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THE PRESTON PAPER

SUMMER TERM SCIENCE SPECIAL

Summer is here!

BY KRISH NOTAY, JULIA NYAMATORE, GRACE WITTICH JACKSON AND HARRISON COHEN

The Preston Paper edition number three is finally here!

We hope you are having a fantastic last term and have some exciting plans in store for the summer holidays. Looking back at the recent events at school, it has been an exciting and memorable time for everybody. The Jubilee Picnic and Summer Fete were enjoyed by all, and our on-the-ground reporters spent time talking to parents and guardians from all year groups. We thoroughly enjoyed hearing your responses to our interviews and they provided us with a great insight into how much you were all enjoying the school events!

All of us at the Preston Paper are looking forward to the upcoming school events – class sports days and the showstopping events which is the Year 6 leavers performance.

Once again, have a brilliant end to summer term and stay tuned for our end of year special!

Scientific discovery

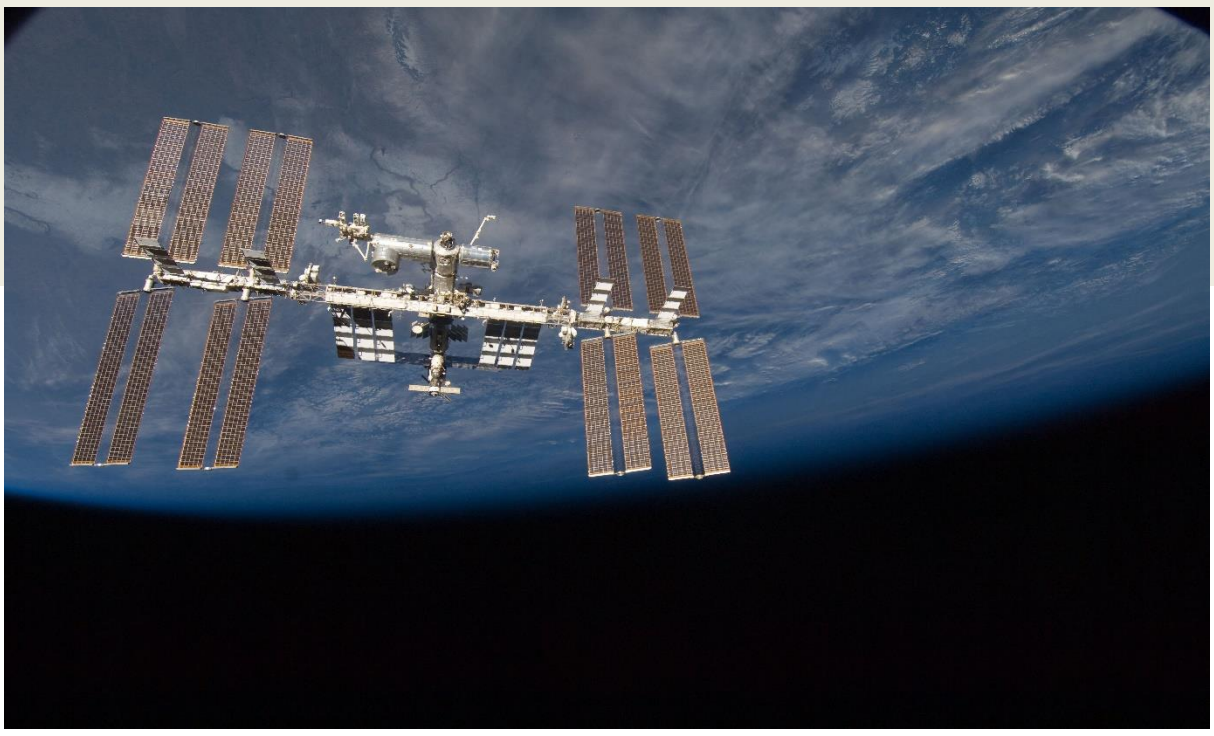
BY DANIEL JAMES

During a daily mile walk on the track, I discovered a scarab beetle. Here is a quick guide to identifying this particular species:

- Barbed legs and feet
- Protective shell in a brown and light brown colour
- Small head compared to their body

Scarab beetles are a very popular species and they are found everywhere in the world other than Antarctica!
Keeps your eyes peeled for any other interesting creatures in school!

Timmy the scarab beetle



The last century has seen an incredible number of space achievements

Spectacular space successes

BY LEWIS ARMSON

Since 1951, the space community has launched some record-breaking missions, which have made history. These incredible missions have proven how far we, as humans, have come in the last 70 years.

NASA and the European Space Agency (ESA) have launched some highly decorated astronauts, such as: Tim Peake, Yuri Gagarin and Neil Armstrong, into space. From the first person in space to the first person on the moon, these missions have inspired many people across the world to follow in their footsteps.

In the 1950s and 1960s, the USSR launched the first man, woman and dog into space. This was a huge achievement for the space community, and these missions provoked interest and fascination throughout the world. In 1951, a dog named Laika was launched into space. Alas, the dog never returned back to Earth. Nearly a decade later, the first man was launched into space. After some intense training, Yuri Gagarin was chosen and he successfully completed his mission and returned safely back down to Earth. Two years later, Valentina Tereshkova became the first woman in space when she was launched in 1963.

Several years later, the Space Race was formed. NASA and the USSR went head to head to land the first person on the moon. Both agencies were hungry for glory, but only one could have it. The world awaited the Moon landing with great anticipation, to see who would come out on top. Eventually, on 20th July 1969, Michael Collins, Neil Armstrong and Buzz Aldrin landed on the lunar surface, as part of NASA's Apollo II mission. Over the three following years, NASA launched several Apollo missions, the last of which was in December 1972. Nearly 50 years later, NASA have announced their return to the Moon with their Artemis mission. Artemis aims to land the first woman on the moon. Furthermore, Artemis aims to land the first person of colour on the moon. The mission is due to take place no sooner than 2025, due to the COVID-19 pandemic delaying it. Presently, 18 hopefuls are training, so that they are fully prepapred for the journey.

Meanwhile, the ESA are preparing for their missions aboard the International Space Station (ISS). In 2016, ESA director general, Jan Worner, announced that all astronauts in the Class of 2009 will fly twice in 2024. This has intrigued the nation, as Britain's most famous astronaut, Tim Peake, will fly again in the next two years. Seven years ago...(continued on page 2)

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SPECTACULAR SPACE SUCCESSES (CONTINUED)

BY LEWIS ARMSON

… on December 15th 2015, Tim Peake began his historic mission, alongside his historic crewmates Timothy Kopra and Yuri Malanchenko. Peake spent an outstanding 186 days aboard the ISS, and he orbited the Earth over 2000 times! During his mission, Tim participated in 250 experiments, completed a spacewalk, and even finished the London Marathon on a treadmill, despite the arduous conditions. At the time, Peake stated, "After a gap of 24 years since Helen Sharman flew to the Mir Station, the Union Jack flag is going to be worn in space once again, what that means is that there's nothing to stop the schoolkids in Great Britain today from being amongst the first men and women to set foot on Mars in the future."

Tim Peake, Great British astronaut.

Fortunately, there will be many more fascinating missions in the future. Scientists are hoping that one day they will be able to land the first person on Mars. But who knows, maybe one day we will be able to travel to infinity and beyond.

Spacewoman suits up

Space enthusiasts await the arrival of the Artemis program

BY ALEX COLCLOUGH

In 2025, there will be the biggest space event since 1969 (the first man on the Moon). The Artemis program, which has taken over 10 years to plan and construct, will finally launch. This mission, which will launch from Florida, will aim to reach the Lunar South Pole. This mission aims to be famous worldwide.

The Artemis program will put the first woman on the moon. Kayla Barron, who was a submarine officer in the navy, will be a member of the astronaut team. When she was interviewed about the mission, Kayla Barron said, "Even though we'll be in space for a long time, we'll have our space family." Even though the mission is 3 years away, Kayla is looking forward to life in space.

After 10 years of intense research, the Artemis team are nearly ready to launch. Darlene Lim, who is the research leader, will be in charge of conducting experiments for the team. Last week, on BBC news, she announced, "Artemis will be a fantastic endeavor." Darlene Lim hopes that she can see her project in action as soon as possible.

Over the next two years, the astronauts will complete training including: learning to speak Russian, scuba-diving, and learning to cope with small spaces. Tim Peake, who is a famous British astronaut, has been helping the Artemis team. When asked about space, he said, "Life in orbit was spectacular… I would return in a heartbeat."

Question time

Resident researcher, Evie James, answers all your burning questions

Is grass a flowering plant?

When you think of plants, you most likely think of bright, beautiful flowers. But when you think of grass, flowers are not what first comes to mind. Does grass even have flowers…?

Like most other plants, some grasses also grow flowers. These flowers are referred to as florets and do not look like flowers you would see in a bouquet. These florets are how the grass pollinates and spread its seeds. Rather than relying on pollinators (such as bees), grasses use the wind.

Although most people come into contact with grass frequently, many know little about its composition and pollination process. Like most plants, grass blooms at certain times of the year. However, different species of grass bloom at different times of the year. Some grasses flower in early spring, whereas other grasses, including most grains, flower in late summer to early fall.

Grass growth resources its maximum at a temperature of 50 degrees Fahrenheit, which mainly occurs during the spring months from March to May. Rising warmth beyond this temperature has no major effect of grass.

The grass that makes up your garden needs water to live; without it, they can't photosynthesize or move nutrients around their leaves. The grass plant obtains most of its water from the soil. If the soil is left to dry out for several days, the grass plants growth will start to slow down.

Some usual fact about grass – a 2,500 square foot garden produces enough oxygen for a family of four. Grass can grow everywhere – varieties of grass grow on all continents of the world, even in polar regions.

So, in summary, yes, grass is a flowering plant.

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The future of Formula 1

BY HARRISON COHEN

A Formula E Grand Prix is called an ePrix, and they often have components of famous racetracks, like the Long Beach Street Circuit in California or historic Monaco. Formula E races end up being 80-90 Kilometers. This is 49-55 miles in length.

People often ask “Are Formula 1 cars faster than Formula E cars?” Yes Formula 1 cars are faster than Formula E, but thanks to constant technological innovation, Formula E cars are making big strides. Formula E cars have a powertrain made up of an inverter, a motor and a transmission. The inverter takes the electricity created by the battery and converts it from a direct current (DC) to an alternating current (AC) charge, which the motor uses to turn the wheels.

Formula E is more than a just a racing series – it’s a battle for the future. All 24 radical Gen2 cars - powered by electricity - pave the way for the road cars of tomorrow, with the series acting as a competitive platform to test and develop the latest in electric technology

The physics of spin bowling

BY DARIAN TAYLOR

Cricket is one of the most popular sports on the planet, but how exactly are the greatest plays achieved?

Spin bowlers attempt to deceive batsmen through movement of the ball through the air and creating deviation as it bounces to the wicket. Ball movement through the air occurs as a result of the angular velocity imparted to the ball by the bowler. This movement can manifest itself as “drift” away from the batsman, or “drift” towards the batsman. The ball can also “hold up” or lift so that it bounces, or pitches, further down the wicket towards the batsman than if the ball had no spin. As the ball moves through the air, the speed of air on left side of the ball is lower compared to the right side of ball due to the revolutions on the ball (the spinning ball causes air to move in one direction on one side and opposite direction on the other side).

The techniques used to impart spin on the ball by the bowler fit into two categories: finger spin and wrist spin. A right-handed bowler will predominantly bowl off-spinners, in which the ball rotates approximately clockwise as it travels down the pitch and turns off the pitch from the off-side (the right side of the wicket for a right-handed batter).

A left-handed wrist spinner will predominantly bowl leg spin with the ball rotating approximately counter clockwise and typically turning off the pitch from the leg-side towards the off-side.

Next time you’re watching the best spin bowlers in the world, like Samit Patel for Nottinghamshire Outlaws or Poonam Yadav for the Indian women’s national team, you should see if you can determine how and where they are spinning the ball and whether you can recreate it at home!