

The Science Project

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"So that's your assignment for the Science project. Find something you are passionate about and apply the five-step scientific method."

Lydia Wilga rolled her eyes at her friends, Seth Serentino and Jenny Goralek. They'd been BFFs since seventh grade at Mountain View Middle School and now shared several classes at East Side High.

Mr. Magdon, the 11th grade teacher continued, "Observe and ask questions, do research, and come up with a possible outcome – that's your hypothesis. Then test it, analyze your data and draw a conclusion. All projects will be entered in the Science Fair. Who knows? Maybe someone in this class will go on to the regional and state contests."

Lydia glanced at the cell phone on her lap and tweeted *LOL ESHS Science Fair Project*.

"Your homework is to brainstorm at least six possible topics for research. You need to create two investigative questions for each. That's a total of 12 questions, typed. Due Monday."

The bell rang and Mr. Magdon reiterated, "Brainstorm at least six possible topics. Have two investigative questions for each. That's 12 questions, typed. Due Monday." Students filed out of the classroom to their lockers filling the halls.

"O M G! What a way to end Friday." Lydia whined.

"Actually, I think it's a cool assignment" Jenny countered. "I can think of three, hmm wait, make that five topics."

"And they're all probably about the environment" Seth added.

He and Lydia laughed.

"So what if they are?" Jenny shrugged.

"I'm not sure what the scientific method is, never mind coming up with two investigative questions" Lydia pouted.

"Come on, Lydia" said Seth. "You can Google it and get all kinds of information on topics and projects that rock."

Walking down the hall to their lockers, Lydia spotted the tall blond popular quarterback, Dan Lisowski. One of the cheerleaders was hanging onto his arm. She elbowed Jenny, "I wonder what he'll do his science project on?" She giggled, "Maybe I could do mine on his anatomy. That would certainly make it interesting."

Seth rolled his eyes and Jenny blushed. She could feel her heart pound and blood race to her ears making them hot and tingly. That always happened when she saw Dan. She watched the tall blond walk by. He looks like a Norse god she thought, remembering pictures she'd seen in a mythology book. As she and her friends left the building, Jenny watched Dan walk to the parking lot as her friends chattered.

When they neared the bus, Seth asked, "Are you going with us to Bushkill Falls tomorrow? The foliage should be awesome!"

"Yeah, I think so since I don't have work....unless my parents spring something unexpected on me," replied Jenny walking backwards toward the parking lot.

"Come on Jenny. You can get out of it!" hollered Seth.

As her friends boarded the bus, Jenny turned to go to her car which was parked at the farthest end of the school lot. She scuffed the colorful, fallen leaves on the pavement. Having the Hyundai was a mixed blessing. She was grateful when her parents let her use it instead of taking the bus, but she was embarrassed by the dents in the old vehicle. Most of the juniors who drove to school had late model Toyotas or Fords. A few who hunted had trucks. Dan Lisowski drove a silver Dodge Challenger that his parents bought him for his birthday.

Jenny sighed as she stood in the shadow of a tree waiting for the parking lot to empty and daydreaming about what it would be like to sit next to Dan as he drove the car. Her thoughts gradually moved from the football king to the science assignment. As she turned the key in the ignition, she realized what she was passionate about besides Dan, who didn't even know she existed. She switched on the radio and a song that had been popular last summer played. It stirred a memory of her time at the beach when she and her family spent a week on Cape Cod. One afternoon while walking near the water's edge, she spotted a seal swimming so close to the shore she could see the plastic fishing line entwined and embedded in the seal's neck, cutting raw, red gashes into its flesh. It was ugly. She shuddered as she remembered. Jenny knew that plastic was her passion and her focus for the science project.

Seeing the weakened seal made her become aware of the dangers of plastic, something she had never thought about before. She started searching for information on the internet about the effects of plastic on sea mammals. That expanded her search to sea birds and turtles which brought her to information on the Great Pacific Garbage Patch – how tiny pieces of plastic polluted a large expanse of the ocean. She had never known that something so simple could cause so much damage. She did more research and learned that many cruise ships dumped massive amounts of waste at sea and that the U.S. Environment Protection Agency had measures in place to address this problem. The more she knew, the more upset she became

and the more she tried to influence her friends. At first, Lydia and Seth thought she was crazy when she asked them to stop using plastic straws to drink from cups, cans and bottles, but she convinced them after showing them information on two websites. On one, Miami News article reported that plastic straws were such a pollution problem that the Miami Beach City Commission banned their use at beach front hotels and restaurants. At the ocean conservancy website, they discovered that sea turtles and other endangered marine life can choke on straws, so they pledged online to stop using straws. A shy person, it took a lot for Jenny to circulate "The Last Straw Challenge" at school, asking students to sign a petition to remove plastic straws from the cafeteria, and it hadn't ended well.

By the time she noticed another song playing on the radio, Jenny had driven to her brother's middle school.

"Hey Joe" she said when he entered the car. "How was school?"

"Sucked, 'cept for math class. I learned how to find points on a graph. That was cool."

"Good!" replied Jenny as they started for home.

"You?"

"Mr. Magdon's assigned a science project. For homework, I have to come up with six topics and two questions about each one."

"Cool and easy for you," he smiled.

She parked the car in front of their three-story Victorian her dad was gradually restoring, when he had time. Joe rushed into the house and got snacks from the refrig; Jenny ran up the stairs to her attic bedroom where she was shielded from the prying eyes and ears of her family. She stared out the window and turned her Ipod to her favorite song. Making believe

she was dancing in Dan's arms, she circled the room. When the song ended, she realized it was only a daydream. She sighed, then sat down at her desk to develop her science project.

The next morning was bright, brisk, and beautiful with barely a cloud in the sky. Jenny walked to Lydia's house who greeted her smiling, "Great day for a hike! Seth should be here any minute. You're gonna love Bushkill Falls."

Although Jenny had lived near the Poconos for the past year, she had never been to the attraction known as the Niagara Falls of PA. Her parents simply hadn't the time to take her and she was looking forward to hiking and taking pictures

There was a knock at the screen door. "Hey!" said Seth. "You ready?"

"You bet," replied Lydia grabbing her backpack.

Jenny reminded them, "Guys, you know I have to be back by 2:30 pm at the latest or my mom..."

"Yeah, we know," grinned Seth, "or your mom will ground you or something worse. No worries. You'll be back by then."

They piled into the car. Seth drove at the posted speed limit and it took almost an hour to reach Bushkill Falls. As they entered the park, Jenny peered out of the window, "Wow! A lake and paddle boats!"

"That's for another time" said Lydia. "Today we're hiking and seeing the falls. There are eight of them you know."

The parking area was shaded by trees and Seth pulled up under one that had leaves splashed in vivid red. Lydia bounded out.

"Come on! And bring your water" she said. "We need to get tickets and decide on a trail to hike." She sped down the path.

Jenny and Seth walked at a leisurely pace taking in some of the sites before they joined Lydia at the ticket counter where she was impatiently waiting. "Slow pokes," she stuck her tongue out at them. They purchased passes and checked the map. "Which one are you taking? I can only stay out four hours, and it's one hour since you picked me up" Jenny said.

Seth read the map guide. "Then we should take the blue trail. It's only a little over an hour to walk." Lydia smirked in response. He squinted at Lydia, then turned to Jenny, "And since you are seeing it for the first time, you might want to stop and take pictures."

"OK" Lydia conceded. "That makes sense. We'll get back in time so your parents won't be upset. Come on." She scampered ahead, sure-footed as a mountain lion. "There'll be fewer people as we go further on the trail."

"I'm glad there's a hand-rail," Jenny said noticing an older couple in front of her as they slowly descended the steps. Running her fingers along the wood, she commented, "It's pretty neat that they made this out of tree logs and limbs." Continuing down the stairs, she could hear the roar of water. She slid on a damp step made slick by wet leaves and grabbed onto the rail to steady herself.

"Whoop!!"

Seth glanced back, "You OK?"

"Yeah – glad I wore these." She grinned as she looked down at her multi-colored high top sneakers.

Lydia stopped to look back. "Come on, guys! Let's pick up the pace."

Jenny concentrated on her footing as she heard the sound of rushing water and looked up at the cliff on her right. Rivulets trickled down the craggy surface making it shine like glass. Above the rocks, tall birches and maples shimmered in gold, green, burgundy, and brown. She took pictures.

When they reached the first bridge, Jenny paused to snap pictures of the rushing white foam, admiring the falls and rocks. She turned to Lydia. "You know the way, right?"

"Of course," bragged Lydia. "We'll be done in an hour. All we have to do is follow the signs. They're blue."

"That's cool, unless you're color blind" Seth added.

"Well don't worry, Seth. I can see perfectly, even if you can't see some colors, so just follow me." She scooted down the path that led to steep descending stairs.

At the third bridge, Lydia stopped to announce, "Ok. Here's where the blue and red trails leave the yellow." Pointing to the map, she continued, "We'll go by Adams Flats and then continue along Pennell Falls. That's about 20 minutes. It's nice and shady through all the trees and pretty easy. At Peters' Corners, the blue and red trails divide."

"Fine. At least we know we're on the right one for the next half hour," Seth smiled. Lydia smirked at him. As they continued, the land leveled out at Adams Flats and the stream was easy to reach. "I want to go in," announced Jenny. She walked over to a large tree, sat down on its roots, quickly untied her sneakers and doffed her socks. Putting her toes in, she laughed, "It's cold!" She quickly lifted them out.

Lydia sat on a rock near the tree, took off her sneakers and socks, and skipped into the water. Seth joked, "I'm staying onshore, mates, just in case you need help. I'm CPR certified." Lydia giggled and Jenny finally put both feet in the water, wading over to her friend.

"I can feel the current. It's beautiful!" Lydia stretched both arms up in the air and reached for the sky.

"Be careful, Lydia" warned Seth.

"It's stronger than I thought" added Jenny as she stepped over the rocks. "I'm only staying in for a minute."

"You'll have to walk barefoot for a while unless you want damp socks and shoes."

Wading back, Jenny bent to pick up an empty plastic bottle. "Euuugh. Yuk! I can't believe people are littering here. It's so beautiful! Why ruin it?"

"I think people just forget," answered Seth.

Lydia sprang onto the embankment. "Just leave it, Jen."

"No" she replied, frowning at Lydia. "I can recycle it when we get back." The bottle crackled as she squished the plastic and jammed it into her back pocket.

"Let's go!" Seth headed up the path. The trio continued, stopping briefly as they crossed the bridge over Pennell Falls for more selfie opportunities. They admired the tall trees brushed with burnished gold, tawny auburn, and rust red leaves as they made their way to Peters' Corners. Jenny noticed a large tree that had fallen and knelt to take extreme close-ups of mushrooms sprouting around it. As she rose, she noticed movement about 50 feet away,

tapped Seth on the arm and pointed to the ferns where three birds that looked like small pheasants stood.

“Those are partridges – actually ruffed grouse – the official state bird.”

“Neat!” she replied. “Wish I had binoculars.”

“They have black feathers sticking up on the back of the neck like a ruff,” Lydia demonstrated.

They continued on the path.

“Ok! Here’s where it splits.” Lydia pointed to the small map. “We take the blue trail by the Bridesmaids and Bridal Veil Falls. This way!” she commanded.

“Does it really look like that, a bridal veil?” Jenny asked.

“You’ll see,” Lydia smiled.

Seth glanced at his cell phone, “We’re doing good on time,” giving a thumbs up.

As they descended the steep path, Lydia, in the lead, nearly toppled over. She clutched onto the railing for balance. “I think I tripped on my shoe.”

“Check your laces” Seth advised, stooping near her.

“We’re near the bridal falls. I can hear them” Jenny said excitedly as she continued down the path. “It feels cooler.”

“That’s because of the water. Wait ‘til you feel the spray” said Lydia taking the lead again.

They descended more steps and came to a small clearing where they saw cascading white water. When the spray misted into the air like a fountain and the sun caught the droplets, there was a rainbow.

"How beautiful!" exclaimed Jenny, capturing the scene on her camera. She walked out onto the wooden platform that extended over the pooling water and kneeled down to take close-ups, then turned on her back and shot different views of the water and sky through the multi-colored tree leaves.

"Come on, Jen," said Lydia. "We need to pick up the pace." Seth was standing beside her and nodded his head.

"I need a couple more shots. I'll be right there."

"OK!" called Seth as he and Lydia turned to continue down the path.

Turning onto her belly, Jenny noticed a way to get from the platform down the embankment to the flowing water and couldn't resist the urge to be closer to the water. She scooted to the water's edge and followed the swirling foam, taking pictures along the way. She nearly tripped over a tree trunk when she heard a voice.

"Hey! You need to be more careful."

Looking up, she was surprised to see the tall blond quarterback. "Dan! What are you doing here?"

"I could ask the same of you" he smiled, walking toward her. "I've never seen you out here before."

Jenny's heart was racing and she could feel her ears get warm. She knew they were turning red and that soon her face would flush. She hoped he wouldn't notice. She couldn't help noticing his tanned, muscled arms or his broad shoulders beneath the blue T-shirt. "It's my first time." Her voice sounded squeaky and she coughed. "I came with Lydia and Seth. You know, Lydia Wilga and Seth Serentino."

"Yeah, I know of them. Didn't think they were the outdoors type."

"Why? 'cause we're not at all your games?"

Dan looked down at her, "I heard you were."

Jenny's face turned a bright pink. "I don't have time. I help out at home."

"And you spend a lot of time in the science lab," he added.

Jenny looked up, surprised. She didn't think Dan knew anything about her.

"Nothing wrong with getting good grades," he stated. "I'm applying for football scholarships and grades help." He looked around. "So where are your friends?"

"They're on the trail. I left them to get pictures."

"You'd better get back" he advised.

"How about you? Your friends?"

"I came out alone. I like it that way. Gives me time to think. Take some of the pressure off me, you know, football, school, parents, work."

"Yeah" Jenny agreed. They walked together near the stream in silence. Jenny was thrilled to be near him and a bit nervous. She had never imagined she'd meet him like this. At Bridal Veil Falls, Dan helped her up the incline and onto the platform.

"Thanks" Jenny said gazing into his blue eyes.

"By the way, what are you doing for that science project?"

"Something on plastic."

"Oh that's right. You started that petition to ban plastic straws from the cafeteria. That was cool. I signed it."

"You did?" Jenny's eyes widened. She was amazed. "Thanks." She looked down and dug her heel in the ground. "It didn't last long. Someone ripped it up."

"I wondered what happened." Dan gazed at her. "You should start another one. I'll help you."

Jenny blinked. She couldn't believe it. This great, sexy guy was going to help her with an Ocean Conservancy petition against plastic straws in the cafeteria?

Dan continued, "I've seen the damage plastic can do, especially when I go to the shore." He was walking backwards down the embankment, looking at her. Suddenly he lost his footing and slid backwards. He reached out to grab on to a branch but kept sliding. He tumbled. One foot flew into the air followed by an arm. Jenny heard a crack then a splash.

"Dan!" she yelled teetering down the slope.

She saw him face down only a foot from the edge in shallow water. Jenny struggled to pull him out and rolled him onto his back turning his head to the side. She quickly dialed 911

but couldn't get any service. Oh my God she thought as she panicked. Stay calm she told herself as she took deep breaths. She thought she heard her name and looked up toward the platform.

"Jenny! Jenny!" It was Seth and Lydia.

She looked at Dan then scrambled up the embankment yelling, "Here! Over here! Come quick!" She waved her arm in the air. "Here! Help!"

Lydia spotted her first and touched Seth on the shoulder. They ran to the edge of the platform. Jenny's face was white.

"It's Dan. He's unconscious. He hit the water face down."

"What are you..." Lydia started to speak but Jenny cut in.

"Come on!"

Seth jumped off the platform and followed Jenny as Lydia scrambled after them. They saw Dan a short distance away and Seth dropped to his knees checking Dan's vital signs.

"He's breathing," Seth announced. He opened Dan's mouth and water dribbled out. Seth started fast chest presses. Dan coughed, gagged and sputtered.

"Hey Dan! Can you hear me?"

Dan sputtered some more. There was a slight nod of his head.

"Thank God!" Jenny whispered.

Lydia sprang up. "We passed a trail patrol guy a few minutes ago. I can catch up with him and get help." She darted away.

Dan groaned, "My head."

"You fell backwards down the slope and into the stream" Jenny said.

Seth noticed his fingers were red then saw the gash on Dan's head. "Man, you hit your head. No wonder you were out."

"He was out here by himself and saw me taking pictures," Jenny added.

"Man. For a quarterback, that wasn't a smart move. You know you need a back-up."

Dan's lips curved in a half smile.

Leaves rustled as Lydia returned with the trail guide who had radioed for help on his walkie-talkie and was now giving directions to their location. When he finished, he told the teens that help would be arriving shortly.

"You're a lucky guy" he said to Dan.

"Yeah, and I have three new friends."

Seth and Lydia looked surprised; Jenny smiled.

As the EMT rescue crew lifted Dan onto a stretcher, he looked directly at Jenny. "We'll work on that science project together, right?"

"Right" she answered smiling.

"Well, that was interesting!" commented Lydia. "We're friends and you're working on the science project together?!"

Jenny blushed, "Yeah."

Seth glanced from one girl to the other then checked the time. "Hey! We'd better hurry up. We might be able to get back on time so Jenny's mom won't freak out. Let's go!"