

# WEIRD AND WONDERFUL

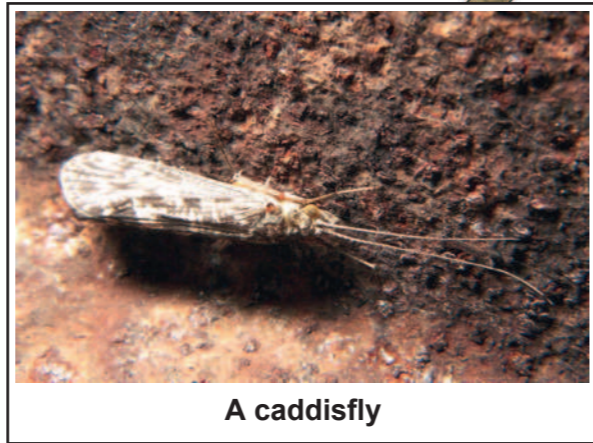
## The Caddisfly

**C**ADDISFLIES are moth-like insects which live in fresh-water streams, ponds and lakes around the world. There are around 12,000 different species of this insect. The females lay their eggs, which hatch in water. Some species spin silk nets, which they fix to underwater plants. These nets catch small creatures and plant material as they are carried along by the stream, providing food for the larvae.

The larvae spend some months underwater, with some species taking more than a year before they spin a cocoon around themselves.

Most species build a hard tube-shaped case and seal themselves inside it, before spinning their cocoon. These cases are often decorated with bits of rock, sand or twigs. After a while, the pupae break out of the tube, using special jaws, and swim to the surface, where they throw off their old skin, spread their wings, and fly away.

Caddisflies don't "learn" to make nets or to make cases — they do it by instinct. This means that they must have been created to do it. They couldn't gradually evolve these skills, but had to get it right the first time. Fossils of caddisflies have been found, but they show they haven't changed. So there is no evidence that they evolved from anything else.



A caddisfly

Wikipedia photo by Bruce Martin



A Caddisfly net



Caddisfly larvae in case

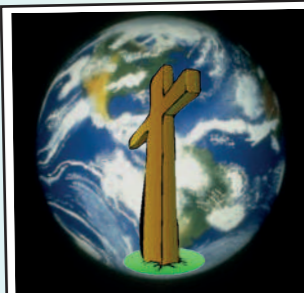
Wikipedia photo by MyForest

## SPECIAL BECAUSE WE ARE SPECIAL!

Scientists who don't believe in God as Creator hate the idea that anything is special. They don't want to believe the earth is special because this would suggest that it was designed. So they would rather believe that there are lots of other planets like the earth around the universe — even though they have never found any evidence for them. And they don't want to believe that human beings are special, either, but prefer the idea that we have evolved by accident over millions of years.

However, God's book, the Bible, tells us that our planet is special because God created it to be our home. "He made heaven and earth. Heaven belongs to the Lord. But he gave the earth to people." (Psalm 115: 15-16). We are special because, unlike all the other living creatures, we are created in God's image. (Genesis 1: 27). Human beings alone can worship Him as their Creator-God, and know Him as their heavenly Father, through faith in Jesus, God's Son.

We know that earth is more important than any other planet because Jesus left heaven to come here. "God loved the world so much that He gave his only Son." (John 3: 16). By dying on the cross, Jesus took the punishment for our sin, and by rising from the dead made a way for us to live with Him for ever. Although earth has been spoilt by people's sin, Jesus will come again some day and make everything new. Earth is special because we are special! Do you know Jesus as your Saviour and Friend?



Earth is special because Jesus came here

## JUMBLD WORDS ANSWERS

1. Mercury.
2. Uranus.
3. Venus.
4. Ozone.
5. Neptune.
6. Saturn.

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No. 109

## Our SPECIAL Home

IS IT JUST AN ACCIDENT THAT OUR PLANET IS SO SPECIAL, OR DID GOD DESIGN IT AS A HOME FOR US?

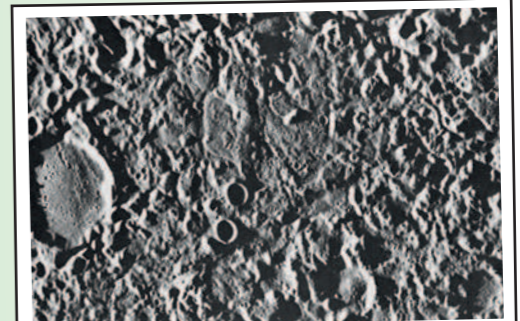
## DESIGNED FOR LIVING!

**I**F your family bought a new house, you would know that it had been designed for your comfort. Unless you live in a hot country, it would most likely have central heating, double glazing, loft insulation, and hot and cold running water. It might also have air conditioning — all designed for your benefit. So it is with our planet earth. Scientists sometimes say it is "finely tuned."



The earth's atmosphere is made of two main gases — 78% nitrogen, and 21% oxygen. The rest is mainly argon and carbon dioxide. This mixture is just right for us to breathe. The atmospheres of Venus and Mars are mostly carbon dioxide — anyone trying to breathe this would suffocate.

Our planet is 93 million miles from the sun — which keeps the average temperature around 15 deg. C (59 deg. F). This means that, although the temperature varies quite a lot around the world, in most places it is neither too cold nor too hot for life to exist and for plants to grow. The average temperature on Venus is 449deg. C (850 deg. F), and the average for faraway Neptune is —223 deg. C (—370 deg.F). Earth is special because God made it special. The Bible says, "The Lord created the heavens... He made the earth. But he did not want it to be empty. He wanted life to be on the earth." (Isaiah 45: 18)



The earth's atmosphere protects us from being bombarded by meteorites by burning most of them up before they reach the ground. The surface of Mercury (above), which has hardly any atmosphere, is covered with craters.

## The right size!



Planet earth is 8,000 miles in diameter, and this seems about right. If it were 800 miles larger the weight of our atmosphere would double, producing much more water, and the whole earth would probably be flooded. But if the earth were 800 miles smaller, most of the atmosphere would escape into space. Without this warm blanket, the earth would become frozen, and too cold for life.



A smaller planet would lose its atmosphere and become too cold for life

## ALSO IN THIS ISSUE:

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## A MAN-MADE "MINI-WORLD"

**T**HE International Space Station (right) began to circle the earth in 1998 when parts were taken up by the Space Shuttle and put together in space by astronauts. In 2000, people began to live on it. It is used as a base to study our wonderful universe and learn more about it. The Space Station is a man-made "mini-world," with its own life-support system. Waste water is recycled for drinking, and food has to be brought from earth. There is no air to breathe in space, so oxygen is produced from water, using sunlight from the huge solar panels. Some spare oxygen is also stored on board. On earth, oxygen is produced by plants, and some scientists hope to be able to use plants to do this in space.



In 2008 Peggy Whitson (above), the first female commander of the International Space Station, "walked" in space for over 7 hours. She had to wear a space suit and take an air supply with her to stay alive. Deep-sea divers (below) also have to take an air supply with them. Human beings were designed to live on earth, not in space or under the water!



The Space Station was only launched after scientists had spent many years in careful planning. The fact that people can live on it for long periods shows how well designed it is. Surely planet earth, with its perfectly designed life-support systems, could never have come into existence by accident? Like the Space Station, it was designed to support life.

Members of the Space Station crew

Photos from NASA

## NATURE NOTES by the editor

A seed is an amazing little packet of information which contains the instructions to make a plant similar to the one it came from. When I sow seeds I am always thrilled to see the way they germinate and eventually produce vegetables or flowers. Seeds are produced when the flowers on a plant die, and come in many shapes and sizes. The largest is the seed of the *Double Coconut Palm*, which weighs 23 kg (50 lb). Seeds will often germinate many years after the plant they came from died. In Israel there is a *Judean Date Palm* (right) which grew from a 2,000-year-old seed!



Seed of the Double Coconut Palm

In 2008, a special Storage Vault was built deep inside a frozen mountain on the Arctic island of Spitsbergen, 1,300 kilometres (800 miles) from the North Pole. It was designed to store seeds from all over the world so that they can be kept safe for future generations. There are now more than 400,000 different seed samples in the vault! The Bible tells us that God created plants to produce seeds to make more of their own kind (*Genesis 1: 11-12*). There are many varieties within each kind, and this seed storage vault will help to preserve them so that people of the future can enjoy them.

The Spitsbergen Seed Vault



Photo: Mari Tefre/Svalbard Global Seed Vault.



Wikipedia photo by Benjithelneb

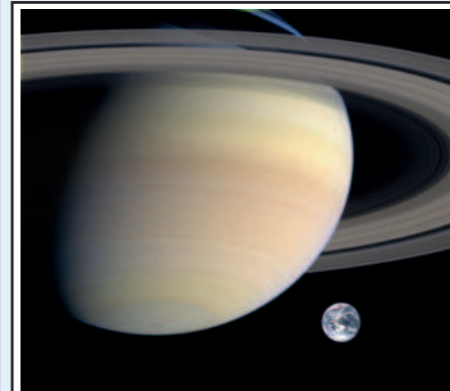
—Geoff Chapman

www.crt.org.uk

## A GOOD DAY!

A day on earth lasts 24 hours — the time it takes to spin once on its axis. While half of the world enjoys daylight, the other half is in darkness.

This cycle of day and night is just right for us. If days were much longer the sun's heat would make life impossible, and longer nights would be far too cold for anything to survive until the sun rose again.

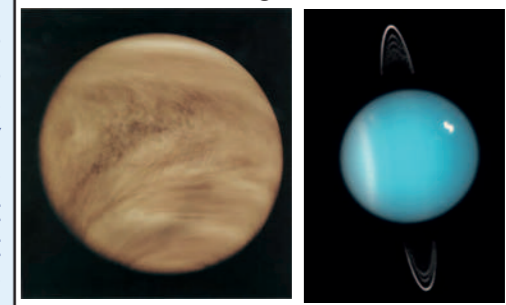


Earth is dwarfed when compared with giant planet Saturn. A "day" on Saturn only lasts ten hours

Most other planets in the solar system have much longer or shorter days. On Venus, a "day" lasts for 243 earth days, on Uranus — which is tipped on its side — a "day" is 17 hours long, and on the giant planet Saturn a "day" only lasts for 10 hours. We would never be able to get everything done, or get enough sleep, if earth were like that! God knew what would be best for us.



Photos from NASA  
 This photo of earth shows part of the dark, night side



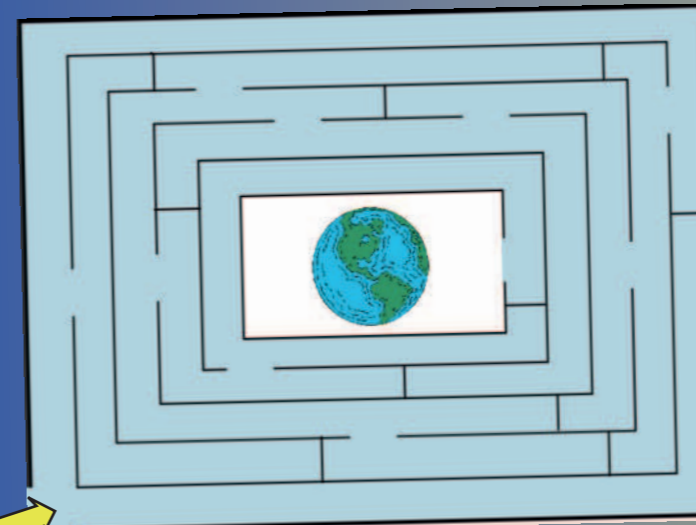
A "day" on Venus (left) lasts 243 days. A "day" on Uranus (right) lasts 17 hours.

## EARTH'S PROTECTIVE SHIELD

40 miles above the earth is the *ozone layer*. Ozone is an invisible gas, but it acts as a shield, protecting us from harmful radiation. Without it all life on earth would perish! Other planets have little if any ozone, and nothing like enough to protect them from radiation. So it seems that our planet was specially designed with enough ozone, otherwise we wouldn't be here!

## PUZZLE CORNER

Can you guide the crew of the Space Shuttle safely back to earth?



## JUMBLED WORDS QUIZ:

1. CRUMYER — a planet covered in craters.
2. SUNRAU — this planet is tipped on its side.
3. SEVUN — a 'day' on this planet lasts 243 earth days.
4. ENZOO — this protects us from harmful radiation.
5. PENNUTE — A far-away, very cold planet.
6. TRANUS — giant planet where a 'day' is 10 hours long.

(Answers on the next page)