

One Minute Mysteries: 65 Short Mysteries You Solve with Science!

SAMPLE MYSTERIES:

Shadow of a Doubt

"Are you *sure* this is where it fell off?" Sanya asked.

"Of *course* I'm sure," Megan said. Several of her friends had gathered around her in a corner of the athletic field on a sunny day. "When the bell rang to end recess I was standing right here."

"The ten o'clock recess, you mean?" Delaney asked.

"Right," Megan said.

It was now the two o'clock recess. They had only a few minutes before the bell would sound again to call them back into school. After school the field would be full of players coming for soccer practice. Once the field got trampled by so many feet, there would be little chance of finding Megan's lost earring.

"Tell us exactly what happened," Karin said.

"I was standing right here, brushing my hair and I saw a glint of light flying in front of me. It must have been the earring coming off. I saw it fall into my shadow, right where the shadow of my head was. But I didn't have time to look for it."

Several more girls started searching the spot where the head of Megan's shadow was falling.

"Aren't you going to help look?" one of them called to Karin, who was glancing at a sunny patch of ground off to the side.

"Why should I look over there when I've already found it over here?" she asked.

"But it fell where my shadow is, and my shadow is right here. How did the earring get over there?" asked Megan.

Solution:

"The earring didn't move, the shadow did," Karin said. "Think of a sundial. The shadow will move as the day goes on. Where Megan's shadow is falling now, at two in the afternoon, is not where it was this morning at ten. A shadow goes in a clockwise direction as the earth rotates—that's why clocks go in that direction, by the way.

"Her shadow two hours after noon would be about the same length as her shadow two hours before noon," Karin added. "Since I knew both the distance and the direction it fell from where she's standing, it was obvious where to look."

Over the Rainbow

Anna's parents had let her use their digital camera at the class Halloween party. She went around taking pictures of the food, the decorations and everyone in their outfits.

Anna knew how to download pictures from the camera onto a computer, and over the weekend she would email them to her friends.

"Anna, if you send out that picture of me stuffing my face with popcorn I will so kill you," Cori said.

"Let's see! Let's see!" Gena said.

"Yeah, let's see!" Kathleen said. The four of them were best of friends and always together.

Anna hit the button that showed all the pictures in the camera's memory. The first ones were from a game of a soccer team they all played on. But they showed only Anna, Kathleen and Cori, not Gena. One picture of the three of them was especially good, with a clear sky and a rainbow in the background.

"Hey, where am I in these pictures?" Gena said, sounding a little jealous at being left out.

"Maybe you missed that game," Cori said.

"I haven't missed a game since last spring," Gena said. "That day it rained before the game and I slipped and twisted my ankle during warm-ups and had to go home."

"Then this must be from that day," Anna said.

"Can't be. The sky is clear in this picture," Gena said.

"Anna's right," Cori said. "The picture proves it."

Solution:

"Rainbows only appear when the sun hits water in the air at just the right angle," Cori said. "So even though the sky had cleared out by the time this picture was taken, the rainbow proves that it had rained not long before."

Grass Stained

"Now we have to start all over again," Alyce said. "And it's *all your fault*," she glared at her little brother.

"I didn't do anything!" Freddy protested.

Alyce had invited her friend Haley to come early that Saturday morning. They were working on a project on migration. The previous weekend, they had watched geese flying above them in their V formations, honking as they flew south.

Alyce had read that hummingbirds migrate too, so after school the previous day she had gone to the garden center and bought a glass feeder. She'd followed the instructions exactly, filling it up to the top with a mixture of water and sugar, adding a couple of drops of red food coloring, and then hanging it off a low branch of a tree in her back yard. She and Haley had planned to watch for hummingbirds every Saturday morning for the next few weeks to see if more came as the weather got colder.

But now the feeder was cracked and the water had all leaked out, leaving a red stain on the frosted grass.

"What makes you say Freddy broke it?" Haley asked.

Alyce said, "Because he was tagging along with me the whole time I was working on it. I just bet he was out here earlier playing with it and he dropped it and hung it back up."

"Did not!" Freddy hollered.

"Did too!" Alyce hollered back.

Haley said, "Actually, he's telling the truth."

Solution:

"The water inside the feeder is what cracked the glass," Haley said. "You filled it to the top last night, right? This morning there's frost on the grass. That means it got below freezing last night. And when water freezes, it expands."

Needing a Lift

"Hey, watch out!" Farel said.

"Oops, sorry!" Barry said.

It was Earth Day, and as part of their project, they were planting trees at the elementary school playground. Farel and Barry each had taken one handle of a wheelbarrow. In the wheelbarrow was a tree, its roots protected by a heavy cloth sack full of dirt. As they crossed the playground toward the holes that already had been dug for the trees, they struggled to control the wheelbarrow because of the weight.

As they got near the see-saw, Barry's hand had slipped and he let go of his handle. The wheelbarrow tipped over and the tree slid out onto the ground.

The two of them tried to pick it up, but it was too heavy.

Alejandro and DeWayne came to help, but even the four of them couldn't lift the tree. "We'd better stop before we hurt ourselves," Alejandro said.

"How about if we push it?" DeWayne suggested.

They did manage to scoot it across the ground a little.

"That won't work. Even if we could push it all the way to the hole, the sack would tear and we'd ruin the roots," Barry said.

"There is a way," Farel said. "We're lucky it fell near the see-saw."

Solution:

"A see-saw is a lever," Farel said. "Let's adjust it so the side next to the tree is the short end. Then we'll push the root ball onto that end. Alejandro and DeWayne, you push down on the long end, I'll hold the tree steady and Barry can move the wheelbarrow underneath it." In a few moments the tree was back in the wheelbarrow and on its way to be planted.

Food for Thought

It was the End of the Pleistocene Era Party. Half the students had been assigned to decorate the room, and the others brought in food, all with an Ice Age theme.

After they finished doing cave drawings on the blackboard, Taylor and Emma walked around to check out the food.

Kyrie looked at a punch bowl full of some red liquid. It smelled like regular punch, but she wasn't so sure. It was thicker than punch and warm.

"What's that stuff?" she asked Zackery.

"Woolly mammoth blood!" he said.

"Ewwwww!" Kyrie said.

"Try this 'giant deer' meat. It's real venison my dad got from a hunter," Derek said.

"Ugh!" Taylor said.

At the next table Emma had the same reaction to something that kind of smelled like salmon, but was as tough as leather. "What's this?" she asked Cameron.

"Dried, smoked fish, of course," Cameron said. "Remember we learned that smoking it over a fire preserves it? We could leave this out for weeks and it would taste just the same."

"Just as bad, you mean," Emma grumbled.

Taylor meanwhile had stopped at Daniel's table, where he was arranging a plate of cookies shaped like brontosaurus.

"Finally, something I recognize as food," Emma said when she and Kyrie joined Taylor. "Don't you just hate it, being hungry and most of the food is so gross?"

"There's only one thing I'm *not* going to have, and that's because it's not realistic," Taylor said.

Solution:

"Much as I like cookies, brontosaurus cookies don't fit in with the theme of the party," Taylor said. "Dinosaurs were extinct long before the Pleistocene era."