

Type the answers in a word document and send the file as an attachment to [trainerjamesnp@gmail.com](mailto:trainerjamesnp@gmail.com).

## **Worksheet #8: True, False and Not Given**

Do the statements agree with the information given in the text?

Write **TRUE** if a statement agrees with the information in the text.

Write **FALSE** if a statement disagrees with the information in the text.

Write **NOT GIVEN** if there is no information given about this in the text.

### **Programmable Plants**

In electronics, even the most advanced computer is just a complex arrangement of simple, modular parts that control specific functions; the same integrated circuit might be found in an iPhone, or in an aircraft. Biologists are creating this same modularity in – wait for it – plants, by designing gene "circuits" that control specific plant characteristics – color, size, resistance to drought, you name it.

The relatively new, interdisciplinary field is synthetic biology – the design of genetic circuits, just like in electronics, that control different functions and can be easily placed in one organism or the next. Most of today's synthetic biologists work with simple microorganisms, like E. coli or yeast.

A CSU team led by June Medford, professor of biology, and Ashok Prasad, associate professor of chemical and biological engineering, is doing the same thing, but in the much more complex biological world of plants.

- 1. The scientists are using a technique from electronics to control specific plant properties.**
- 2. Some synthetic biologists work with genetic circuits of mammals.**
- 3. Most of synthetic biologists work with mammals.**

### **The Largest Thing in the Universe**

More than ten years ago, while taking the temperature of the universe, astronomers found something odd. They discovered that a patch of sky, spanning the width of 20 moons, was unusually cold.

The astronomers were measuring the thermal radiation that bathes the entire universe, a glowing relic of the big bang. To gaze at this cosmic microwave background, or CMB, is to glimpse the primordial<sup>1</sup> universe, a time when it was less than 400,000 years old.

The CMB blankets the sky, and looks pretty much the same everywhere, existing at a feebly cold temperature of 2.725 kelvins - just a couple degrees warmer than absolute zero. But armed with the newly launched WMAP satellite, the astronomers had set out to probe temperature variations as tiny as one part in 100,000. Born from the quantum froth that was the universe a half-moment after the big bang, those random fluctuations help scientists understand what the cosmos is made of and how it all came to be.

And standing out amidst those fluctuations was a cold spot. Over the years, astronomers have come up with all sorts of ideas to explain it, ranging from instrumental error to parallel universes. But now, they're homing in on a prime suspect: an enormous cavern of emptiness called a cosmic supervoid, so big that it might be the largest structure in the universe.

According to theory, such a vast void, in which nary a star or galaxy exists, can leave a frigid imprint on the CMB. The answer to the mystery, then, might simply be a whole lot of nothing. Yet puzzles remain, and the case is far from closed.

*Primordial<sup>1</sup> - ancient, existing a very long time.*

- 1. Astronomers often find something odd on the sky.**
- 2. The CMB is the thermal radiation across the entire universe.**
- 3. The CMB varies from extremely low to very high temperatures.**
- 4. Investigation of fluctuations of temperature in the space helps scientists to understand what the cosmos is made of.**
- 5. The cosmic supervoid is the largest structure in the universe.**

## **The Hottest Month**

According to the Met Office, the UK had its warmest July day ever on July 1, when temperatures hit 36.7 C near London. There were record heat waves in many countries including Spain, while the African continent had the second-warmest July on record.

While the impact of increased levels of carbon dioxide in the atmosphere is a key driver of rising temperatures, another important factor is El Nino. This natural phenomenon, which appears as a large swathe of warm water in the Pacific every few years, is known to push up global temperatures.

In recent days there have been reports that this year's El Nino will be particularly intense. As a result, many experts believe that 2015 will be the warmest year on record by some margin.

The seas have also been soaking up a large amount of heat, the NOAA said, with record warming in large expanses of the Pacific and Indian Oceans

Peter Stott, head of climate monitoring and attribution at the UK Met Office, said: "A strong El Nino is under way in the tropical Pacific and this, combined with the long-term global warming trend, means there is the potential to see some very warm months throughout this year - as the new figures for July appear to show.

- 1. Africa had the warmest July day ever on July 1.**
- 2. The temperature is rising due to the increased level of carbon dioxide in the atmosphere.**
- 3. 2015 might be the hottest year in the history.**
- 4. Record warming was recorded in various seas, such as Black and Azov Sea.**
- 5. The year 2015 might very well consist of a number of very warm months.**