

**Subject:** The size scale of The Solar System. The use of QR codes during field work on a bike.

**Lesson goal:**

The student understands the real distances between planets.

**The lesson stages:**

1. We divide students into 9 groups.
2. Each group will have one planet assigned. One group – the Sun.
3. We will use the following scale to measure the distance: 1 m – 20 000 km.

- Sun → Mercury ~ 3 km
- Sun → Venus ~ 5,4 km
- Sun → Earth ~ 7,5 km
- Sun → Mars ~ 11,4 km
- Sun → Jupiter ~ 38,9 km
- Sun → Saturn ~ 71,5 km
- Sun → Uranus ~ 143,5 km
- Sun → Neptune ~ 225,2 km

POLAND	CROATIA
<b>SUN</b>	<b>MERCURY (~ 3 km)</b>
WARSAW SP 154 ⇒ BOK (Van Gogha street, Warsaw)	SPLIT ⇒ CENTRE – GRIPE (part of Split)
<b>MERCURY</b>	<b>VENUS (~ 2,5 km)</b>
BOK ⇒ M. CURIE SKLODOWSKA BRIDGE	GRIPE ⇒ MALL OF SPLIT
<b>VENUS</b>	<b>EARTH (~ 5,1 km)</b>
M. CURIE SKLODOWSKA BRIDGE ⇒ ŁACHA POTOCKA PLACE	MALL OF SPLIT ⇒ STOBREC
<b>EARTH</b>	<b>MARS (~ 6,3 km)</b>
ŁACHA POTOCKA PLACE ⇒ PKiN (PALACE OF CULTURE AND SCIENCE)	STOBREC ⇒ MUTOGRAS
<b>MARS</b>	<b>JUPITER (~ 32,6 km)</b>
PKiN ⇒ MILANÓWEK	MUTOGRAS ⇒ PISAK
<b>JUPITER</b>	<b>SATURN (~ 40 km)</b>
MILANÓWEK ⇒ ŻELAZOWA WOLA	PISAK ⇒ ZIVOGOSCE
<b>SATURN</b>	<b>URANUS (~ 105 km)</b>
ŻELAZOWA WOLA ⇒ WŁOCŁAWEK	ZIVOGOSCE ⇒ SLANO
<b>URANUS</b>	<b>NEPTUNE (~ 120 km)</b>
WŁOCŁAWEK ⇒ GNIEZNO	SLANO ⇒ MAKARSKA

4. Using a code reader they will check basic information about a given planet. QR codes will be prepared by the teacher.