



Zelene spretnosti za življenje in učeče se skupnosti

Sedmi forum EPUO in spletna razprava EPALE

18. oktober 2022, spletni dogodek (Zoom)

#ForumEPUO2022 #EPUO2022

Denarna podpora:



REPUBLIKA SLOVENIJA
MINISTRSTVO ZA IZOBRAŽEVANJE,
ZNANOST IN ŠPORT



Sofinancira program
Evropske unije
Erasmus+

Dr. Johanna Robinson, Andragoški center Slovenije / Slovenian Institute for Adult Education

**Na poti k opolnomočenju z zelenimi kompetencami prek
participacije pri skupnostnem opazovanju**

*Towards empowerment with green competences via
participation in community observation*

GreenComp (sustainability)

Competence areas and competences



What is Citizen Science

“general public engagement in scientific research activities when citizens actively contribute to science either with their intellectual effort or surrounding knowledge or with their tools and resources” [Green paper on Citizen Science for Europe](#)

Levels of Citizen Science

Level 4 ‘Extreme’

- Collaborative Science – problem definition, data collection and analysis

Level 3 ‘Participatory science’

- Participation in problem definition and data collection

Level 2 ‘Distributed Intelligence’

- Citizens as basic interpreters

Level 1 ‘Crowdsourcing’

- Citizens as sensors

By Muki Haklay

CITIZEN SCIENCE = co-creation with the public during the research process

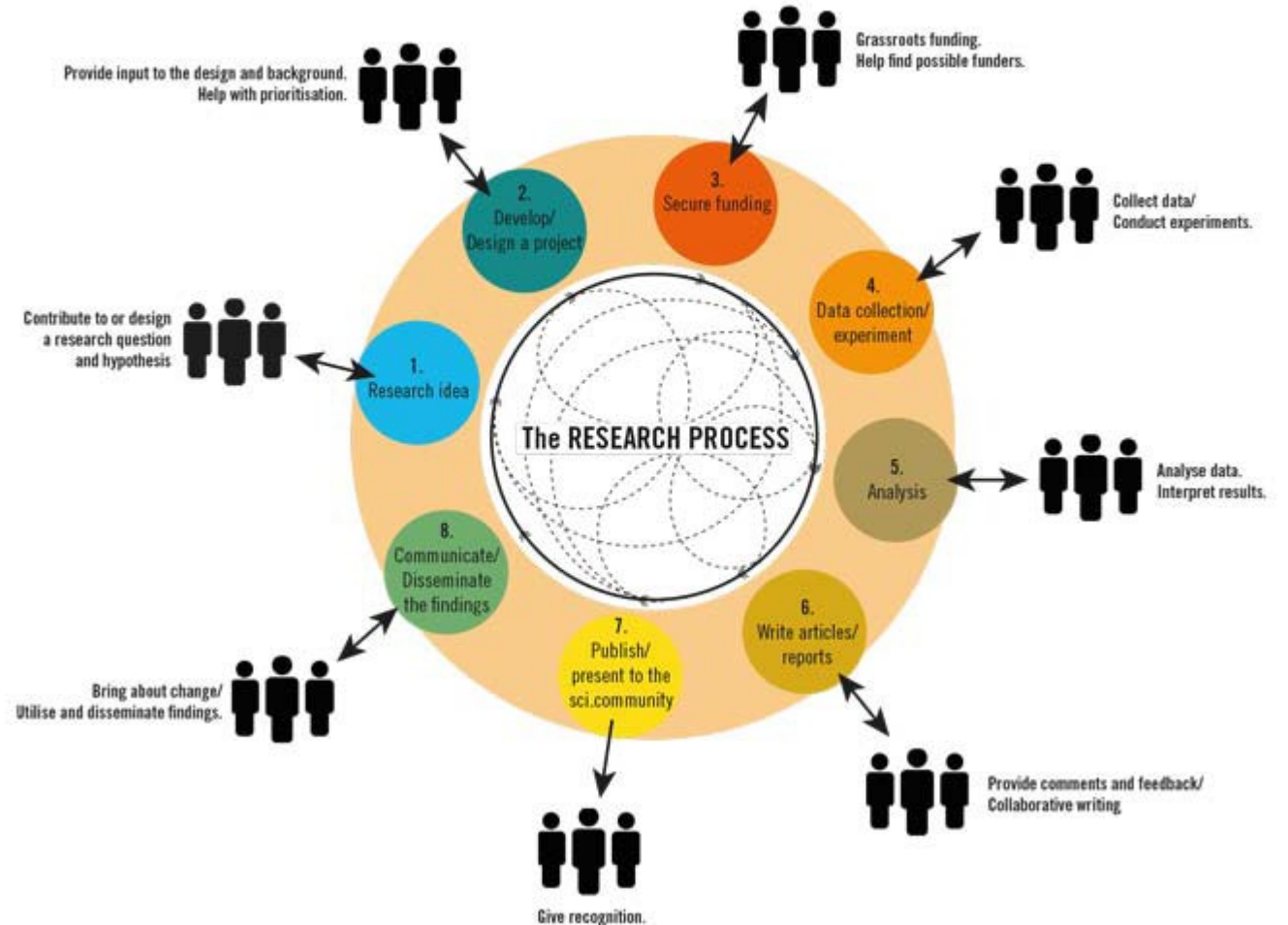
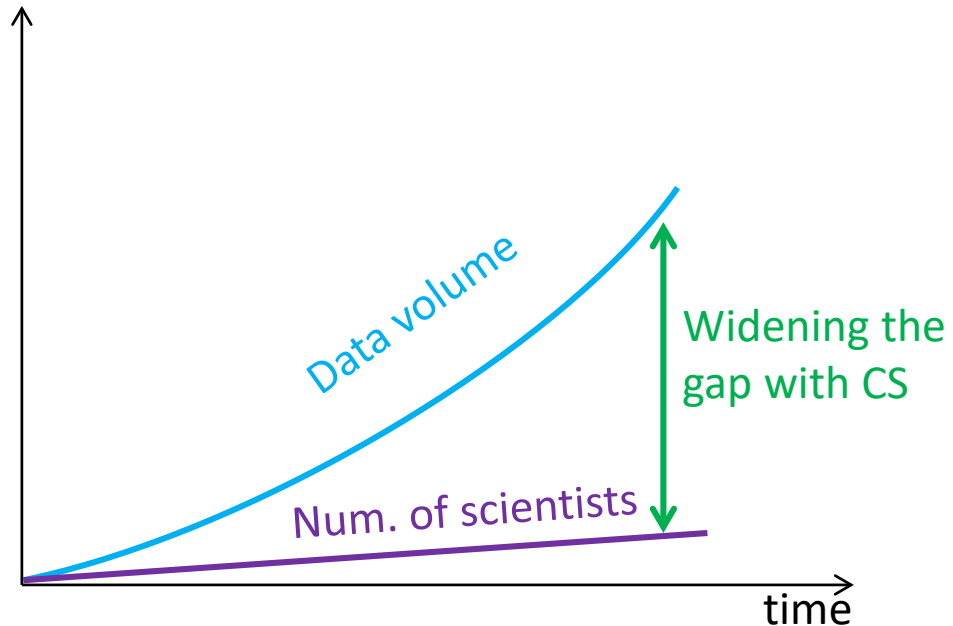


Illustration by: Lotta W Tomasson/VA [CC BY-NC 2.0](#)

Win-win in Citizen Science

For scientists:

- Speed up scientific process: BIG data, spatio-temporal resolution, local knowledge



For citizens and society

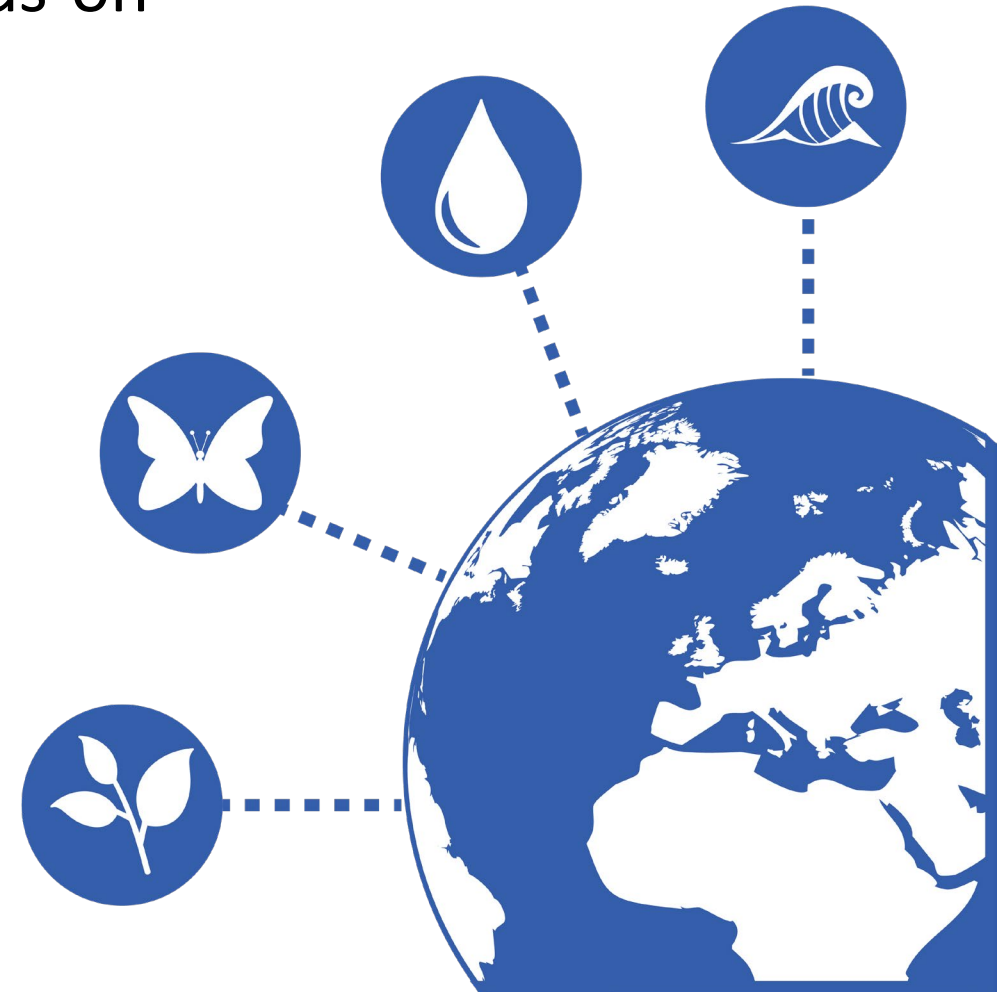
- citizen science **democratizes** knowledge production
- blurs the distinction and ensures better exchange of knowledge between science and society while addressing societal challenges
- environmental democracy and literacy: engaging with as well as gathering, developing and sharing knowledge about one's environment
- access to data and means to influence one's place of residence
- Citizens gain better knowledge of what research entails and how it is conducted, something that over time can increase their confidence in science

CS promotes individual and collective action and response to climate change

- Sole information is not enough – need of hands-on experience and primary data -> **observations**

*"Tell me, and I'll forget.
Show me, and I may remember.
Involve me, and I will understand"*

- Bridging the gap between local knowledge (and observation) with global scientific evidence (**seeing ones role in the big picture**)



Why would people participate?

Taylor & Francis Online

Home > All Journals > Journal of Environmental Planning and Management > List of Issues > Volume 64, Issue 12 > Meeting volunteer expectations — a review ...

Journal of Environmental Planning and Management
Volume 64, 2021 - Issue 12

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Meeting volunteer expectations — a review of volunteer motivations in citizen science and best practices for their retention through implementation of functional features in CS tools

Johanna Amalia Robinson, David Kocman, Orestis Speyer & Evangelos Gerasopoulos

Pages 2089-2113 | Received 18 Jul 2019, Accepted 30 Oct 2020, Published online: 02 Feb 2021

Download citation | <https://doi.org/10.1080/09640568.2020.1853507> | Check for updates

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Abstract

Citizen Science (CS) projects vary greatly. The aims and goals of a CS project determine the type of citizen involvement and the tools to be used, which in most cases also entail information and communication technology (ICT) that facilitates public participation in scientific research. Resource limitations in CS projects often require adopting suboptimal tools, which, however, may come with hidden costs stemming from poor usability and underwhelming functionality, thus reducing volunteers' motivation. Meeting the volunteers' expectations by designing or using existing tools with functional features which fulfill and nurture their motivations, will foster long-term participation and contribute to project sustainability. This paper reviews the types of CS projects, volunteer motivation and retention strategies from the literature and classifies them thematically. This is distilled into guidance that can help CS practitioners to design and implement CS tools and plan and manage CS projects, which better serve their scientific and volunteer-related goals.

Keywords: citizen science, volunteer motivation and retention, expectation management; sustainability of CS projects, tools for citizen science

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volunteer motivation
in CS tools

Gerasopoulos

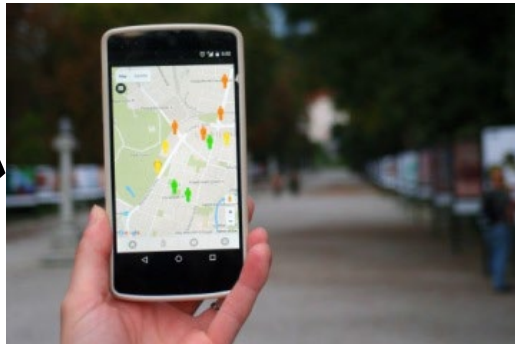
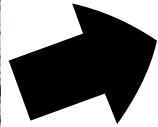
PUBLISHED
02 February 2021

Table 2. Summary of volunteer motivations.

Function	Conceptual example in environmental CS	
Values	The wish to contribute to science or society (i.e. civic responsibility) while helping the environment	(Bruyere and F Montargil and
Personal development	Learning opportunities (about the scientific subject area and data collecting and analyzing techniques, environmental awareness, familiar places)	(Bruyere and F Hunt et al. 201
Career and recognition	To gain relevant experience related to their career interests and to gain recognition and other personal benefits for their input	(Grainger 2015 et al. 2015)
Social	Social interaction and being part of a community of likeminded individuals	(Bruyere and F 2015; Jennett
Recreation	To have fun and to undertake new activities as part of existing recreational activities while commonly being outdoors	(Grainger 2015

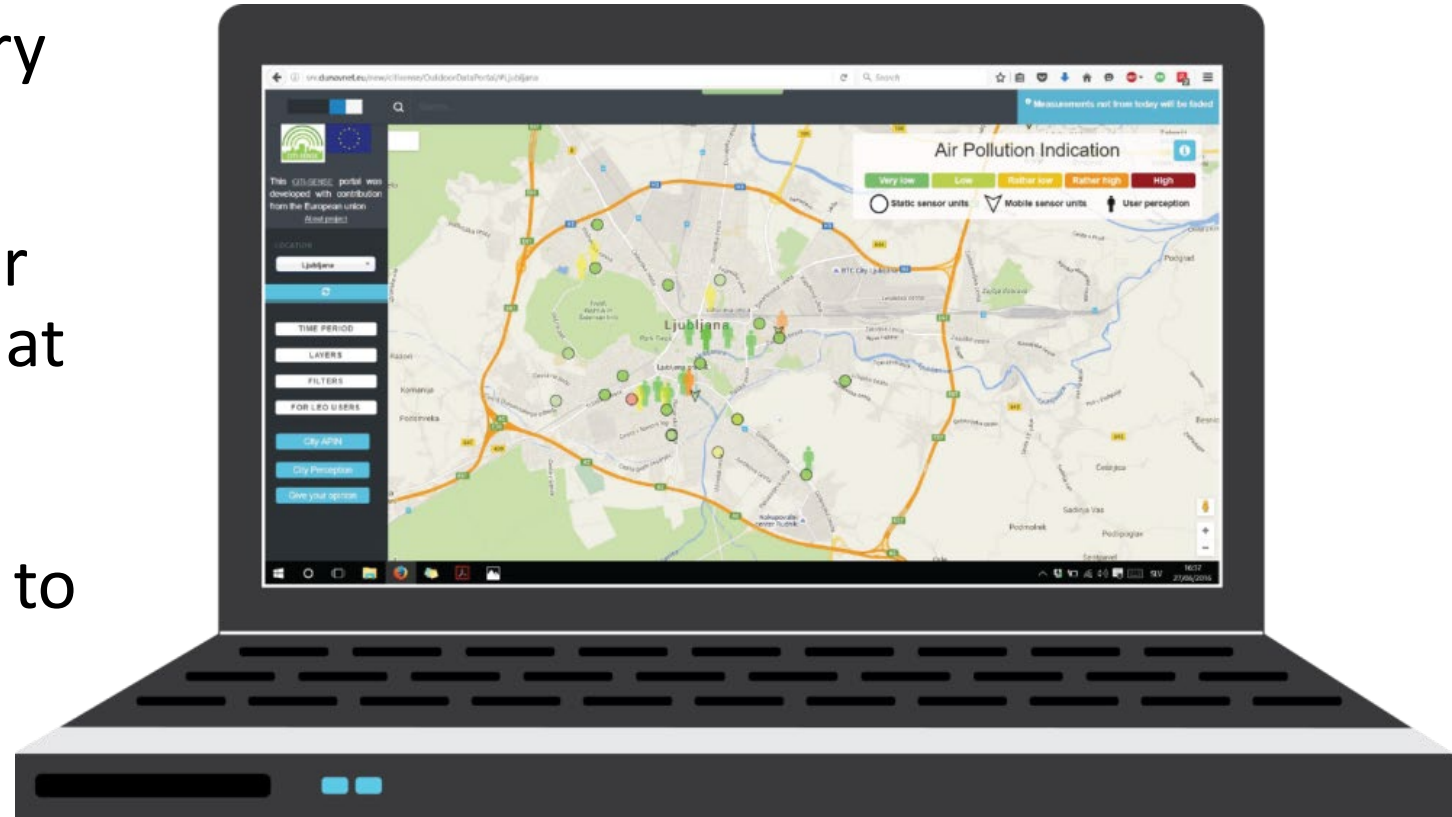
Shift in paradigm in environmental crowd sensing devices

Population vs.s individual



Example: community sensing

- Citizens observatory
- Concrete example:
In Scotland, a sensor device was installed at school yard ->raised awareness of air quality and the links to transport





KAKOVOST ZRAKA V PISARNI NA ACS

četrtek, 13. oktobra 2022 | Domače novice, Prva stran



Kakovost zraka vpliva na zdravje in počutje človeka. V notranjih prostorih preživimo približno 90 % našega časa. Ali ste vedeli, da je kakovost zraka v zaprtih prostorih lahko mnogokrat slabša od tistega, ki ga dihate zunaj?

AKTUALNO

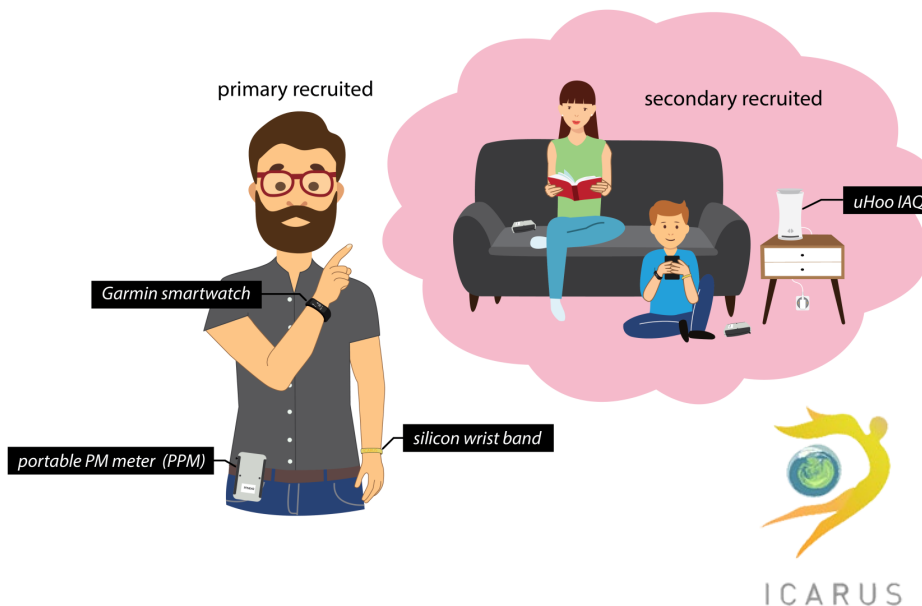


MIGRACIJE IN IZZIVI VEČKULTURNOSTI

Migracije so ena osrednjih tem, ki zaznamujejo čas, v katerem živimo. Zato jim posvečamo poseben tematski okvir.



Nova rubrika v času pandemije covid-19





acs.si/projekti/domaci/podnebni-cilji-in-vsebine-v-vzgoji-in-izobrazevanju/

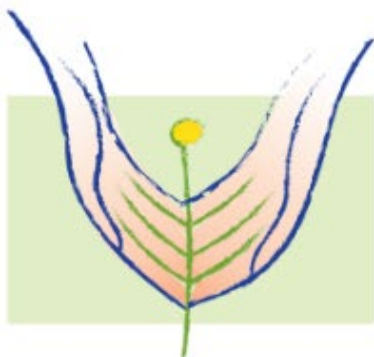


O NAS PODROČJA DELA PROJEKTI MEDNARODNO SODELOVANJE KNJIŽNICA IN VIRI AKTUALNO COVID



a⁻ / a⁺

Podnebni cilji in vsebine v vzgoji in izobraževanju



PODNEBNI CILJI IN VSEBINE V
VZGOJI IN IZOBRAŽEVANJU

Naziv projekta

Podnebni cilji in vsebine v vzgoji in izobraževanju

Časovni okvir

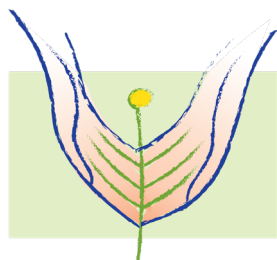
1. 3. 2022 - 20. 11. 2023

Financer

Ministrstvo za okolje in prostor s sredstvi Sklada za podnebne spremembe

Kontaktna oseba

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E: nevenka.bogataj@acs.si



PODNEBNI CILJI IN VSEBINE V
VZGOJI IN IZOBRAŽEVANJU



acs.si/aktualno/novice/sodelujete-v-rojevanju-obcestvene-znanosti-v-izobrazevanju-odraslih/



[O NAS](#) [PODROČJA DELA](#) [PROJEKTI](#) [MEDNARODNO SODELOVANJE](#) [KNJIŽNICA IN VIRI](#) [AKTUALNO](#) [COVID-19](#) [ENGLISH](#)

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18. 5. 2022

a⁻ / a⁺



Sodelujete v rojevanju občestvene znanosti v izobraževanju odraslih

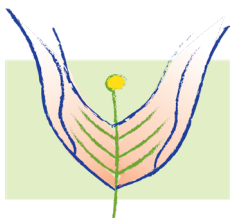
V projektu [Podnebni cilji in vsebine v vzgoji in izobraževanju](#) se je zaključil prvi cikel kratkih usposabljanj z naslovom [ABC okoljskega učenja 1](#). Spoznali smo makro raven okolja - podnebje, ki terja dolgoročno sistematična in metodološko standardizirana opazovanja. V drugem delu smo spoznali drugo, posamezniku bolj dosegljivo raven opazovanja - mikro-svet opraševalcev.

Z usposabljanjem bomo nadaljevali, in sicer zato, da bi vpeljali in preizkusili nov pristop k izobraževanju, ki temelji na naših bogatih izkušnjah s skupnostnim učenjem.

Doživite zanimivo in preprosto izkušnjo! Opazovali bomo opraševalce na cvetovih sončnic.

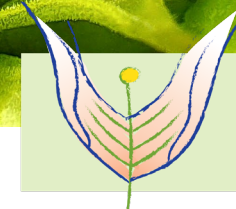
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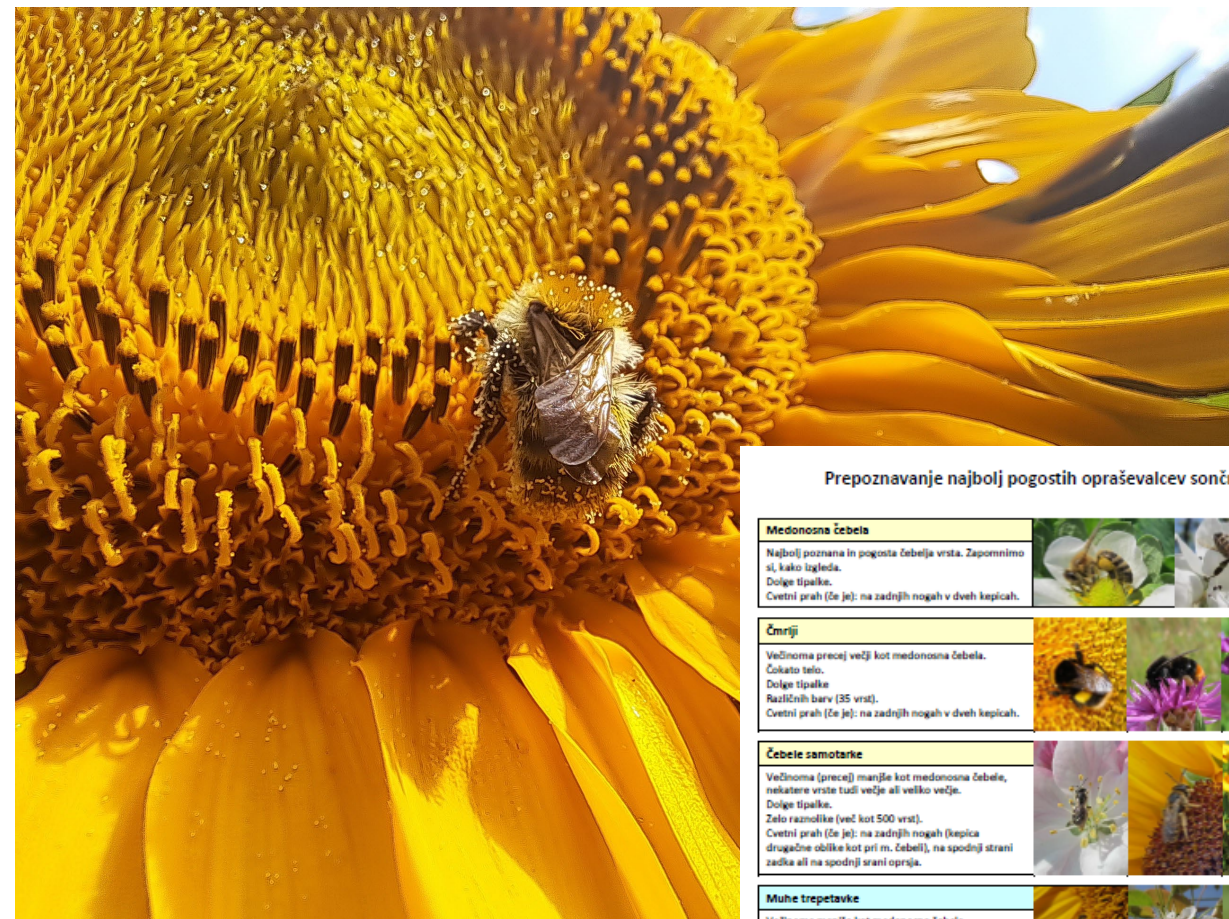
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- [Video](#)
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PODNEBNI CILJI IN VSEBINE V VZGOJI IN IZOBRAŽEVANJU

Observing the growth of sunflowers

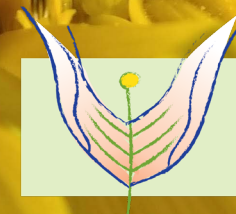




Prepoznavanje najbolj pogostih opraevalcev soncnic

Medonosna čebela Najbolj poznana in pogosta čebelja vrsta. Zapravimo si, kako izgleda. Dolge tipalke. Cvetni prah (če je): na zadnjih nogah v dveh kepicah.	
Čmrji Večinoma precej večji kot medonosna čebela. Čokato telo. Dolge tipalke. Različnih barv (35 vrst). Cvetni prah (če je): na zadnjih nogah v dveh kepicah.	
Čebele samotarke Večinoma (precej) manjše kot medonosna čebela, nekatere vrste tudi večje ali veliko večje. Dolge tipalke. Zelo raznolike (več kot 500 vrst). Cvetni prah (če je): na zadnjih nogah (kepica drugačne oblike kot pri m. čebeli), na spodnji strani zadka ali na spodnji strani oprsja.	
Muhe trepetavke Večinoma manjše kot medonosna čebela. Kratke tipalke. Velike oči. Pogosto črno-rumene barve (posnemajo ose).	
Ose Dolge tipalke. Ovek prehod med oprsem in zadkom. Malo diažic. Pogosto črno-rumene barve.	
Metulji Lahko prepoznavni. Med metulje spada tudi velerilec (slika desno).	
Hrošci	

Observing different pollinators



Community



Study circles and Citizen Science

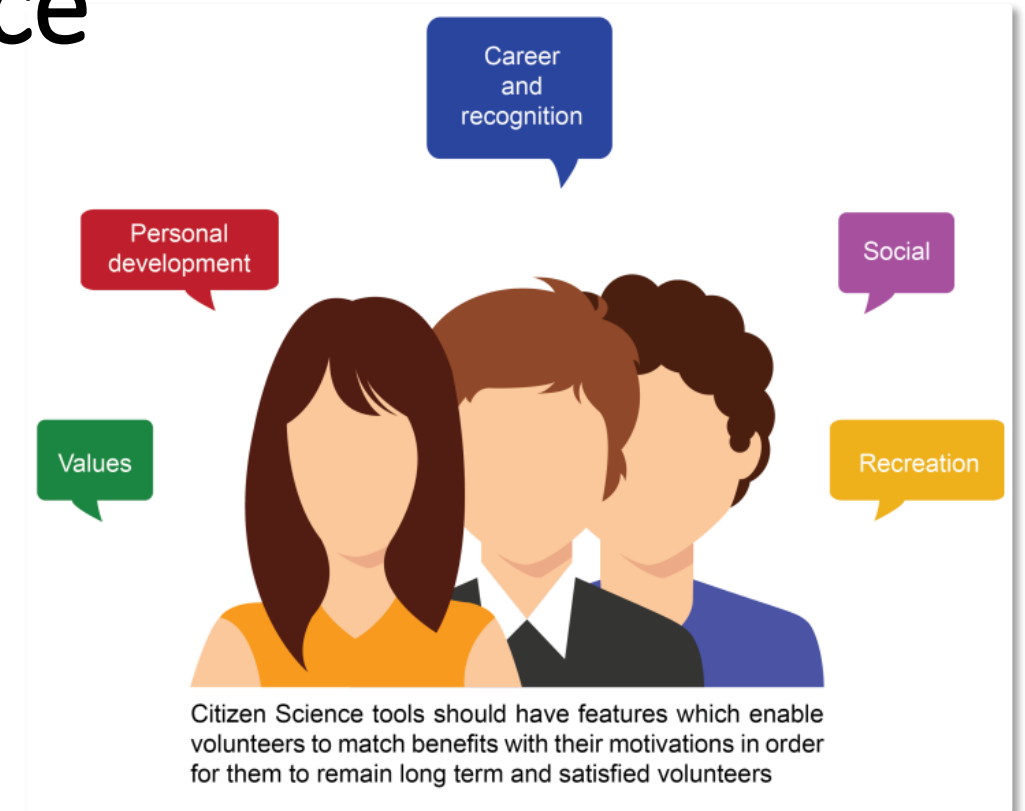
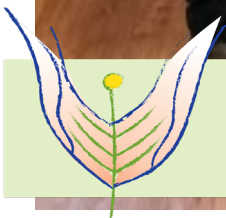


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Recreation	To have fun and to undertake new activities as part of existing recreational activities while commonly being outdoors	(Grair



Take home message:

Try it out, it will benefit everyone 😊



Be a citizen
scientist



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