



CK Reporter of the Week
Maria Ciobanu, Denver

Canyon offers delicate beauty

Antelope Canyon may not be one of the Seven Wonders of the World, but it is definitely worth seeing.

This unique rock formation is on the Navajo Nation near Page, Arizona, about a 10 hour drive from Denver.

The canyon has been formed over many, many years by water flowing through the land. There is an Upper and Lower part of the canyon, though the Upper Antelope Canyon is where most of the famous pictures have been taken.

The Navajo call the upper canyon "Tsé bighánílíní," which means "the place where water runs through rock". The lower canyon is known as "Hasdestwazí," meaning "spiral rock arches".

Antelope Canyon, of course, got its English name from the many herds of antelope that roamed the lands around the canyon.

Over the course of many years, water ran through the canyon, sometimes flooding it, to carve out its organic shapes. Some of the floods were flash floods, moving the sand and carrying it up and out of the canyon.

The floor of the canyon has both risen and fallen as those floods carry sands with them. Some of the tour guides say they have even seen the floor rise up about twelve feet from where it usually sits.

In some parts of the canyon you can see uprooted trees that were washed into the canyon with the floods.

The walls tower 120 feet over the stream bed.

In the early years, Antelope Canyon was open to the public, and many people went in and looked.

But some caused permanent damage. While walking through the canyon, you can see stray bullet mark high up in the wall.

Because of this, the canyon was closed to the public in 1997. It is now required that all visitors must take a guided tour to ensure that the canyon is preserved for future generations to view and to help conserve the native Navajo culture and property.

There are many parts of the canyon that are iconic such as The Corkscrew and Dragon's Eye. They are scattered throughout the canyon and can be seen by looking up or at the walls of the canyon.

Many famous pictures have been taken here, including one that sold for \$6.5 million.

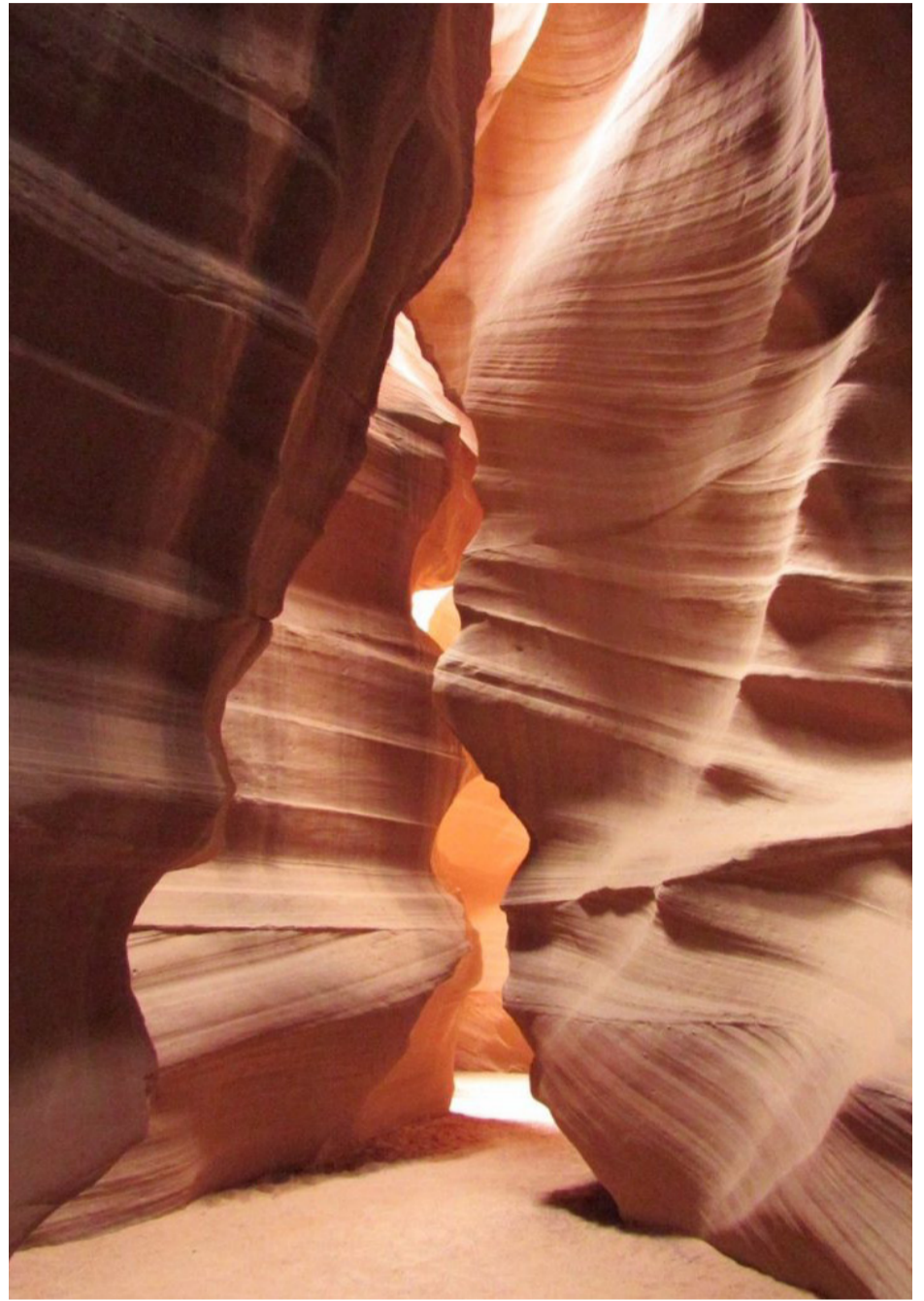
The best time to go is spring and summer to see the light beams enter the canyon.

To help preserve the canyon, the tour operators require that you do not bring backpacks or large bags so that they won't scrape or disturb the walls of the canyon. They also encourage you to use your camera or your phone on the "vivid warm" setting while taking pictures!

There are many places along the tour where you can stop to take family pictures as well as scenic pictures, including a few iconic spots.

The tour through Upper Antelope is a quarter mile in and the same distance back. The tour of Lower Antelope is a one mile round trip.

For more information, go to <https://antelopecanyon.az/>



Story and photo by
Avery MacKenzie, 13,
a CK Reporter from
Fort Collins

New fantasy series is off to a magical start

In "Twinchmentment," by Elise Allen, black cats, twins, and other magical beings were outlawed from the Kingdom of Kaloon ages ago.

Somehow both princesses (and twins) Sara and Flissa have been able to survive for the past 11 or 12 years of their lives by pretending to be the same person; Princess Flissara.

When Queen Latoya was cursed by an evil mage during her pregnancy, the two twins inside her split the power of the curse between them, which helped them survive it.

The evil mage was banished from the kingdom of Kaloon into the Twists, a magical world full of horrors.

Just days before Ascension Day, when they are officially in line for the throne and their twelfth birthdays, their mother is again cursed by the mage.

Now they must venture into the Twists with a black kitten and a servant as a guide to find him, break the curse, and save their mother before time runs out.

Galric, the servant boy, was not supposed to find out that Flissa and Sara are twins, but, when Flissa helped Sara through one of the dangerous obstacles her hood fell off and Galric discovered their secret.

This book is full of many shocks and surprises which will



leave you wondering what is going to happen next.

Elise Allen shows us two different personalities in telling the story through both Sara and Flissa.

While Sara is easy to talk to but very clumsy, Flissa is very coordinated and athletic, but can't talk to people like Sara can.

Now as they grow older, they've begun to notice how they are the same but different.

Sara is strong at heart while Flissa is physically very strong.

Allen helps show that these girls are complete personalities as each different chapter is told by one of the two twins.

This book is full of surprises and is told wonderfully through Sara and Flissa.

I recommend this magical first book in the new riveting series.



By Eva Perak,
11, a CK Reporter
from Denver



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Dunes stand in for Mars in robotics contest

The four-wheeled robot crawled through the sand, and then slid into a crater and got stuck.

In front of it, as far as the eye could see, was the vast Martian desert, hostile and unexplored.

It seemed hopeless, until the young man who built it stooped down and lifted it out of the crater.

There were lots of other robots, 26 of them, trudging around obstacles on their own until rescued by their owners.

Okay, so it wasn't actually Mars, but it sure looked like it.

That's the reason why the Colorado Space Grant Consortium has held the Colorado Robotics Challenge at the Great Sand Dunes National Park every year for the past 13 years.

The obstacle course is split into six parts, each with an increasing amount of difficulty.

The first track contains nothing but sand, but as the robots progress, more obstacles are added, including rock piles, branches, wooden walls and ramps, and deep craters dug into the sand.

Most of the robots this year had four wheels, but some had six, or wheels shaped



Stuck in the hostile sands of distant Mars? Luckily, only in the friendly sands of Great Sand Dunes National Park

like flowers or screws.

Some of them didn't have wheels at all and instead used legs to walk.

They were built of many different materials, from cardboard boxes to plastic containers. One of them was entirely 3D-printed.

Audrey Viland, manager of the CU Boulder-based Challenge, explained that each of the different robots was built with certain capabilities in mind, like climbing over rocks or moving easily through the sand.

They each have to meet some required specifications, including sensors so that they can detect obstacles and find their way to a beacon.

"The goal for the challenge is to reach the Beacon -- the spiny thing in the middle," Viland said, pointing to a spinning pinwheel on a tripod.

"We don't want to use GPS at all since we don't have satellites orbiting Mars. But you can use a compass, assuming that Mars has as strong of a magnetic field as Earth does."

Viland also explained that the competitors made their robots in teams.

"The number of people they have depends on the school, but a lot of them are part of their robotics clubs, while others are part of a class. I know a couple of schools that have three people per team, and some that have, like, 20."

The Challenge is not really a competition -- there are no winners or losers, and anyone is allowed to enter a robot.

Most of the teams were from high schools and colleges around Colorado and northern New Mexico, but there were a couple of middle school teams as well.

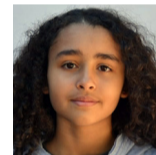
A lot of the competitors had participated before, but a few people were joining for the first time.

"My main objective was just to get it to work," said Kenneth Roberts, a college student at CU Pueblo. "This is my first time doing any serious coding, so I really just wanted to get it going."

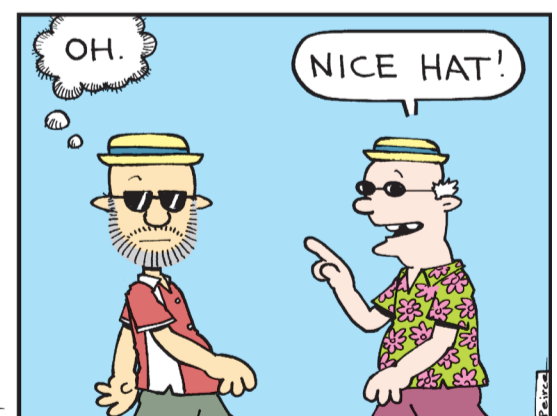
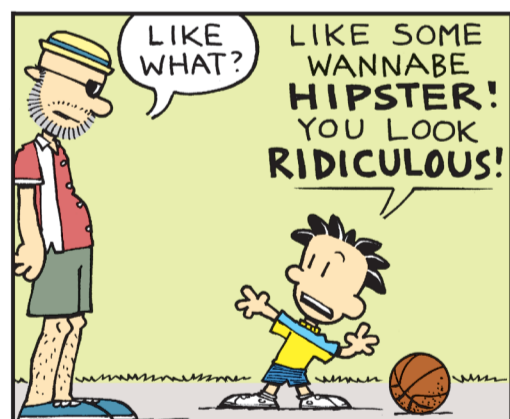
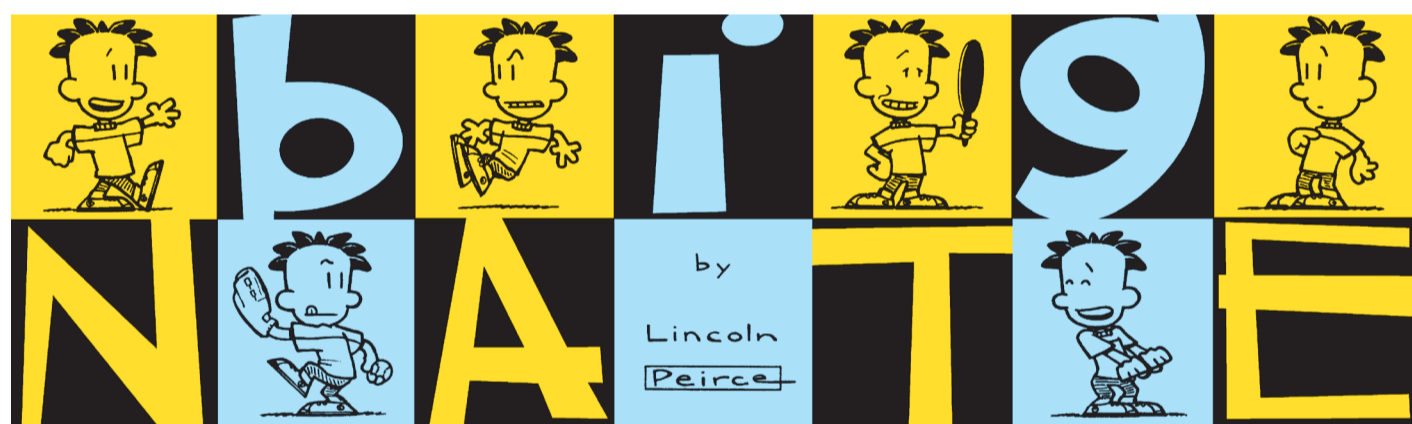
Sponsored by NASA, the Challenge is a great opportunity every year for young people to gain hands-on experience in building robots, some of them undoubtedly heading for careers as engineers who might design the next generation of rovers that will continue exploring the Moon, Mars, and beyond.



Robotics teams from Colorado and Northern New Mexico numbered from three to 20 members, all focused on designing and building robots to explore the Martian surface.



By Nandi Strieker, 11, a CK Reporter from Antonito



Archaeologists find clues in ancient pee

In October, we told how archaeologists found bits of food on ancient pottery in Turkey, proving that people had kept goats, sheep and cows for their milk and may have turned it into cheese.

Now archaeologists at another Turkish dig about 200 miles from that one are learning when people turned from hunting to herding, and they're not using broken dishes to prove it. They're using urine. Yes. Pee.

Obviously, if goats and people peed on the ground 10,000 years ago, it would have dried up long ago.

But it would leave salts in the ground, and by checking the layer where salts are found, researchers can tell when they were left there.

What made the search more important was the quantity: When the people were hunters, they moved around and the goats they brought home were dead.

What archaeologists found was that around 8450 BC, the amount of salt from goat and people urine in certain places increased.

This meant two things: People were settling down, not moving around the way hunters do, and they were building pens and keeping goats and sheep.

Lots of them.

It sounds like a funny way to do research, but good scientists find clues wherever they can!

photo/ Rosario Nieto Chadwick

Cathedral fire turns holiday into sad history

News of the fire at the Cathedral of Notre Dame in Paris spread all over the world so quickly that my aunt heard about it before I did and texted me.

I was in Paris when it started, standing near the Arc De Triomphe with my mom.

We could see the smoke, billowing into the sky. The fire began around 6:30 pm. Sirens blared as hundreds of emergency responders raced to the cathedral.

The people of France are heartbroken. Losing the cathedral is like losing a part of themselves.

Around 500 firefighters were battling the flames. All along the River Seine people recorded the fire with their phones, many were crying.

Everyone sort of came together, making those terrible moments a little more bearable.

My mom and I walked back to our Bed and Breakfast, where we found our hostess and her family huddled around the TV.

We all watched in horror as the 290-foot spire collapsed.

The people of France are heartbroken. Losing the cathedral is like losing a part of themselves.

The Cathedral of Notre Dame is a symbol of Paris. Around 13 million people visit it each year.

The cathedral is 850 years old and is a priceless part of French history.

The night of the fire felt very surreal.

Three days before the fire, after a long day of walking in the city, I strolled through the cathedral. I remember how dark and mysterious it was, and how tall the ceilings were.

It's still hard to grasp the event because it happened so fast.

As I write this, the cause of the fire is still unknown, but most suspect it was an accident and probably had something to do with the construction that was happening as part of a rehabilitation of the cathedral.

Two thirds of the roof was destroyed, but the famous bell towers are still intact.

The president of France, Emmanuel Macron, announced that they will be rebuilding the cathedral.

Macron estimates that the building will reopen in five years, but many think it could take much longer than that.

Although fire was a terrible tragedy, it also brought people together in a way that's hard to explain.

The night of April 15th is one that the world will never forget. I know I won't.



By Maya Fahy, 13, a CK Reporter from Longmont



photo/Holly Fahy

Novel makes threat of poaching easier to feel

In "A Circle of Elephants," by Dr. Eric Dinerstein, Ph.D., 13-year-old elephant driver, Nandu, lives in the newly established Royal Elephant Breeding Center in Nepal with his adopted father, Subba-Sahib; his elephant, Hira Prashad; his mentor, Father Autry; and his friends, Dilly, Rita, and Indra.

His life is very peaceful until he finds out that nothing is ever as it seems.

Nandu lives next to the borderlands jungle and watches over the king's elephants with his father, his mentor, and his friends.

His peaceful world gets thrown into turmoil as poachers and other elephant herds threaten the Royal Elephant Breeding Center.

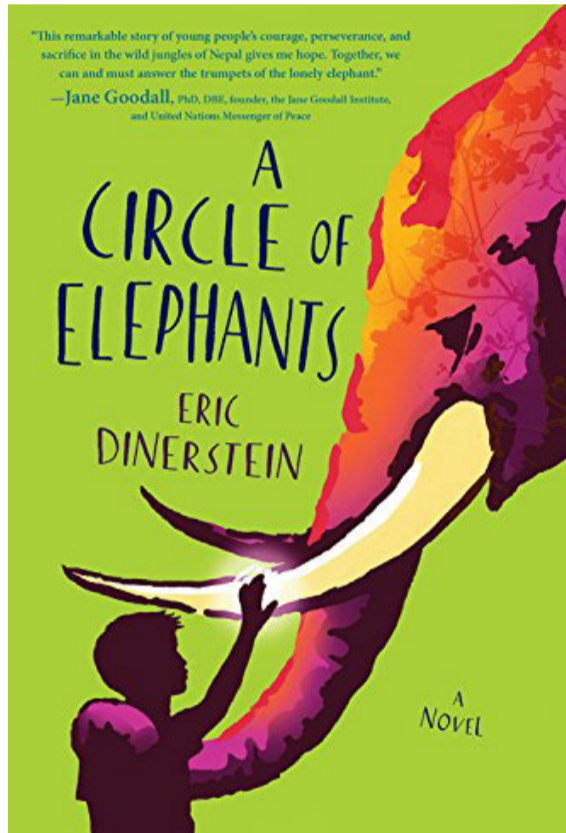
The seemingly invincible Pradhan, the king of Nepalese rhinoceri, is murdered by poachers who steal his horn to sell on the black market.

Nandu and his friends soon discover they might be up against more than they think.

The details in "A Circle of Elephants" are so precise that you can almost feel yourself walking with Nandu throughout the whole book.

For example, Dinerstein tells you what city names mean: Bichia, he explains, means "scorpions" in Nepali.

To figure out where they are going, the map at the beginning and back of the book is also useful for the reader



when Nandu travels outside of the elephant stable.

Some people might think about poaching like this: "It is not relevant to my everyday life," or "animals die all the time, what's the difference?"

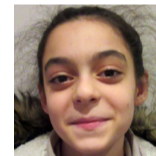
This book helps counter that attitude towards poaching by putting it in the perspective of someone who has lived with these animals his whole life and is now seeing them murdered in cold blood.

In Dinerstein's novel, Nandu's anger and heartbreak puts a personal side to the impact of poaching, which some people might dismiss as unimportant.

"A Circle of Elephants" is a hopeful story of courage and perseverance.

It will make you think about ways to help the great elephants, rhinos, and tigers of Nepal, and other endangered species around the world.

I give the book a five out of five stars and recommend it for 8 years old and up.



By Carl Krim, 10, a CK Reporter from Denver

Sudoku

			5		4
		6			
	1				
				3	6
1			4	5	
	5			1	

Rules: Every row across, every column down and each of the six smaller boxes must contain numerals 1,2,3,4,5 and 6, one time and one time only.
The solution to this week's puzzle is on Page 4.



Brainteaser

William Shakespeare is said to have been born on this date in 1564, though the exact day is not known. We'll celebrate anyway, by having each of our answers begin with "D" for drama, his most famous form of writing.

1. The part of an automobile where you would find the speedometer and gas gauge.
2. A former slave, he escaped and became one of America's most famous opponents of slavery, thanks to his autobiography and his skills as a public speaker.
3. This Summit County town is famous for the reservoir that provides Denver's water and a lot of fun for tourists.
4. The lower part of a chicken's leg, or a frozen ice cream cone wrapped in paper
5. To find out how many nickels are in a dollar, you'd use this mathematical operation
6. Fairplay has a monument to two of these animals, though they use the Spanish word
7. Author of "Because of Winn Dixie" and "The Tale of Despereaux."
8. Herb best known for its use in making pickles
9. A close relative of the manatee, but found in the Indian Ocean
10. People pick the petals off this flower to see if he loves me or loves me not.

(answers on Page Four)

How dark is your night sky? Take the Orion test!

You probably know that, if you want to see the shooting stars of a meteor shower, it's a good idea to get out into the country, away from city lights.

You may also know that, even when there isn't a meteor shower happening, the night skies out in the country are filled with stars that you can't see from urban places where city lights create light pollution.

In England, the movement to restore dark skies and bright stars is well-organized, and recently The Campaign to Protect Rural England found an easy way to test for light pollution.

The constellation Orion is easy for people to find in the winter skies: He has three stars right in a line that make his belt, two more that show his sword, one for each shoulder

and one for each knee. There's another for his head, and then three for his right arm and six more that show the hide of the lion he has conquered.

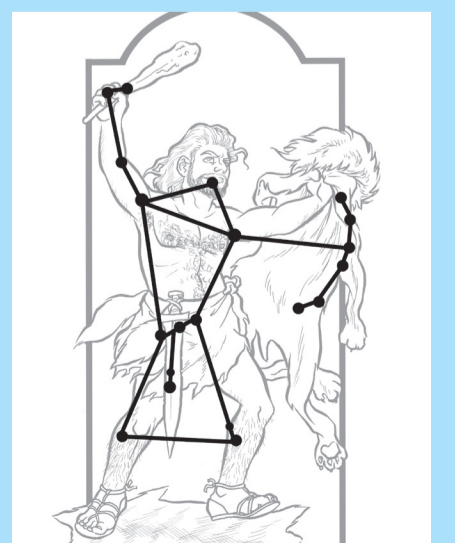
That's 17 stars that should be easy to see, but there are more in the constellation, and, on a truly dark night, a person with good eyesight can pick out as many as 40 stars within Orion.

However, the group learned that half the people who took part in the test could not see more than 10 stars, and only one tenth of the people who tried could pick out 30.

Worse news is that, when they tried the test in 2014, they got much better results.

How's the light pollution where you live? Wait until dark and take the Orion test yourself!

illustration: Dylan Meconis



Beyond These Pages!

Hot Links to Cool Sites!

NASA's Space Place

<http://tinyurl.com/ckspace>

NIE Special Report

<http://tinyurl.com/ckniereport>

Headline Geography

<http://tinyurl.com/ckgeography>

Pulse of the Planet

<http://tinyurl.com/ckpulseplanet>

How to become a CK Reporter!

tinyurl.com/COkidsReporter



To read the sources for these stories

Tracing prehistory through pee

Measuring your night sky

go to <http://www.tinyurl.com/ckstorylinks>

The Crown and the Colliers

Chapter Six -- Prisoners on Parole

Our story so far: Captured by the Shorts, Jed, Gabe, Siegfried and Rupert have been brought before leader of the rebel band.

Kurt the Wheelwright sat cross-legged on the ground in front of the house the men had come from.

Three council members sat to his left, three others were on his right, including the Short whose men had captured the prisoners.

"Why have you come?" Kurt asked. "And don't say for charcoal," he added, glancing at Siegfried before turning to address Rupert directly. "We want to know why you have come back to the lodge after all these years."

Rupert shrugged. "The Queen My Mother said that enough time had passed, and that, before I came of age, I should see more of the kingdom."

"A kingdom on whose throne you will never sit," one of the council members said. Kurt frowned at his rudeness, but other council members nodded their agreement.

"I am my father's son," Rupert said. "And my father was your rightful king."

"Agreed," Kurt nodded. "But it is more complicated than that. The people of these mountains will never accept you as king."

"Perhaps we should have come more often, not less," Rupert said. "You have lived too many years without law."

"You are sadly wrong," Kurt replied. "There are more laws here today than ever we had when your father was alive. Your father knew how to earn our loyalty. Your mother can only demand it, and for that reason, she will never have it."

The other council members murmured their agreement.

"Are you going to kill me?" Rupert asked. "Is that how you plan to keep me from claiming my throne?"

"Goodness, no!" Kurt exclaimed. "Whatever made you think we would do something like that?"

"You held your swords to my throat," Rupert snapped.

"That was to keep you from killing us," the man who had led the Short raiders said. "You came armed into our mountains."

"You will be our guest for a time," Kurt said, "but there's no reason for you to be afraid, as long as you don't cause trouble."

He turned to Siegfried. "You will be blindfolded again and led to the main road. Take one of the horses and go back to the lodge," he said. "Tell the Queen that her son is with us, that he is in no danger but that she should not attempt to send anyone after him."

"She won't be satisfied with that," Siegfried said.

"She will have to be," Kurt said. "And take this young soldier with you," he added, nodding towards Jed. "There's nothing for him to do here but get in trouble."

"No!" the leader of the raiders said. "He must stay here." He turned to Jed. "Where did you grow up?"

"In the eastern foothills," Jed admitted.

"I thought so," the council member said. "As soon as you heard us whistle to each other, you moved towards the horses."

Jed shrugged. "There couldn't have been tannen wrens in those trees."

The Short turned to the other council members. "He gets along too well in the woods. He'd be able to lead them to us, even after we move from here."

"So only the old man goes back," Kurt said.

"And the boy?" one of the council members asked, nodding towards Gabe.

"Rolf the Huntsman's son stays," Kurt said. "We are your father's people," he explained to Gabe. "You belong here, with us."

"My mother is also 'my people,'" Gabe snapped, "and she has done well enough for me, since my father died."

Kurt's eyes grew sad for a moment. "I'm sorry, lad," he said. "We are happy to have found you after all these years. But I did not mean to disrespect your mother."

"Or me."

"Or you," Kurt agreed. "It is the council's wish that you stay with us for a time. Siegfried knows your mother well and can assure her that you are safe. Is that not so, Siegfried?"

The old smith nodded. "Your mother knew Kurt in the old days when he used to come to my forge," he told Gabe. "And it may comfort the Queen to know you are with the Prince. I think you should stay, lad."

Kurt glanced up and down the row of council members. "We are agreed? The smith will go back to the lodge, the others will stay."

He turned to Siegfried. "Tell the Queen that we mean Prince Rupert no harm and that we will return him to her in a week. As for you three," he said to Gabe, Rupert and Jed, "you must give us your word not to attempt escape, unless you want to be tied up and kept under guard."

The three nodded their agreement to the promise, but Kurt added, "Prince Rupert, we will need more than a nod from you. Let's get your pledge in writing. Siegfried, best of luck to you."

The meeting ended, and Rupert walked with Kurt and the council members to a small table nearby where a clerk had been making notes.

Siegfried spoke softly to Gabe and Jed. "You two had best keep an eye on the Prince.

This situation is difficult enough. If he does something stupid, things could become very dangerous very quickly."

He walked away with a pair of colliers on each side, up the path that wound over the hillside.

"Did you see the house those council members came out of?" Jed asked quietly. "It's not like the other huts."

"They have meetings there, so it's bigger than the others," Gabe replied.

"They just had a meeting, didn't they?" Jed said, still keeping his voice low. "They met outside. Anyway, that's not what I meant. Look at it again."

Gabe looked again at the house that stood slightly apart from the small colliers' huts.

The house wasn't simply bigger than the others.

Its door frame was Tall.

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For a teaching guide, go to <http://tinyurl.com/ckserial>

Sudoku Solution

2	3	1	5	6	4
5	4	6	3	2	1
6	1	3	2	4	5
4	2	5	1	3	6
1	6	2	4	5	3
3	5	4	6	1	2

Brainteaser Solution



(see Page Three)

10 right - Wow!

7 right - Great!

5 right - Good

3 right - See you next time!

1. dashboard 2. (Frederick) Douglass 3. Dillon 4. drumstick
5. division 6. donkey 7. (Kate) DiCamillo 8. dill 9. dugong
10. daisy

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