

KIDS' GREAT FINDS

The next time your **PARENTS** send you **OUTSIDE** for some fresh air, keep your **EYES** open. Search the **SKIES** and the **GROUND**: You never know what you may **DISCOVER**.

A SUPER SIBLING RIVALRY

When Kathryn Gray of Fredericton, New Brunswick, heard that the youngest person to discover a supernova, Caroline Moore of Warwick, New York, had been 14 at the time, she decided that she wanted to beat this record.

On January 2, 2011, the 10-year-old accomplished her goal. She was guided by her father, Paul, an amateur astronomer, who taught her to use a computer program to compare images of the same view of the night sky taken at different times. (These images were sent to her father from the telescope of another astronomer.) Her father told her that a flash of light where none had been before might be a supernova. While carefully examining the fourth image in a set of 52, Kathryn asked, "Is this one?" It was!

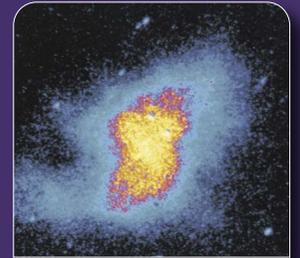
Her discovery, now called Supernova 2010lt, is about 240 million light-years away from Earth.

Almost 3 years later, on October 30, 2013, Kathryn's brother Nathan broke his sister's record. Just 9 days after his 10th birthday,



while he was studying images of the sky, Nathan spotted supernova 2013hc, which is 600 million years old. With this find, he became the star, inheriting his sister's title of youngest person to discover a supernova. He was 33 days younger than Kathryn was when she made her discovery, and he had been trying to beat his sister's record for 8 months.

Paul Gray is also a supernovae discoverer. The first time was in 1995, when he was 22 years old, making him the then-youngest person to discover one. He has discovered six in all: SN1995F, 2005b, 2005ea, 2007R, 2007ac, and 2007ad.



WHAT'S A SUPERNOVA?

A supernova is an explosion caused by a star at the end of its life. These explosions briefly can be brighter than entire galaxies, sending out more energy than our Sun in its lifetime. Supernovae are some of the most energy-filled explosions in nature.



A GOOD EYE IN BADLANDS

In May 2010, 7-year-old Kylie Ferguson and her family from Sharpsburg, Georgia, visited South Dakota's Badlands National Park, one of the world's best hunting grounds for fossils. In addition to saber-toothed cats, mammals such as camels, rhinos, and three-toed horses once roamed the area.

Like many young visitors, Kylie took part in the Junior Ranger Program, which encourages kids to explore the National Parks. Unlike most kids, Kylie made a major fossil find when she noticed something interesting in some limestone near the park's visitor center.

After she reported her discovery to rangers, paleontologists first thought that the bones belonged to an extinct animal similar to a sheep. However, heavy rains later exposed more of the bones, and scientists concluded that Kylie had instead found the rare, well-preserved fossil of a saber-toothed cat about 32 million years old.

Kylie's fossil has been excavated and added to the park's museum collection. Anytime Kylie visits Badlands National Park, she can proudly point out the area where she made her discovery, now known as the Saber Site.

FROM GROSS TO "GOLDEN"

As he walked the beach in England with his father in 2012, 8-year-old Charlie Naysmith poked at a clump of seaweed. He spotted a light gray rock with an interesting texture and decided to keep it.

Once home, Charlie and his dad tried to identify the rock and soon realized that this wasn't really a rock. Instead, Charlie had found a treasure known as ambergris (AM-bur-griss)—worth about \$65,000. One reason that ambergris is so valuable is that it's hard to find.

The specimen had come from a sperm whale. Whales eat a lot of squid, which have pointed beaks that are hard to digest. Sperm whales sometimes produce ambergris, a greasy substance that coats the squid beaks and protects the whale's intestines after it swallows a squid or a cuttlefish, which also has a horny beak.

Ambergris has been described as "whale vomit," but scientists now believe that the substance leaves through the back end of these large mammals. (No one really knows where it comes out, because no one has witnessed the process.) Ambergris leaves whales in clumps, some weighing hundreds of pounds. Once in the ocean, this black, stinky stuff floats and hardens and changes color. It eventually breaks into smaller pieces.

The odor of fresh ambergris has been compared to that of an old wooden church or seaweed. After ambergris hardens in the ocean, it smells much better.

Also called "floating gold," ambergris has been used for many things for thousands of years, including incense and medicine as well as perfume. American perfumes don't contain it anymore because sperm whales are endangered.

Charlie is a nature lover who says that he hopes to sell his treasure and use the money to build an animal preserve.



PERSISTENCE THAT PAID OFF

“Not again,” Dr. Carl Agee thought when 13-year-old Jansen Lyons showed him a 2-pound rock. Dr. Agee is a meteorite expert, and people often ask him to examine their finds. Usually, these specimens are just ordinary Earth rocks or, as Dr. Agee calls them, “meteor-wrongs.”

In 2012, Jansen dropped by Dr. Agee’s office at the University of New Mexico’s Institute of Meteoritics in Albuquerque. The boy became a meteor hunter after reading a book on the subject in 2008. His grandfather made him several metal detectors (95 percent of meteorites are made of iron), and Jansen used them to search many local areas (after getting permission from property owners).

In September 2011 in his hometown of Rio Rancho, New Mexico, Jansen found an interesting rock. After comparing it with photographs of meteorites, he believed that he had something.

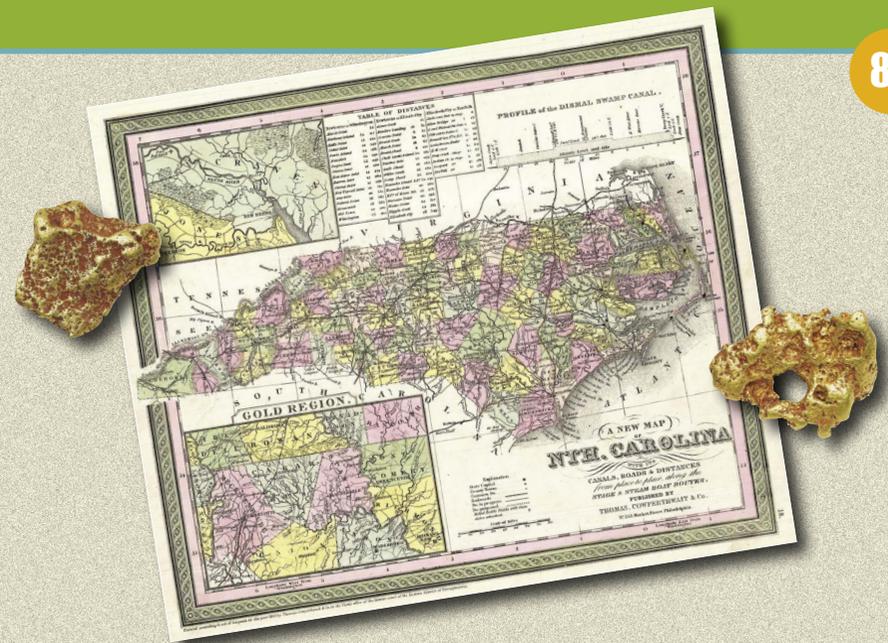
In June, Jansen and his mother visited Dr. Agee, who took a sample of Jansen’s discovery for closer examination. By the time that Jansen had returned home, Dr. Agee had called to say that this was indeed a meteorite. The chunk had probably been resting on Earth for 10,000 years.

Jansen named his discovery “Rio Rancho,” and the Meteorological Society officially approved the find.



WHAT’S A METEORITE?

Meteorites are pieces of asteroids (and sometimes comets) that fall from space to Earth. A few have even been pieces of Mars and the Moon. So far, about 40,000 have been found and cataloged, and many of these are quite valuable. Meteorites are often black, and they’re easiest to spot in dry, desertlike conditions.



A FORTUNE AT HIS FEET

Instead of going to church services one Sunday morning in 1799, 12-year-old Conrad Reed went fishing in Meadow Creek, near his home in Mecklenburg County, North Carolina. Before long, he spotted an intriguing yellow rock. He lugged it home and, for a while, the 17-pound stone served as a useful doorstop.

Eventually, Conrad’s father John asked a local silversmith to identify the mass, but the man could not. In 1802, another jeweler informed John that the rock was gold and that he would like to buy it. They agreed on what John felt was a “big” price: \$3.50.

John soon smartened up and, legend has it, returned to the jeweler and got about \$1,000 more. Then he and his family headed back to Meadow Creek, where John partnered with his brother-in-law and a wealthy landowner in their search for more gold. Before long, one of the landowner’s slaves had found a 28-pound specimen worth more than \$6,600.

Conrad’s Sunday diversion, the first documented gold strike in the United States, made his family wealthy. North Carolina led the nation in gold production until the California gold rush began in 1848. Today, the Reed Gold Mine remains open for tours.