# Curious Mira and the Purple birds

Meera was walking back home from school one day when she heard a rumble in the distance. “Rain!” she thought with excitement. She had felt it, of course. The air had become cooler that afternoon, and the clouds had seemed darker. She had almost cried in school today, and the rain would cheer her up. She had been telling her friends that she really wanted to be a scientist when she grew up, and Jay, a boy in her class had told her that women could not become scientists.

When Mira reached home, she told her mum all of this. “Oh Mira, that’s just not true! Plenty of women have been great scientists” her mum said. “Do you want to walk around the forest? I’ll tell you a story.” Mira said yes immediately - she loved stories. She also loved walking around the forest that was near their house - the sound of the birds made her feel as if she was listening to the birds talking and the big green trees helped her feel calm.

“Do you know how the Purple Gallinule bird eats worms?” Mira’s mum asked once they started walking around the forest. Mira thought about the shiny bird that she had seen in these parts - she went often with her mum to look at the birds. She had seen them chewing on spiders once too. She nodded. “What do you think would happen if the worms the birds ate had poison in them?” “The birds would die!” exclaimed Mira. “That’s right Mira! They would fall sick, at the least. And what would happen to the birds if leaves had poison on them?” asked her mother. Mira thought about this for a moment, then said “The purple bird doesn’t eat leaves, mum. So why would anything happen to them?”

“That’s true. The purple bird doesn’t eat leaves, they eat worms. But worms eat leaves! So if a worm ate leaves with posion and purple birds ate the worms, wouldn’t the bird fall sick again?” Mira thought hard about this again. She nodded slowly when she understood. “Here’s another thing.” said her mum. “A bird eats many worms. In fact, a bird eats more worms than a worm eats leaves. So birds would swallow more poison from worms than worms swallow from leaves - just because they eat more!”

Mira had heard enough. “But you’re not telling me the story, mum! You told me you would tell me one!” Mira’s mum smiled. “Okay, I’ll tell you. There was once a little girl just like you, Meera, who really loved birds and the trees and the ocean. Her name was Rachel Carson.

Like you draw birds, she used to write about the things she loved about nature. One day Rachel and few of her friends noticed something. They saw that people were using a chemical on their crops to protect them. This chemical did not make humans sick. But when worms ate the leaves with the chemical, and when birds ate those worms, they got sick. Rachel was very worried and told the whole world what was happening. If humans would eat those birds, they got sick too.”

“But-” said Mira. “But you just said it doesn’t make us sick!” “Smart girl!” said her mum, smiling again. “You are right! When humans ate the leaves, they did not fall sick. But when they ate the birds that ate the worms that ate the leaves, they did! Do you know why? Because a human eats more bird than a bird eats worms. So humans were eating more chemical as they ate more birds!” Mira understood, but she felt sad. “What happened to the people and the birds?” she asked.

Mira’s mother pulled her closer, as they sat down under a tree. “Some fell sick, dear. But after Rachel told the entire world, people listened to her. They stopped using that chemical to grow their crops! And today, people can no longer use the chemical as they want! Women can do science and have done science. Rachel was a curious, smart and kind lady. Will you be like Rachel, Mira?”

“I will, mum! I’ll protect my purple birds!” Mira’s mother patted her head and smiled at her. Just then, a soft rain began to fall. Giggling with excitement, Mira stuck her hand out from under the shade of the tree to feel the rain.

*(The following box is for parents/teachers and very curious kids to read with their parents!)*

FACT BOX!

This idea of toxins accumulating at each level of the food chain is called biomagnification. As the term indicates, the amount of toxins get magnified at each level of the food chain causing great harm to animals at the higher levels of the chain. While Rachel Carson was not the first to observe and understand biomaginfication, she was the first one to create significant awareness around it. She wrote a book called Silent Spring which went on to become a best seller. In the book, she made a strong case for the controlled use of the toxic DDT that was being used widely as fertilizer. Today, thanks to efforts of people like Carson, DDT is banned in the USA.

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