



## 23 Things Physical Samples

### The Challenge:

Physical samples are essential in research for reference, study, and experimentation. These samples, such as biological specimens, rock or mineral specimens, soil or sediment cores, plants and seeds, water quality samples, archaeological artefacts, or DNA and human tissue samples, are tested and analysed directly because they represent a larger context or population. Other physical objects, like maps or analogue images, are also studied directly and can become a source of digital data if digitised. There is a pressing need for better integration of these physical objects into the digital research data ecosystem, both globally and across disciplines, to support search, retrieval, analysis, reuse, preservation, and scientific reproducibility.



Produced by: **Physical Samples and Collections in the Research Data Ecosystem IG**

<https://rd-alliance.org/groups/physical-samples-and-collections-research-data-ecosystem-ig>

## What is the solution?

The Supporting Output “23 Things Physical Samples” is based on the exchange of best practices for the digital representation of physical samples and collections among practitioners in this field. Globally unique and persistent identifiers for samples are a key element to ensure clear citation and linking of information across different data systems and publications. Resources cited in this Supporting Output point to a wide range of resources on metadata standards for documentation of samples and collections, landing pages, access policies, as well as best practices for cataloguing samples and collections.

## What is the impact?

The “23 Things Physical Samples” output will be of value to anyone working with samples and specimens, as well as others interested in this topic. This comprehensive guide is a valuable resource for researchers of any discipline, offering a variety of examples and resources from fields such as Biomedical Sciences, Genomics, and Environmental Science. By promoting cross-disciplinary data exchange and interoperability, this guide is fostering innovation and collaboration through improved physical sample management and sharing.

**Find out more about the  
Supporting Output from the  
Physical Samples and Collections in  
the Research Data Ecosystem IG**



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