Citizen Science

Citizen Science is a participatory approach in which citizens actively contribute to scientific or knowledge-based projects. Rather than acting only as survey respondents, participants take part in the research process itself—for example by helping to develop research questions, collect data, analyse findings, or communicate results.
The method combines scientific research with local knowledge and lived experience. This makes it possible to collect large amounts of data, incorporate diverse perspectives, and connect research more closely with real-world societal issues.

Participation Depth	Have a say
Project Phase	Onboarding
Goals	Exchange & Discourse
Format	Analogue, Digital
Duration	Several Weeks, Several Months
Target Group	Directly Affected, Interested Public, Hard-to-Reach Groups, Organised Actors
Group Size	Medium Group up to 30, Large Group from 30
Characteristics	Structured, Activating

GOAL OF THE METHOD

Citizen Science enables scientific questions to be explored together with citizens. The goal is to generate new knowledge, collect data, or improve understanding of existing issues. At the same time, participants become actively involved in research and development processes and gain insight into scientific methods and practices.

PROCEDURE

Preparation

1. Define the objective and research question
Begin by deciding what should be investigated.

Helpful questions include:

- What do we want to find out?
- Which issue should be better understood?
- What data are needed?
- What added value should the project create?

The research question should be clear, understandable, and realistic.

2. Determine the level of participation

Decide at which stages citizens will be involved.

Possible roles include:

- developing the research question
- selecting research methods
- collecting data
- analysing data
- interpreting results
- communicating findings
- contributing to project management

The earlier participants become involved, the greater their influence on the project.

3. Identify the target groups
Consider which people have particularly relevant knowledge or experience.

Possible participants include:

- local residents
- young people
- older adults
- community organisations
- specialist interest groups
- schools
- interested members of the public

4. Clarify roles and responsibilities
Everyone involved should understand:

- who is responsible for which tasks
- who makes decisions
- where support can be obtained

- how communication will take place

Clear roles promote trust and transparency.

5. Prepare data management
Before data collection begins, determine:

- which data will be collected
- how the data will be stored
- who will have access
- how results will be published

Execution

1. Introduction and training
At the start of the project, participants receive an introduction covering:

- project objectives
- timeline
- working methods
- individual tasks
- documentation procedures
- data protection requirements

Where necessary, training should be provided so that participants can apply the methods confidently and consistently.

2. Collect data
The method of data collection depends on the research question.

For example:

- Interviews or surveys for collecting opinions
- Observations, mapping, or photographic documentation for studying the use of places

The methods should be easy for participants to understand and should enable comparable data collection.

Example:

If the project explores which places in a neighbourhood are perceived as unsafe, participants could:

- photograph locations (Photo Voice)
- mark them on a map (Community Mapping)
- record short written observations

Many methods from this collection can be combined within Citizen Science projects.

3. Review and secure the data
Collected information should be checked regularly.

Questions include:

- Are the data complete?
- Have they been documented clearly?
- Are there errors or inconsistencies?

Careful quality assurance increases the reliability of the findings.

4. Analyse the data together
Depending on the project, participants may also contribute to analysing the data.

Helpful questions include:

- Which patterns are emerging?
- What differences can be identified?
- Which relationships become visible?
- Which findings are surprising?

Collaborative analysis combines scientific methods with practical local knowledge.

5. Interpret the results
The findings are discussed and interpreted together.

Questions include:

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What do the results tell us?

- Which conclusions can be drawn?
- Which questions remain unanswered?

Different perspectives often enrich the interpretation.

6. Publish the findings
The results should be communicated in a clear and accessible way.

Possible formats include:

- reports
- presentations
- scientific publications
- websites
- exhibitions
- public events

Wherever possible, the results should be accessible to everyone involved.

Evaluation

1. Share the results with participants
Participants should receive feedback about:

- what has been achieved
- the knowledge that has been generated
- how the findings will be used

This demonstrates the value of their contribution.

2. Evaluate the project
Reflect on questions such as:

- Were the project objectives achieved?
- What experiences were gained?
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What worked well?

- What could be improved?

3. Enable further collaboration
Many Citizen Science projects lead to continued activities, such as:

- ongoing data collection
- new research questions
- local networks
- policy or planning initiatives

Source: https://partizipation.at/partizipation-anwenden/methoden/

WHEN USEFUL?

- local knowledge and scientific expertise should be combined
- large amounts of data need to be collected
- people should be involved over a longer period
- scientific knowledge is to be developed collaboratively
- complex issues should be explored from multiple perspectives

WHEN NOT USEFUL?

- results are needed within a very short timeframe
- there is no genuine opportunity for participants to influence the project
- resources for coordination and quality assurance are unavailable
- sensitive data are collected and ethical or data protection requirements cannot be ensured

TIPS

- Explain scientific concepts in clear, accessible language.
- Regularly share progress and findings with participants.
- Recognise and acknowledge participants' contributions.
- Keep data collection as simple as possible.
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Plan from the beginning how the results will be used.

- Maintain transparency and openness throughout the entire project.

NOT SUITABLE FOR

- participants cannot genuinely contribute to the research process
- results are required within a very short timeframe
- the research question has already been answered and participation serves only to seek approval

View online: https://methoden.urbankit.de/en/methods/citizen-science