

Activities in 2019 – 2020

EUROSTRONOMIA

St. Stanislav's Institution, Slovenia

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July 2019

TPM 3 in Northern Macedonia

<https://www.stanislav.si/skg/srecanje-projekta-eurostronomija-v-makedoniji/>

August 2019

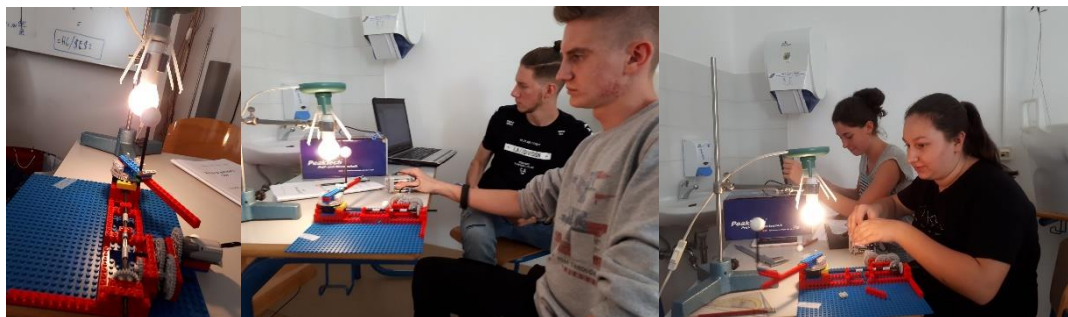
Days of Physics

During summer holidays, from 26th-28th August 2019, a traditional summer camp was held at St. Stanislav's Institution. Twenty students from different countries, namely, Croatia, Northern Macedonia, Serbia and Slovenia, gathered in order to perform multiple physics experiments. The event was led by the following teachers of physics at the Diocesan Classical Gymnasium: Tine Golež, Martin Čokl and Iztok Kukman.

The participating students were divided into three groups and additionally into pairs – each pair was to conduct a different experiment at a time. Each experiment was tied to a different aspect of physics. Especially outstanding was the demonstration of a power plant, which used the potential energy of the water in order to produce electricity.

Other experiments included measurement of geometrical optics, finding drag coefficient of a spherical body, calculation of maximum output of a solar cell, investigating how the acceleration of rotating ball depends on the slope of the hill, and many more. We were measuring, calculating, graphing and were introduced to numerical calculation.

In these three days we had an opportunity to see how theory can be applied to perform and predict outcomes of various experiments. /Lea Briški, year 4/



September 2019

Stargazing (22. 9.)

We joined the project Slovenia Under One Sky (more on the initiative: <http://astronomska-revija-spika.si/predlagamo-slovenija-pod-skupnim-nebom-v-petek-6-septembra-2019/>)



ACTIVITIES WITHIN AN ASTRONOMY CLUB »ASTRONOMČEK« (during the year 2019/20)

Erasmus Junior Club, which was active in previous years of the project, greeted new members and was given the name Astronomček. They created their own rockets and tried to fly it using water and magnesium tablets.



Erasmus Junior Club created an activity game Domino with English and Slovenian astronomy expressions. They gave the game as a gift to our partner schools in the project.

Other activities of the Club during school year 2019/20:

- Learning about the history of astronomy.
- Making a space rocket.
- Learning about the stars and constellations.
- Making a constellation box and trying it out in a dark room.
- Learning about a first landing on the moon.
- Making out our own constellations and writing the stories about how they were created.
- Phases of the moon – making a black box with holes. Observing phases of the moon.



LTTA 3, Esposende, Portugal

<https://www.stanislav.si/skg/srecanje-projekta-erasmus-eurostronomia-na-portugalskem-torek/>

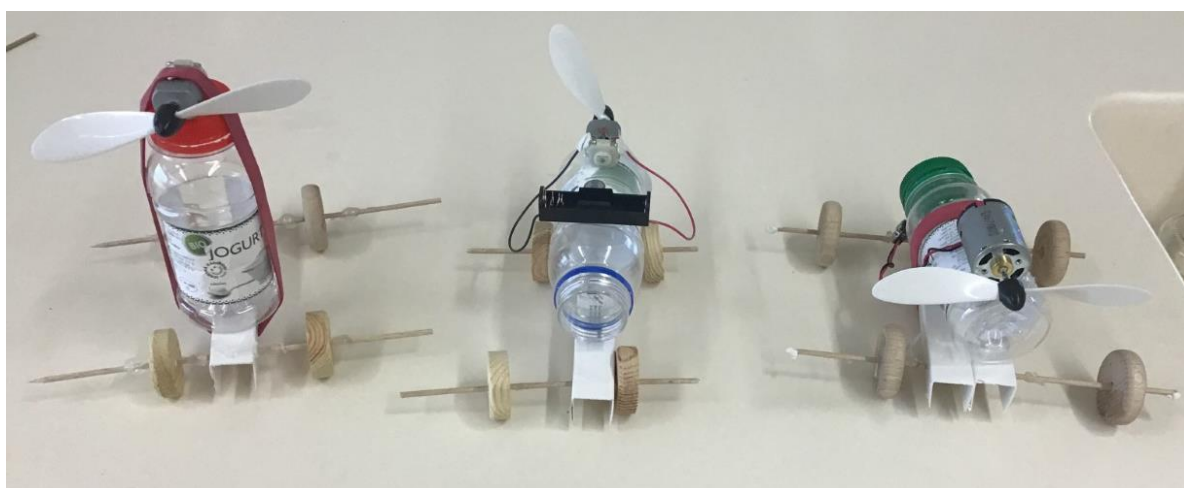
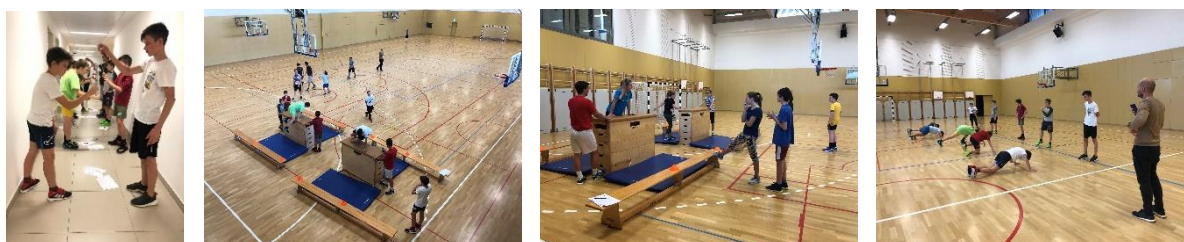
<https://www.stanislav.si/skg/srecanje-projekta-erasmus-eurostronomia-na-portugalskem-ponedeljek/>

<https://www.stanislav.si/skg/srecanje-projekta-erasmus-eurostronomia-na-portugalskem/>

November 2019

In class 8, teachers of biology, physics and gym (Alja, Martin, Petra and Uroš) organized the **Astronomy day**. In Alja's workshop participants talked about taste in space, Martin prepared a workshop about Mars rover, Petra and Uroš prepared a workshop about training like an astronaut. With this workshops teachers showed how important the physical fitness of an individual is. With new tests and an upgrade from the previous year, the eighth-graders showed their motoric skills, besides their physical potentials tested in one-day of strenuous training, and mental abilities. This has once again brought everyone to the realization that man is a bio-psycho-social being who can transcend the boundaries of the universe and provide for the revelations of the afterlife - if man is as universal as the universe.

(8. 11. - <https://www.stanislav.si/osas/astronomski-dan-za-osmosolce/>)



(<https://www.stanislav.si/osas/astronomski-tabor-2/>)

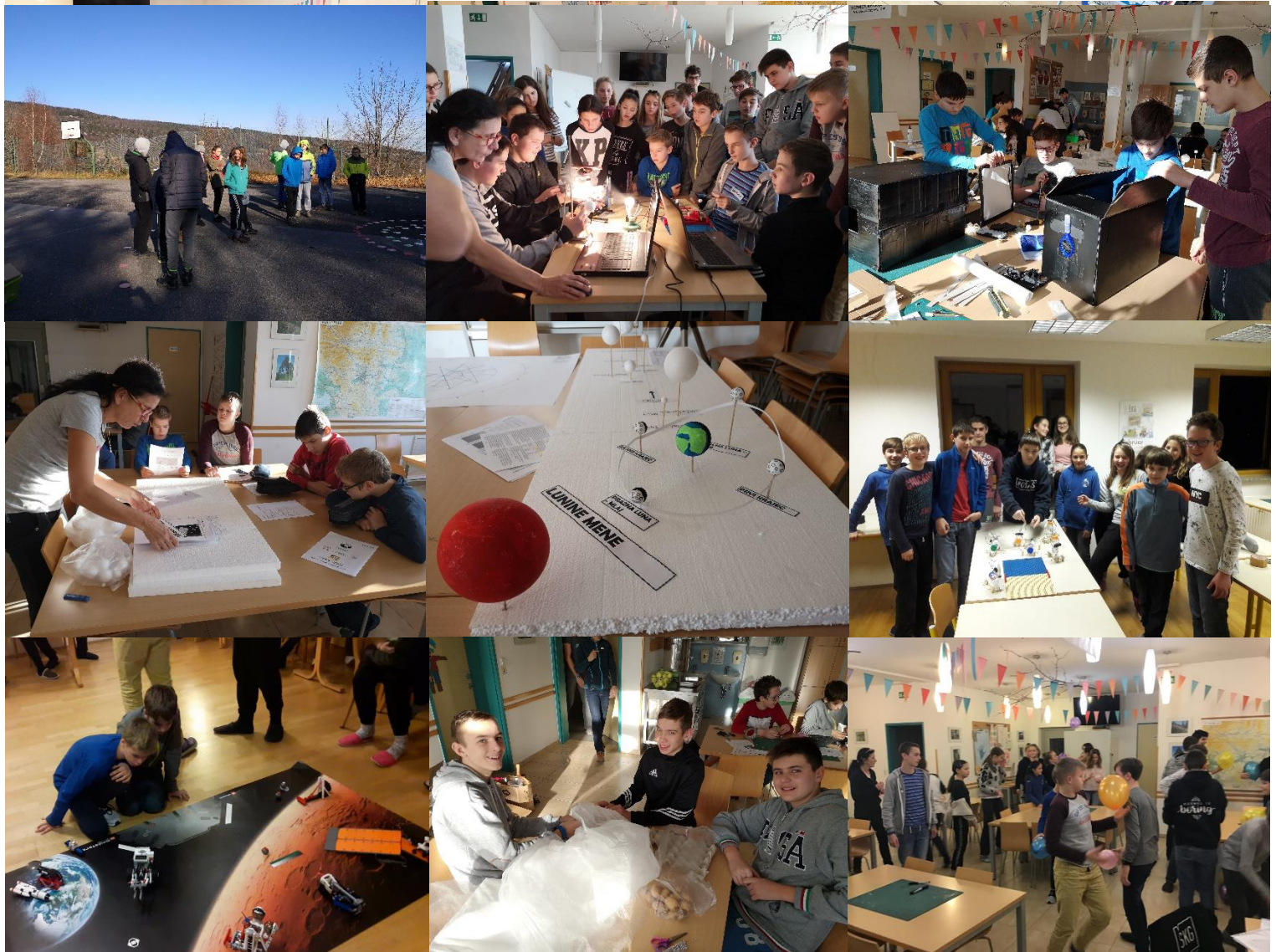
During the 29th of November and the first of December we have an **Astronomy camp** on Pohorje. 11 pupils from our secondary school and 20 pupils from OŠ Komenda Moste learnt about astronomy, made interesting workshops, observed the Sun, the stars, the Deeper and socialized with each other.

Workshops:

- Making rotating sky chart
- Stars on umbrella
- Dynamics in our Solar system
- Detecting exoplanets
- Camera Obscura
- Constellation in 3D
- Model of Eclipses
- Mars Rover



- Lego mission on Mars
- Egg astronaut



Vtisi udeležencev (Impressions):

»Učitelji so se res trudili da bi se z učenci iz Komende zelo povezali in to jim je uspelo, saj smo navezali veliko novih prijateljstev. Zelo so se potrudili za zelo zanimiv program, vseeno pa nam ni manjkalo prostega časa. Pustili so nam svobode, kot je bilo možno in nas niso omejevali z bednimi pravili. Tabor je bil res nepozaben.«

Ruta in Maša, 8. a

»The teachers really tried to connect us with the students from Komenda and they succeeded because we made a lot of new friendships. They put a lot of effort into a very interesting program, but we still did not lack free time. They left us as much freedom as possible and did not restrict us with miserable rules. The camp was really unforgettable.«

Ruta and Maša, 8. a

»Vremenska napoved je bila bolj slaba, zato niti nisem imel previsokih pričakovanj. A nas je že prvi dan presenetila jasnina, ki se je odprla okrog 22.00. tako smo lahko skoraj do enih zjutraj opazovali nočno nebo. Program je bil zanimiv skozi celoten vikend, a najbolj zanimiva so bila nočna opazovanja. Danes smo nekateri celo vstali zgodaj zjutraj in videli pomladna ozvezdja, ki so se že dvigala čez nebo. Videli smo veliko meglic, vključno z Orionovo meglico, galaksije, kot je Andromedina galaksija, najbolje pa je bilo, ko smo lahko hkrati videli več objektov. Bilo je super, čeprav nismo ravno veliko spali, a saj ravno to je bil razlog, da smo prišli!«

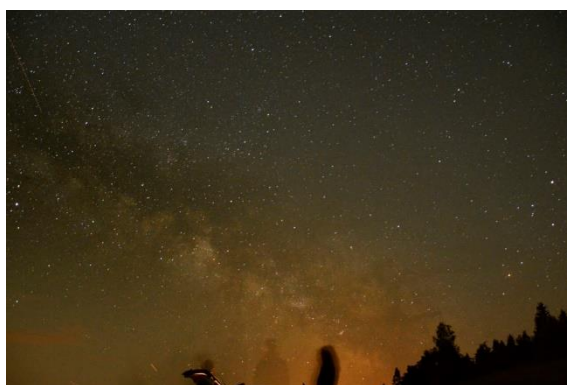
Aleš Rus, 9. a

»The weather forecast was not good, so I didn't even have too high expectations. But on the first day we were surprised by the clear sky, which opened around 22.00, so we were able to observe the night sky almost until one in the morning. The program was interesting throughout the weekend, but the most interesting were the night observations. Today, some of us even got up early in the morning and saw the spring constellations already rising across the sky. We saw many nebulae, including the Orion Nebula, galaxies like the Andromeda Galaxy, and it was best when we could see multiple objects at the same time. It was great, even though we didn't sleep much, but that was the reason we came!«

December 2019

- **Making greeting cards** for Christmas (Astronomček) for our partner schools.
- **Astrophotography exhibition** of a former student.

(<https://www.stanislav.si/skg/fotografaska-razstava-andraza-ristica/>)





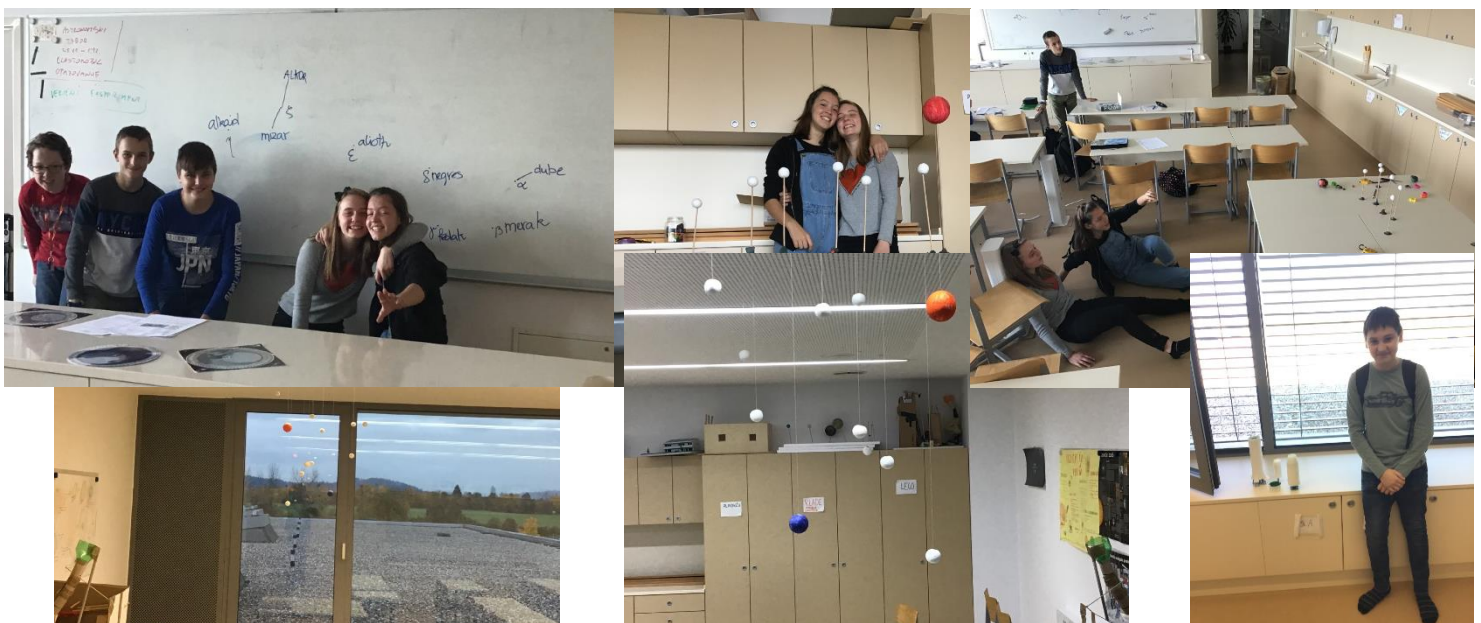
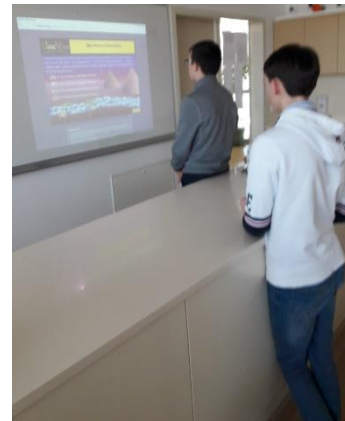
Competition: There were 22 pupils from upper primary school who participated in the school astronomy competition. The competition took place on Thursday, 5th December. 6 pupils got the bronze award, two of them qualified for the national level of competition. Both students got the silver award on the national level.

In the secondary school there were 30 students who participated in the school competition. 12 of them won the bronze award. 7 of these students entered the national competition. One of the students won the 4th place, one was 10th and one was 20th. These students won the golden award. Other four students won the silver award. The best two students also participated in St. Petersburg Astronomiy Olympiad.

January 2020

During one of the primary school Astronomy Club meetings students from high school (Filip, who was in Scotland and Anton, who was in Portugal) talked about what they learned on the exchanges.

In the Astronomy club in the secondary school we talked about constellations (Ursa Major, Orion), made the 3D model of some constellations, made the model of Saturn V



(one of the students also bought the model from the internet).

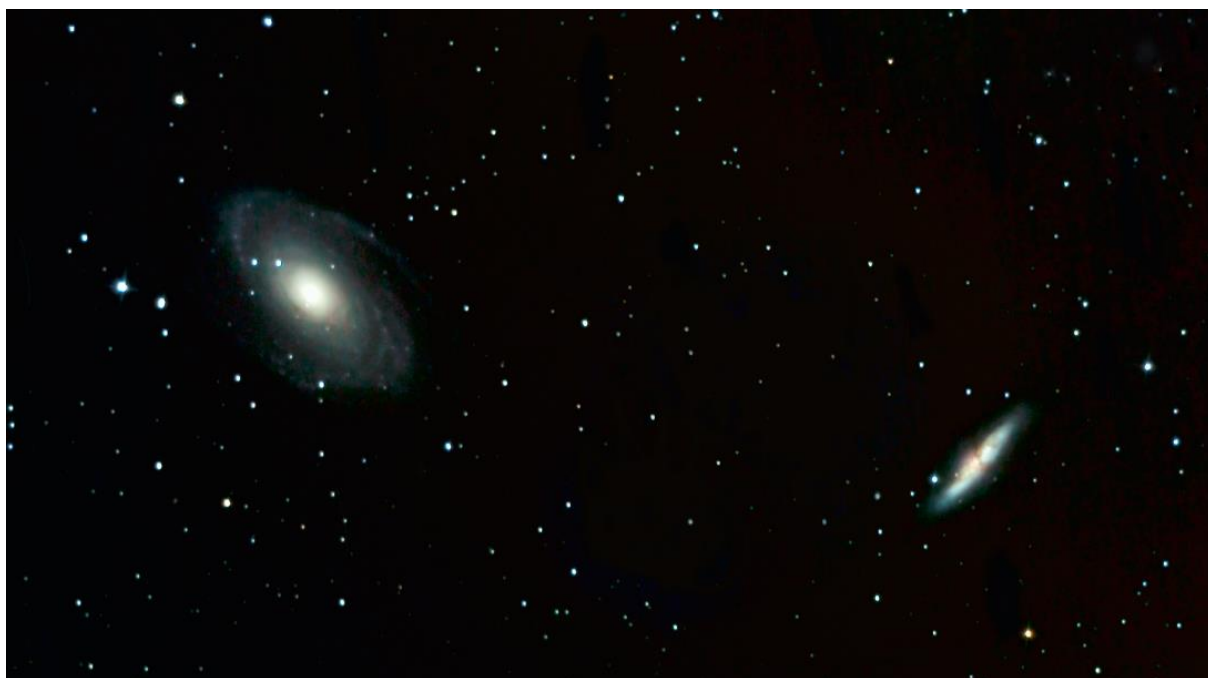
February 2020

Field trip to the Observatory Golovec (star gazing and learning about the telescope Vega).



March 2020

Primary school pupils took some magnificent photos: Aleš Rus, Jakob Klemenc (OŠAŠ).



M81, M82



Orion nebula

CORONA VIRUS

Our school closed on 13th March 2020. All activities started to be executed online, distance learning. Two weeks before the director issued the decree that all excursions, exchanges, travelling should be cancelled.

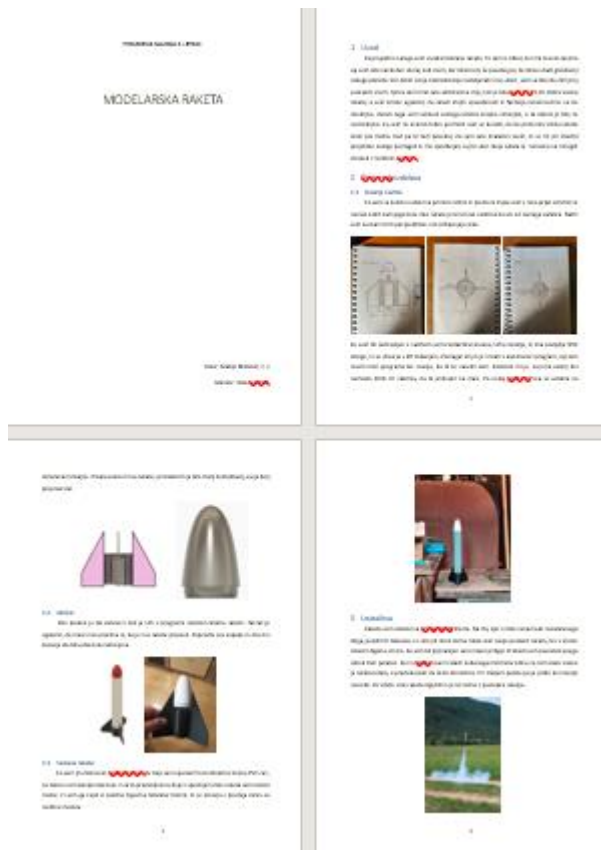
April 2020

LTTA 4 to Germany cancelled due to Coronavirus.

May 2020

Project work – Making a telescope, Rocket, Camera obscura

- Rocket




June 2020

The science day in the high school. Students could choose from various tasks to work on, including some with astronomical content.


- Astronomy pictures

ASTRONOMSKA FOTOGRAFIJA


Nalogo astronomsko fotografirala sem si izbrala, ker sem v času karantene ponudila veliko časa preživeti zunaj, zato sem velikokrat lahko opazoval zvezde. Nekaj zvezd je pomembno, vedno ne prav veliko. V teh nočeh, ko je bilo nebo jasno in so se zvezde dobro videlo sem opazil kar nekaj zvezdnih pojavov, kot so utrinki, zvezdne kroglice, luna (v vseh treh vidnih položajih), zdi pa se mi, da sem videl tudi rimsko cesto. Ker pa je bila kamara na mojem telefonu preslabo, da bi te pojave ujela, sem moral nalogo izvesti na drugačen način.



To prvo fotografijo sem posnel v času karantene. Se preden smo dobili to naravoslovno nalogo. Resolucija ni ravno najboljša, saj imam slabo kamero na telefonu.



Pri tej drugi sliki pa so nastopile nekatere težave. V zadnjem tednu so bile bolj slabe razmere za ustvarjanje slike zvezd, saj je bilo večina dni oblačno nebo. Četudi pa sem uporabljal fotoaparata slika še vedno ni bila ravno najboljša in se **Kaviopeja** ni najbolje videla. Zato sem se odločil, da zvezde **Kaviopeje** nekoliko odebelim z uporabo 3D slikarja, da se bolje vidijo.



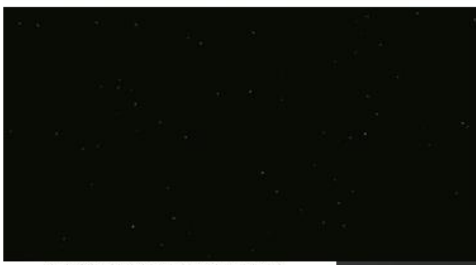
Zgodba o **Kaviopeji**: Pred daljnimi časi je v kraljestvu Etiopije v Afriki živel kralj **Kafu**. Ta je imel heno **Kaviopejo**, ki pa je bila zelo lepa, a ošabna. Svoje lepote se je zavedala, daleč na okoli so ji zavidali, ona pa se je imela za najlepšo žensko tistega sveta in celo gore Olimp. V morju pa so živele nimfe Nereide, hčerke boga Porejzona. Te naj bi veljale za najlepše bitja, a **Kaviopeja** se je imela za lepšo od njih. To je izvedel Porejzon, zato je ustvaril polastnega kita, ki naj bi uničil Etiopijo. Kralj **Kafu** se je tako zatekel po pomoč k Oraklju v templju, ki mu je povedal, da bo rešil ljudstvo le če daruje svojo hči Andromedo. Ta je dolgo oklevala, a ker ni bilo druge rešitve, je hči dal požastiti, da jo bo požrla.

V tem času pa je živel tudi **Percus**, ki je bil ljubljenec bogov in velik junak. Ravno, ko se je odpravil iz **Modurona** domovanja, kjer ji je odrezal glavo in jo želel nesti boginji **Ateni**, je videl Andromedo in se zaljubil vanjo. Ko se je kit

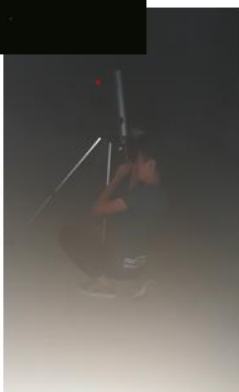
3 SLIKE

Zgornja slika je približna slika orvezdja Škorpion. Zajeta je bila 17.6.2020 v Brezovici pri Ljubljani. Zanimivost: V spodnjem levem kotu se vidi svetlobno onesnaženje Ljubljane. Na tej sliki se to vidi, ker je bil Škorpion tistega dne precej nizko pri tleh.


Ta slika prikazuje orvezdjo Herkul. Zajeta je bila 17.6.2020 v Brezovici pri Ljubljani.



Na sliki sem gledal eno izmed zvezd orvezdja Veliki medved. To orvezdjo je skoraj navpično nad nami, zato je teleskop v takem položaju.



- Brightness



EXPERIMENTAL

Figure 1




Figure 2




Figure 3

EXPERIMENTAL

Figure 1




Figure 2




Figure 3




Figure 4




Figure 5




Figure 6




Figure 7





Figure 8



EXPERIMENTAL

Figure 1




Figure 2




Figure 3




Figure 4





Figure 5



EXPERIMENTAL

Figure 1




Figure 2




Figure 3




Figure 4





Figure 5



EXPERIMENTAL

Figure 1




Figure 2




Figure 3




Figure 4





Figure 5



July 2020

TPM Bulgaria cancelled due to Coronavirus. (Virtual meetings.)

August 2020

Writing reports, wrapping up of activities.