iSamplesSchemaCore1.0	iSamples notes	OpenDS	openDS notes
X-- digital object create date	No mapping	ods:created	The timestamp that the object version was created in DiSSCo
X-- digital object identifier	identifier for the metadata record	ods:id	identifier for digital object
X-- digital object type	correspond to JSON-LD @type; something like 'metadata record'. This should be a determinant for the schema of the digitalObject, but midsLevel property is more granular schema determinant.	ods:type	
X-- digital object version	No mapping	ods:version	The version of the object, each change generates a new version
X-- has Media	could be determined by looking at the related_resource content	ods:hasMedia	boolean flag, Indicates if there are any media objects attached to this specimen
X-- keywords/scheme_name = TypeStatus	included in MIDS-2. implement as keyword in iSamples	ods:markedAsType	The specimen is marked as a type specimen
X-- living or preserved	map to keyword, schemeName='livingOrPreserved'	ods:livingOrPreserved	Whether the specimen is living or preserved, enum "living", "preserved". Seems to overlap with Basis of record, for which relevant terms for material samples are 'living', 'preserved' and 'fossil'.
X-- material entity	Need to clarify OpenDS semantics to determine mapping	ods:materialEntity	links to material entity object that seems to duplicate the properties in the host record; perhaps it is to build child sample descriptions into a record for a compound sample? [use iSample related resource]
X-- metadata license	all iSamples metadata is currently CC0. Have to review if we will harvest licensed metadata.	dcterms:license	License for the metadata of the physical specimen
X-- metadata source	Source of metadata record harvest; could map to registrant.	ods:sourceSystem	The handle to the source system object which retrieved the data from the CMS
X-- metadata update date	Update date not currently included in iSamples	dcterms:modified	Modification date for specimen information
X-- topic origin	could map from isamples sampled feature/material type/material sample type to these terms, but likely not vice-versa...	ods:topicOrigin	"The topic origin of the specimen", "enum": ["Natural", "Human-made", "Mixed origin", "Unclassified"].
$schema	identifier for the schema for this metadata ('digital sample' document). iSamples sample descriptions are implemented with a JSON serialization, so this should be an identifier for a JSON schema	ods:midsLevel	The MIDS level of the object, see https://www.tdwg.org/community/cd/mids/. [interpret this to denote the schema for the 'digital object']
alternate_identifiers	other identifiers can be provided with label, scheme_name (authority), and identifier string.	identifiers	no explanation, assume is for alternate identifiers for the sample; include identifier string, lose scheme_name
curation/access_constraints	cultural, legal or other policy issues that bear on access to view, borrow, or subsample a sample (Curation)	dcterms:accessRights	
curation/curation_location	Information about where and how the sample is currently stored.	dwc:disposition | dwc:institutionName	Examples: in collection, missing, on loan, used up, destroyed, deaccessioned. Could go in curation descriptions? Prefix on location place name?
curation/responsibility/ identifier	Identifier for person or organization. only one identifier in iSamples. An identifier for the institution having custody of the object(s)	dwc:institutionId	ROR or Wikidata identifier, identifier for the institution having custody of the object(s)
curation/responsibility/name	Person or organization name	dwc:institutionCode | dwc:institutionName	name (or acronym) in use by the institution having custody of the object(s)
curation/responsibility[role= 'owner']	if this is different from the institution that has custody	dwc:ownerInstitutionId	ROR or Wikidata identifier for the owning institution

iSamplesSchemaCore1.0	iSamples notes	OpenDS	openDS notes
curation/responsibility[role= 'rightsHolder']	if this is different from the institution that has custody	dcterms:rightsHolder	
curation/responsibility[role='classification']	unique identifier for the person, people, groups, or organizations responsible for assigning the scientific name to the subject. Include this as a curation/responsibility	dwc:identification, dwc:identifiedBy, dwc:identifiedById	openDS allows multiple identifications to be attached to the samples, with a bunch of metadata; simple iSample record with one identifier agent can be handled like this. if there is a full identification object, attach as a related resource. See https://github.com/DiSSCo/openDS/blob/master/data-model/digitalobjects/0.1.0/digital-specimens/schema/identifications.json
has_context_category	Top level context, based on the kind of feature sampled. Specific identification of the sampled feature of interest is done through the SamplingEvent/Feature of Interest property. At least one value a skos:Concept from the iSamples sampledFeature vocabulary.	ods:topicDomain	The topic domain of the specimen", "enum": ["Life", "Environment", "Earth System", "Extraterrestrial", "Cultural Artefacts", "Archive Material", "Unclassified"]. Map to appropriate sampled feature class.
has_material_sample_object_type/label	repeat label and uri. Use labels from iSamples Material_Sample_Object_Type vocabulary.	dwc:basisOfRecord | dwc: preparations	relevant 'basis of record' terms are 'living', 'preserved' or 'fossil'. preparations is a list of "preparations and preservation methods" for the sample. For isamples preservation methods would be in curation. In the dwc documentation, most of the examples correspond to isamples material sample types; would need a vocabulary mapping to map dwc strings to iSamples concepts.
keywords/keyword	An identifier for the nomenclatural (not taxonomic) details of a scientific name.	ods:topicDiscipline	The topic discipline of the specimen","enum": ["Anthropology", "Botany", "Astrogeology","Geology", "Microbiology", "Palaeontology", "Zoology", "Ecology", "Other Biodiversity", "Other Geodiversity", "Unclassified"],
label	a human intelligible string used to identify the sample; i.e. the name to use for the sample; should be unique in the scope of a sample collection. This will typically be a sample identifier or label assigned by the original collector	ods:specimenName	The accepted specimen name of the digital specimen
produced_by/SamplingEvent/sampling_site/sample_location/obfuscated	Flag to indicate that accuracy of provided coordinate location has been reduced (obfuscated) because the exact location is restricted information. Default is 'false'	dwc:informationWithheld | dwc:dataGeneralizations	location information not given for endangered species
registrant [role=registrant]/name/	identification of the agent that registered the sample, with contact information. Role = 'registrant'	dwc:recordedBy | ???:recordedByAgent	name or possibly a name/role/identifier
registrant/identifier		dwc:recordedById	
related_resource[relationship= 'hasAgeDetermination']	link to sample 'age' determination detail object	chronometric age	OpenDS has object with details about an age estimation for temporal extent of sample origin, link to that
related_resource[relationship= 'hasAssertionObject']	link to related assertion/observation result	ods:assertion	link to openDS assertion object that ?reports some observation result about the sample. See https://github.com/DiSSCo/openDS/blob/master/data-model/digitalobjects/0.1.0/shared-models/schema/assertions.json

iSamplesSchemaCore1.0	iSamples notes	OpenDS	openDS notes
related_resource[relationship= 'isCitedBy' or 'isDocumentedBy']	link to publications	ods:citations	target is a draft object in OpenDS json. Assume the intention is link to publications that reference the sample
related_resource[relationship= 'isRelatedTo']	generic resource link	ods:entityRelationships	openDS entityRelationship object mapping is pretty clear
related_resource[relationship='isMemberOf']/label		dwc:collectionCode	name, acronym, coden, or initialism identifying the collection that includes the sample
related_resource[relationship='isMemberOf']/target	identifier for the target resource in the relationship. Should be a resolvable URI.	dwc:collectionId	
sample_identifier	unique identifier for the physical object, ideally a URI that is physically attached to the material sample object, an IGSN or ARK	ods:normalisedPhysicalSpecimenId | ods:physicalSpecimenId | ods:physicalSpecimenIdType	physical specimen id might be a local identifier; normalized id has namespace (source-system-id) qualifier to make globally unique; The IdType indicate if the physical identifier is globally unique or locally unique, values are enum ["Resolvable", "Global", "Local"], applies to physicalSpecimenID; since iSamples sample_identifier is expected to be globally unique, provide the normalized id, thus the IdType is not relevant.

Mapping from iSamples core sample description metadata to OpenDS scheme. Note that OpenDS term 'specimen' is interpreted to be equivalent to iSamples 'material sample'. Fields on the left with the prefix 'X--' do not map to iSamples scheme, or are soft-types as keywords in iSamples.