stacked on top of each other.] But instead of pulling buses of people to safety, dung beetles push poop to make the world safer.

[inset: “Dung” is another word for animal poop.]

6. Dung beetles protect the world by cleaning up animal poop in deserts, woods, and farm fields. Poop is unhealthy to have lying around. Some animal poop contains worm eggs. If the poop stays in the grass, the eggs will hatch and there will be worms in the grass. Animals that eat the grass could eat some worms, too. That can make them sick.

7. That’s not the only problem poop can cause. One cow drops 10 to 12 poop patties a day. When cow poop hardens, it kills the grass underneath it and keeps new grass from growing in that spot. The cows in that field will have less food. When dung beetles get rid of poop, they make it possible for the grass to grow back so the cows have more food.

[inset: Each poop patty can attract up to 3,000 flies in two weeks. If dung beetles didn’t clean up the poop, we would have a smelly world to live in and too many flies. Dung beetles can get rid of large piles of poop in 15 minutes.]

8. There are three groups of dung beetles. Each one handles poop in a different way. Rollers pull as much poop away from the pile as they can. Then they roll it around until it forms a ball. These balls can be the size of a tennis ball and can weigh 50 times more than the dung beetle weighs. [Art note: Could possibly use an illustration of scale with a ball of poop on the lowered side and 50 dung beetles on the raised side.]

9. Male rollers balance themselves on their front legs and use their back legs to push the balls away from the pile. Some female rollers help push the poop ball. Others just ride on top.

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Male and female rollers find a soft place to bury the poop. The female lays one egg inside. When the dung beetle babies are born, they help get rid of even more poop by eating it.

10. The second group of dung beetles are tunnelers. They dig tunnels to bury the poop.

Animals that eat fruit have seeds in their poop. When dung beetles bury poop with seeds in it, the seeds can grow into new plants. The digging that tunnelers do also helps loosen the soil. Loose soil lets in more water and air, which helps plants grow big and strong.

[inset: Cow dung contains nutrients that are good for plants. When dung beetles bury dung, they help fertilize plants by taking the nutrients closer to plants' roots.]

11. The third group of dung beetles are dwellers. They sit on top of the pile of poop and eat all they want. Poop contains tiny organisms that produce a bad gas called methane. Methane affects the Earth's temperature and weather. It also lowers the amount of a good gas called oxygen (/OX-suh-jen/) in the air we breathe. When dwellers dig into poop, they allow more oxygen to enter the poop. That keeps the tiny organisms from producing as much methane.

12. Dung beetles have a dirty job. But they are superheroes that help animals stay healthy, help plants grow stronger, and keep the air cleaner.