**This is a worked example for a digital biodiversity project in the UK. First filling in the worksheet, followed by the survey questions created for the project. Only demographics are included.**

## Part 1: Survey design considerations

*Why do you want to collect demographic data?*

A demographic survey is being undertaken to understand project reach, if any particular demographic groups are missed, and what we can change to make it more accessible. One of the project aims is to increase interest in science and nature so we will analyse how effective that has been across different groups.

When will the survey(s) be sent to meet these aims?

- [ ] Project registration
- [x] Single point in project
- [ ] Multiple intervals
- [ ] End of project

Are additional questions required to meet the aims? e.g. motivations, attitudes

Participant experience and feedback on the project, particularly barriers to participation

Interest in science/nature

## Dissemination, communication and response rates

Select appropriate dissemination format

- [x] Online
- [ ] Physical
- [ ] Hybrid

Gather return rates

number completed / number sent to

/

## Legal and ethical considerations

*Has the survey undergone ethical review? If not, why not?*

The project was approved by the university ethics committee

*What obligations are there for collecting and handling personal data in your context?*

The project is UK based so we'll follow GDPR laws

*What are cultural norms and risks around demographic data disclosure?*

Generally, answering questions about personal data is accepted but some questions may still be sensitive.

Key considerations

- [x] Data minimisation
- [x] Purpose limitation
- [x] Informed consent
- [x] Named contact
- [x] Anonymisation

## Co-production, pilot and review

*Who will take part in community consultation with the project? Will this take the form of co-design or pilot surveys?*

A pilot survey will be conducted with a small group of volunteers and questions adapted to reflect their feedback. The survey will be shared with our company EDI officer for their expertise.

## Part 2: Designing demographic questions

*What demographic characteristics **need** to be included?*

- Age
- Disability, and does this limit taking part in the project
- Ethnicity/cultural heritage
- Gender
- Science capital
- Socioeconomic background
  - education
  - employment status

Key considerations

- [x] Minimise data collection and be clear why each question is required
- [x] Maximise data comparability using categories where appropriate, alphabetising options
- [x] Allow for self-identification
- [x] Use 'prefer not to say' option or ability to skip questions
- [x] Community participation - work with communities at risk of discrimination to find language and survey design that works for them through co-design and/or pilot surveys

## Project information

This is included before the survey to inform participants about why the survey is being done and the data protocols around it.

You are invited to take part in a survey to help us understand who volunteers on our project and their experience of volunteering. You are being asked to take part because you have volunteered on our project in the past year.

This survey will ask about personal information such as gender, age and ethnicity. It will also ask about your experience of taking part in the project. It should take approximately 20 minutes to complete.

The data you provide in this survey is will be submitted anonymously and kept confidential.

Participation in this survey is completely voluntary. You do not have to take part. If you decide you do not want to complete the survey, you can close it at any point and the data will not be collected. Once you submit the survey, you are no longer able to withdraw from participation as your data is anonymised.

If you have any questions or concerns, you can contact me at:
Named contact - email address

## Consent

By submitting the survey you are consenting to being part of the research and for your information to be used in this research.

By submitting this questionnaire you agree that:

- I understand I am consenting to participate in this study
- I understand that I cannot withdraw from participation after submitting the survey
- I understand that I can ask questions about the research and know how to do this

If you are under the age of 16, please show this information to a parent or guardian to help you choose if you want to take part.

## Participant experience questions

We put participant experience questions first so that they can ease into the survey before being asked about their identity

Examples of these are outside the scope of this paper

## Demographics questions

None of our demographic questions are compulsory, there is always the ability to skip if someone doesn't want to answer.

What is your age?

- ☐ Under 18
- ☐ 18 - 24 years old
- ☐ 25 - 34 years old
- ☐ 35 - 44 years old
- ☐ 45 - 54 years old
- ☐ 55 - 64 years old
- ☐ 65 - 74 years old
- ☐ 75 - 84 years old
- ☐ 85 years or older

Age categories are chosen based on how they are asked in other citizen science research (Supplemental File 1) and breaks down older age groups as we know many citizen scientists are older.

Do you consider yourself to have a physical or mental health condition or illness?

- [ ] Yes
- [ ] No

We chose 'consider yourself' to allow those who don't have a diagnosis to still be included in this question.

As we want to understand barriers to participation to improve accessibility, if yes is selected in the first question we want to understand impact on participation and have given optional space to explain the impact.

Does this physical or mental health condition or illness have an impact on your ability to take part in the project?

- [ ] Yes - please explain how
- [ ] No

What best describes your ethnicity and/or cultural heritage? (you are able to select multiple answers and/or enter text under 'prefer to self identify')

- [ ] Arab

**Asian / Asian British**

- [ ] Bangladeshi
- [ ] Chinese
- [ ] Indian
- [ ] Pakistani

**Black / African / Caribbean / Black British**

- [ ] African
- [ ] Caribbean

**Mixed / Multiple ethnic groups**

- [ ] White and Asian
- [ ] White and Black African
- [ ] White and Black Caribbean

**White**

- [ ] English / Welsh / Scottish / Northern Irish / British
- [ ] Gypsy or Irish Traveller
- [ ] Irish

- [ ] Prefer to self-describe

These categories reflect the language of the UK censes. We have removed the terminology 'other' and alphabetised the options.

How do you describe your gender?

- [ ] Man
- [ ] Non-binary
- [ ] Woman
- [ ] Prefer to self-describe

Sex is not needed for our purposes, gender identity gives the information we need while minimising personal data asked for.

Do you have a background in science?
(your education or employment was/is in a scientific field)

- [ ] Yes
- [ ] No
- [ ] Unsure (please list qualification or occupation)

We are using this as a simple indicator of science capital.
Giving space to write in the qualification allows us to classify roles.

To measure socioeconomic status the UK has the National Statistical Socio-economic classifications, this has not been used here because requires 8 questions and more involved data analysis.

We considered asking for household income but feedback from the pilot survey was that this felt intrusive and off-putting for participants.

Occupation and education could be used as indicators of socioeconomic background.

What best describes your work status?

- [ ] Full-time employed
- [ ] Part-time employed
- [ ] Retired
- [ ] Student
- [ ] Unemployed - looking for employment
- [ ] Unemployed - not looking for employment

This is asked to help understand both socioeconomic background and potential barriers to participation (time people have available).

The option 'unemployed' was originally one category but was separated into the two now used after the pilot when participants highlighted that there was no way to identify as a stay at home parent and unemployed didn't feel it captured that.

What is the highest level of education you have completed?

- [ ] No formal education
- [ ] Lower secondary (GCSE or equivalent)
- [ ] Upper secondary (A-level or equivalent)
- [ ] Vocational training
- [ ] Bachelor's degree or equivalent
- [ ] Master's degree or equivalent
- [ ] PhD or advanced professional degree

These categories reflect those used in other citizen science research.

We considered asking about sexual orientation but in pilot survey feedback, participants felt this was intrusive and didn't understand the purpose for asking. On reflection, we decided this was outside the scope of what we needed to know, and removed the question to follow data minimisation principles.