

# Xavier's Paily

# Challenge yourself!

What has 13 hearts, but no other organs?

Answer: A deck of playing cards



# Spectrum's Corner

Thought of the Day

What we think, or what we know, or what we believe is, in the end, of little consequence. The only consequence is what we do. - John Ruskin

### Word of the Day

Phlegmatic: expressing little or no emotion

# THE BIOLOGICAL CLOCK

Written by Ayush Singh | Designed by Ariba Imroz

[Students'Council]

Our cells learned to tell the time before we did. Every cell in our bodies has its very own clock. Unlike the clocks we are used to, the clocks in our cells have no cogs or gears: they are biological. Our biological clock is a molecular mechanism that keeps track of time within the cells of an organism, and gives rise to circadian rhythms. Keep near perfect time with the 24-h cycle of light and dark on Earth. We call this regular daily cycle the circadian rhythm. Any process in an organism that falls into a 24-h rhythm or cycle.. The word circadian comes from the Latin circa and dies, meaning "around the day." The circadian rhythm aligns our sleep-wake cycle with the light-dark cycle, so that we feel awake during the day and sleepy at night. It gets the gut ready for food digestion during the day but helps us not to feel hungry when we are asleep at night. It determines when we are most alert (midmorning), when we are most coordinated (early afternoon) and when we have the most muscle strength (late afternoon). Body temperature and blood pressure also increase and decrease throughout the day. Even our immune systems operate on a 24-h schedule, guided by the circadian rhythm.

Circadian rhythms are not unique to humans: almost every organism on Earth has a biological clock. Plants' clocks prompt their leaves to open during the day and close at night. The clocks of nocturnal animals promote activity at night and sleep during the day. By tracking changes i

## DID YOU KNOW?

Jeffrey C. Hall, Michael Rosbash and Michael W. Young were awarded Nobel Prize in 2017 for discovering the mechanism of biological clock.