**Solar System Educational Trail**
**TEXT FOR TRANSLATION INTO ENGLISH AND HUNGARIAN**

Prepared by Maja Ivanič, 9 April 2026

**Board 1**
**300 x 150 cm**

# SOLAR SYSTEM EDUCATIONAL TRAIL

Scale 1 : 1 billion

Sun
Diameter: 139.2 cm
Rotation period: 25 days 9 hours

| Planet | Size<br>diameter in cm | Distance from the Sun<br>in m | Orbital speed<br>m/day | Orbital period<br>Earth days | Rotation period<br>Earth time | Number of moons |
|---|---|---|---|---|---|---|
| MERCURY | 0.5 | 58 | 4.1 | 88 days | 58 days | 0 |
| VENUS | 1.2 | 108 | 3.0 | 225 days | 243 days | 0 |
| EARTH | 1.3 | 150 | 2.6 | 365 days | 23 h 56 min | 1 |
| MARS | 0.7 | 228 | 2.1 | 687 days | 23 h 37 min | 2 |
| JUPITER | 14.3 | 779 | 1.1 | 12 years | 9 h 55 min | 62 |
| SATURN | 11.6 | 1432 | 0.8 | 29 years | 10 h 39 min | 60 |
| URANUS | 5.1 | 2884 | 0.6 | 84 years | 17 h 14 min | 27 |
| NEPTUNE | 4.9 | 4509 | 0.5 | 165 years | 16 h 56 min | 13 |

www.sonceinplaneti.si

Project author: Anton Ivanič, 2011
Photographs of the Sun and planets: NASA
Design: Tomaž Perme, Kinetik

LEADER – Community-led local development

**Board 2**
**200 x 150 cm**

# SOLAR SYSTEM EDUCATIONAL TRAIL

MODEL OF OUR SOLAR SYSTEM AT A SCALE OF 1 : 1 BILLION

In the middle of the Prekmurje plains, in the village of Strehovci and its surroundings, a local resident and amateur astronomer, Anton Ivanič, constructed the first scaled-down model of our Solar System between 2011 and 2012. In 2026, the Municipality of Dobrovnik relocated the model to its own land plots. Here, at a scale of 1:1 billion, you can see the Sun, Earth with the Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus and Neptune. What measures 1 million km in reality is represented as 1 metre in the model.

The Sun, placed at the centre of the Solar System, is a large yellow sphere with a diameter of 139 cm. The Earth is a sphere with a diameter of 1.3 cm, the Moon measures 0.3 cm, while the sizes of the other planets are shown on the boards. The distance between the Sun and the Earth in the model is 150 m, and from the Earth to the Moon only 38 cm. The closest to the Sun is Mercury, at 58 m, and the most distant is Neptune, at 4509 m.

The Earth and the other planets orbit the Sun along their circular paths, which are marked on the attached map. Where these circular paths intersect with paths or roads near the Sun, wooden posts have been installed with labels and descriptions of individual planets.

In the model, the Earth and all planets are stationary, but in reality they continuously orbit the Sun at great speeds. Mercury completes an orbit in 88 Earth days, Earth in one year, Jupiter in 12 years, and finally Neptune in 165 years. The Earth moves at a speed of 30 km per second, or 1000 times faster than a car travelling at 107 km per hour. Despite these extreme speeds, everything remains in divine harmony.

In this multimillion-scale spectacle, darkness, cosmic cold and deadly solar radiation prevail; gamma rays are present and there is no air to breathe. Nevertheless, we call this part of the universe *our Solar System*. This is our home. The most beautiful jewel of this part of the universe is our Earth. It provides unique conditions for life. Do we still notice them?

“Even if we know the relevant figures, it is difficult to imagine how large the planets are and how far they are from the Sun. Only the model of the Solar System in Strehovci helps us comprehend the proportions of size and distance of the planets – how small and isolated they are, and how fragile our home, the Earth, is in the vast universe.”
*Prof. Dr Andreja Gomboc*

Anton Ivanič self-published two booklets: in 2013 *Solar System Educational Trail*, and in 2015 *Guide to the Solar System Educational Trail*.

**Left caption**
Strehovci and surroundings at a scale of 1:15,000
with representation of planetary orbits
in the scaled model of our Solar System

**Right caption**
Strehovci with representation of the orbits of the inner planets
in the scaled model of our Solar System

**Source**
Surveying and Mapping Authority of the Republic of Slovenia, Ljubljana, 2013

**Project author**
Anton Ivanič, 2011

**Photographs of the Sun and planets**
Unsplash, NASA

**Editor**
Maja Ivanič

**Initial installation of the model**
Anton Ivanič, 2011–2012

**Graphic design**
Tomaž Perme, Kinetik

**Initial installation of the model**
Anton Ivanič, 2011–2012

**Renovation of boards and relocation of the model**
Municipality of Dobrovnik, 2026

www.sonceinplaneti.si
LEADER – Community-led local development

**Board 3**
**50 x 150 cm**

# SOLAR SYSTEM EDUCATIONAL TRAIL
# WHAT IS THE SUN?

In the infinitely vast universe, we find billions upon billions of stars. One of them is our Sun. Orbiting the Sun, together with their moons, are our Earth with the Moon and the planets: Mercury, Venus, Mars, Jupiter, Saturn, Uranus and Neptune, as well as a multitude of asteroids and smaller bodies. Together, they form our Solar System.

The Sun is the centre of our Solar System. By its mass, it is a true giant. It contains 99.8% of the total mass of our Solar System, meaning that only 0.2% of the total mass is contained in the planets and other bodies.

The diameter of the Sun is 1,392,520 km. Compared to the Earth, which has a diameter of 12,742 km, it is one hundred times larger. This large glowing sphere rotates around its axis. It takes 25 Earth days and 9 hours to complete one rotation. The Earth is 150 million km away from the Sun.

**STRUCTURE OF THE SUN**
The Sun is primarily composed of two elements: hydrogen (73%) and helium (25%), while the remaining 2% consists of oxygen, carbon and other elements. At its core, the temperature is extremely high, reaching 15 million degrees Celsius, and the pressure is immense. Here, hydrogen atoms break apart, and their electrons move freely at high speeds. The broken hydrogen nuclei combine and transform into helium nuclei, during which part of the matter is converted into energy. Atomic explosions occur continuously in the Sun's core – far more powerful than the one over Hiroshima. Every second, the Sun "burns" 4 million tonnes of matter. Scientists estimate that it is already 4.5 billion years old and has enough "fuel" to last for several more billion years.

On the surface of the Sun, which we call the **PHOTOSPHERE**, the temperature is around 5,700 degrees Celsius. Above the photosphere lies the solar atmosphere, consisting of three layers:
1. **CHROMOSPHERE**, approximately 1,000 km thick.
2. **SOLAR CORONA**, extending more than 100,000 km as a continuous transition into space. Here, the temperature rises again above one million degrees Celsius.
3. **SOLAR WIND**, a stream of particles flowing far through the Solar System beyond all planets. We also feel it on Earth, where we are protected by the Earth's magnetic field.

THE ANCIENT EGYPTIANS WORSHIPPED THE SUN, ON WHICH LIFE ON EARTH IS COMPLETELY DEPENDENT, AS A DEITY.

IN THE SOLAR SYSTEM TRAIL MODEL IN STREHOVCI, ALL SIZES AND DISTANCES ARE REDUCED AT A SCALE OF 1 : 1 BILLION. THE SUN IS THEREFORE A SPHERE WITH A DIAMETER OF 139.2 CM.

**Captions from left to right:**

**STRUCTURE OF THE SUN**
. CONVECTION ZONE
. RADIATION ZONE
. CORE
. PHOTOSPHERE
. CHROMOSPHERE

**GIANT PROMINENCE**
. EARTH – SIZE COMPARISON

**FLARES**
VERY BRIGHT AND INTENSE RADIATION EVENTS LASTING FROM A FEW MINUTES TO AROUND FOUR HOURS
**TOTAL SOLAR ECLIPSE**
PHOTOGRAPHED BY LUC VIATOUR, 11 AUGUST 1999

Photographs of the Sun and planets: NASA
www.sonceinplaneti.si

LEADER – Community-led local development

**Plaques 4**
**50 x 30 cm, 8 pcs**

# SOLAR SYSTEM EDUCATIONAL TRAIL

Scale 1 : 1 billion

| | MERCURY | VENUS | EARTH | MARS | JUPITER | SATURN | URANUS | NEPTUNE |
|---|---|---|---|---|---|---|---|---|
| DIAMETER | 0.5 cm | 1.2 cm | 1.3 cm | 0.7 cm | 14.4 cm | 11.6 cm | 5.1 cm | 4.9 cm |
| DISTANCE FROM THE SUN | 58 m | 108 m | 150 m | 228 m | 779 m | 1432 m | 2884 m | 4509 m |
| ORBITAL PERIOD | 88 days | 225 days | 365 days | 687 days | 12 years | 29 years | 84 years | 165 years |
| NUMBER OF MOONS | 0 | 0 | 1 | 2 | 62 | 60 | 27 | 13 |
| | | | | | | | | |
| ORBITAL LENGTH | 364.4 m | 678.6 m | 942.5 m | 1433 m | 4895 m | 8998 m | 18.1 km | 28.3 km |
| ORBITAL SPEED | 4.1 m/day | 3.0 m/day | 2.6 m/day | 2.1 m/day | 1.1 m/day | 0.8 m/day | 0.6 m/day | 0.5 m/day |
| ROTATION PERIOD | 58 days | 243 days | 23h 56 min | 23 h 37 min | 9 h 55 min | 10 h 39 min | 17 h 14 min | 16 h 56 min |
| LIGHT TRAVEL TIME FROM THE SUN | 3 min | 6 min | 8 min | 13 min | 43 min | 1 h 20 min | 2 h 40 min | 4 h 11 min |
| ACTUAL DAILY DISPLACEMENT | 4,134,000 km | 3,021,000 km | 2,575.000 km | 2,084,000 km | 1,115,000 km | 850,000 km | 584,000 km | 470,000 km |
| ACTUAL SPEED | 172,000 km/h | 126,000 km/h | 107,000 km/h | 87,000 km/h | 46,000 km/h | 35,000 km/h | 24,000 km/h | 20,000 km/h |

Photographs of the Sun and planets: NASA

www.sonceinplaneti.si

Project author: Anton Ivanič, 2011
The Sun – the centre of the model – and more about the model and planets can be found near the fire station in the village of Strehovci.

LEADER – Community-led local development

**Board 5**
**320 x 30 cm**

# SOLAR SYSTEM EDUCATIONAL TRAIL

Scale 1 : 1 billion

**DAILY MOTION OF THE EARTH WITH THE MOON**

THE DAILY PATH OF THE EARTH IN THE MODEL IS 258 CM, AND IN REALITY 2,580,000 KM.
THE ANNUAL PATH OF THE EARTH IS 942,000,000 KM.
THE ACTUAL SPEED IS 107,000 KM/H.
THE EARTH WITH THE MOON ORBITS THE SUN IN 365 DAYS.

EARTH TODAY
258 CM
EARTH TOMORROW

Photographs: NASA

www.sonceinplaneti.si

Project author: Anton Ivanič, 2011
The Sun – the centre of the model – and more about the model and planets can be found near the fire station in the village of Strehovci.

LEADER – Community-led local development