This is a collection of crosswalks from 15 metadata schemas to Schema.org

Revision history

2019-11-20
ARDC intern Penelope Hagan (CSU student) aligned the 13 crosswalks against mapped Schema.org properties, in the sheet labelled "crosswalks".

Rows in green color are covered by the Google dataset search guide - they are 20 in total. The rows in dark green are "Required", the other rows in light green are "Recommended".

2020-09-04
* Mingfang Wu (ARDC) re-adjusted the schema.org columns (B-E), the version before this date is named: V0.2 - before-alighment 20200903. The Keep proprties from the v0.2 are largely from the CodeMeta Properties.
* After the adjustment, keep the 20 properties from google, added properties from DCAT & DCAT-AP (dataset, datacatalogy and distribution) - the properties that can be mapped to schema.org are in orange color, the properties can't find proper mapping to shema.org are in light organse color.
* Baptiste Cecconi (Observatoire de Paris - PSL) added the SPASE column. SPASE data model is available at: https://spase-group.org/data/model/index.html Baptiste Cecconi (LESIA, Observatoire de Paris, CNRS, PSL Research University) contributed the mapping here.

2021-10-4
* Mingfang Wu checked latest version of Google dataset guidelines, DCATV3, BioSchema, DataCite, adding more property mappings, more property mappings are also added for the dc&dc terms, RIF-CS, Dataverse ECRIN.
* Mingfang Wu created the Tab NISO classification for classifing mapped Schema.org properties into the NISO categories: Descriptive Metadata (rows in green), Administrative Metadata (rows in yellow) and Structure Metadata (rows in pink). NISO classification reference is available: http://www.niso.org/press-releases/2017/01/niso-publishes-understanding-metadata-primer

2021-11-13
* Stephen M. Richard (US Geoscience Information Network, USGIN) added the mapping from ISO19115-1

For ongoing updated version, please visit: https://github.com/rd-alliance/Research-Metadata-Schemas-WG

Visualisation tool (https://rd-alliance.github.io/Research-Metadata-Schemas-WG)
The World Data System (International Technology Office) has developed a visulisation tool, which provides a user-friendly interface to inspect the crosswalks, by querying either an individual property or a schema name.

RDA Crosswalks from schemas to schema.org (V1.0, 2021-12-16)

A. From Google dataset search recommendaton

	Parent Type	Property R: Required	Type	Description (text in bracket is from the Google dataset search guide)	DCAT-AP	DCATv3	Datacite M: Mandatory R: Recommended O: Optional	ISO19115-1	EOSC/EDMI M: Minimum R: Recommended O: Optional	Dataverse	DATS	RIF-CS	DC and DC Term	BioSchema	B2FIND	DDI	ECRIN Clinical Research Metadata Schema	CodeMeta	SPASE
	schema:Thing	description (R)	Text	A description of the item.	dct:description(M)	dcterms:description	Description (R)	MD_Identification/abstract (M)	description (M)	Description; DescriptionValue (M)	description (R)	collection/description[@type="brief"] OR collection/description[@type="full"]	Description - dcterms:description	description (M)	Description (R)	abstract	Description (R)	description	ResourceHeader/Description
	schema:Thing	name (R)	Text	A descriptive name of the item (e.g. dataset, software, Organization).	dct:title(M)	dcterms:title	Title (M)	MD_Identification/citation/title(M)	name (M)	Title (M)	title (M)	registryObject:collection:name	Title - dcterms:title	name (M)	Title (M)	titl	Object Title (M)	name	ResourceHeader/ResourceName
	Schema:DataDownload	distribution.contentUrl	URL	(The link for the download.)	dct:accessURL (M) dct:downloadURL (O)	dcat:downloadURL		MD_Metadata/distributionInfo//online//linkage [function = download]	accessURL				location/address/electronic @type="url" @ target="directDownload"	distribution					AccessInformation/AccessURL/URL
	schema:Thing	identifier	Text	The identifier property represents any kind of identifier for any kind of Thing, such as ISBNs, GTIN codes, UUIDs etc. Schema.org provides dedicated properties for representing many of these, either as textual strings or as URL (URI) links. See background notes for more details.	dct:identifier	dcterms:identifier	Identifier (M)	MD_Identification/citation/identifier//code	identifier (M)	Dataset Persistent ID	identifier (R)	collection/citationInfo/citationMetadata/identifier AND/OR collection/identifier		identifier (M)	Identifier (M)	IDNo	DOI (M)	identifier	ResourceHeader/DOI ResourceID
	schema:Thing	alternateName	Text	An alias for the item (Alternative names that have been used to refer to this dataset, such as aliases or abbreviations.)		rdfs:label skos:altLabel	titleType	MD_Identification/citation/alternateTitle(O)		Alternative title			dcterms:alternative	alternateName		altTitl			ResourceHeader/AlternateName
	schema:Thing	sameAs	URL	URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Wikidata entry, or official website.		owl:sameAs skos:exactMatch	RelatedIdentifer(R) AlernateIdentifier (O)*	MD_Identification/citation/identifier//code (use authority or codespace in MD_Identifier to indicate context for this alternate identifier)	sameAs (O)	Alternative URI	alternateIdentifier (O)						Related resource identifiers, with relation type indicator (R)	sameAs	ResourceHeader/InformationURL/URL
	schema:Thing	url	URL	URL of the item. (Location of a page describing the dataset.)	foaf:homepage	dcat:endPointURL	valueURL	distributionInfo//transferOptions//onLine//linkage [function = information]	url (M)		identifier (R)	RDA key= URL of record. "https://researchdata.ands.org.au/view?key=<insert key>"	dc:identifier (if URL)	url (M)		accsPlac		url	AccessInformation/AccessURL/URL
	schema:CreativeWork	citation	CreativeWork or URL	A citation or reference to another creative work, such as another publication, web page, scholarly article, etc. (Identifies academic articles that are recommended by the data provider be cited in addition to the dataset itself. Provide the citation for the dataset itself with other properties, such as name, identifier, creator, and publisher properties. For example, this property can uniquely identify a related academic publication such as a data descriptor, data paper, or an article for which this dataset is supplementary material for.)		dcterms: bibliographicCitation	isReferencedBy isDocumentedBy	MD_Identification/associatedResource//CI_Citation (suggest using associationType from dataCite vocabulary)	citation (O) referenceCitation(O)	Related Publication	primaryPublication/ citations (O)	collection/relatedInfo [@type='publication'] OR relatedObject:collection where related collection [@type='publication']	dcterms:isReferencedBy dc:relation	citation (R)		relPubl(biblCit)		citation	ResourceHeader/PublicationInfo
	schema:CreativeWork	keywords	Text	Keywords or tags used to describe this content. Multiple entries in a keywords list are typically delimited by commas.	dct:keyword (R)	dcat:keyword	Subject(R)*	MD_Identification/descriptiveKeywords//keyword	keywords (R)	Subject (M); Topic Classification Term; Keywords	keywords (O)	collection/subject	Subject - dcterms:subject	keywords (M)	keywords	keywords	keywords	keywords	keyword
	schema:CreativeWork	license	CreativeWork or URL	A license document that applies to this content, typically indicated by URL. (A license under which the dataset is distributed.)	dct:license	dct:license	Rights	MD_Identification/resourceConstraints//reference/CI_Citation or text in MD_LegalConstraints/useLimitation [restrictionCode = license]	license (R)		licenses (R)	collection/rights/licence[@rightsURI] AND/OR collection/rights/licence[@type] AND collection/rights/licence	Rights	license (R)	Rights (O)	rights	Rights (O)	license
	schema:CreativeWork	creator	Organization or Person	The creator/author of this CreativeWork (dataset). This is the same as the Author property for CreativeWork. (To uniquely identify individuals, use ORCID ID as the value of the sameAs property of the Person type. To uniquely identify institutions and organizations, use ROR ID.)	dct:creator	dcterms:creator	Creator (M)	MD_Identification/citation/citedResponsibleParty//name [role = one of {author, coAuthor, originator, editor}]	creator (M)	Author; authorName (M)	creator (M)	collection/citationInfo/citationMetadata/contributor OR relatedObject|relatedInfo party/name where relation=IsPrincipalInvestigatorOf OR relatedObject|relatedInfo party/name where relation=author OR relatedObject|relatedInfo party/name where relation=coInvestigator OR relatedObject|relatedInfo party/name where relation=hasCollector	Creator	creator (R)	Creator (R)	AuthEnty*	Creators (M)	author	ResourceHeader/Contact [@role=PrincipalInvestigator] ResourceHeader/Contact [@role=DataProducer]
	schema:CreativeWork	isPartOf	CreativeWork	Indicates a CreativeWork that this CreativeWork is (in some sense) part of. Reverse property hasPart. If the dataset is a collection of smaller datasets, use the hasPart property to denote such relationship. Conversely, if the dataset is part of a larger dataset, use isPartOf.	dct:isPartOf (R)	dcterms:isPartOf	isPartOf	MD_Identifcation/associatedResource/name/CI_Citation [associationType = 'largerWorkCitation']	includedIn(Dataset) (R)			relatedObject|relatedInfo collection where relation[@type='isPartOf']	dcterms:isPartOf			isPartOf		isPartOf	ParentID (only for Granule resource type)
	schema:CreativeWork	hasPart	CreativeWork	Indicates a CreativeWork that is (in some sense) a part of this CreativeWork. Reverse property isPartOf	dct:hasPart (R)	dcterms:hasPart	hasPart	MD_Identifcation/associatedResource/name/CI_Citation [associationType = 'isComposedOf']	includes(Dataset) (R)		hasPart (O)	relatedObject|relatedInfo collection where relation[@type='hasPart']	dcterms:hasPart			hasPart		hasPart	

RDA Crosswalks from schemas to schema.org (V1.0, 2021-12-16)

Parent Type	Property R: Required	Type	Description (text in bracket is from the Google dataset search guide)	DCAT-AP	DCATv3	Datacite M: Mandatory R: Recommended O: Optional	ISO19115-1	EOSC/EDMI M: Minimum R: Recommended O: Optional	Dataverse	DATS	RIF-CS	DC and DC Term	BioSchema	B2FIND	DDI	ECRIN Clinical Research Metadata Schema	CodeMeta	SPASE
		Schema.org																
schema:CreativeWork	version	Number or Text	The version of the CreativeWork embodied by a specified resource.	owl:versionInfo	owl:versionInfo	Version (O)	MD_Identification/citation//edition	version (O)	Version	version (R)	registryObject:collection:citationInfo: citationMetadata:version		version (R)		version	version (O)	version	ProviderVersion
schema:CreativeWork	temporalCoverage	Text	The temporalCoverage of a CreativeWork indicates the period that the content applies to (The data in the dataset covers a specific time interval. Only include this property if the dataset has a temporal dimension.)	dct:temporal	dcterms:temporal	Date	MD_Identification/extent//temporalElement/extent/TM_Primitive	temporalCoverage (O)	Time Period Covered		collection/coverage/temporal	dcterms:temporal (start); dcterms:temporal (end)		Temporal Coverage (O)	temporal			TemporalDescription/TimeSpan
schema:CreativeWork	spatialCoverage	Text; Place	The spatialCoverage of a CreativeWork indicates the place (s) which are the focus of the content. (You can provide a single point that describes the spatial aspect of the dataset. Only include this property if the dataset has a spatial dimension.)	dct:spatial	dcterms:spatial	GeoLocation(R)	MD_Identification/extent//geographicElement . EX_GeographicBounding box or EX_BoundingPolygon with GM_Object is Point for centroid (yukkk! :( ). Some profiles recommend putting place names in keywords, keywordTypeCode = 'place'. Many possibilities--will have to configure for particular ISO profile...	spatialCoverage (O)			collection/coverage/spatial	dcterms:coverage (spatial)		Spatial Coverage (O)	geogCover geoBndBox coverage			ObservedRegion
schema:Dataset schema:DataCatalog schema:DataDowload	measurementTechnique	Text, URL	A technique or technology used in a Dataset (or DataDownload, DataCatalog), corresponding to the method used for measuring the corresponding variable(s)		sosa:usedProcedure		MD_Metadata/resourceLineage//statement	measurementTechniques (R)*					measurementTechnique (R)		instrumentDevelopment			MeasurementType
schema:Dataset	variableMeasured	PropertyValue, Text	The variableMeasured property can indicate (repeated as necessary) the variables that are measured in some dataset, either described as text or as pairs of identifier and description using PropertyValue. (The variable that this dataset measures. For example, temperature or pressure.)		sosa:observedProperty		MD_Metadata/contentInfo//featureCatalogue [requires import of ISO 19110]	variableMeasured (R)	dimensions (O)				variablesMeasured (R)		measure			Parameter
schema:Dataset	includedInDataCatalog	DataCatalog	A data catalog which contains this dataset. (The catalog to which the dataset belongs.)		dcterms:isPartOf	publisher	MD_Identification/associatedResource/name/CI_Citation [associationType = 'collectiveTitle']	includedIn(R)	distribution. storedIn (O)			dcterms:isPartOf	includedInDataCatalog (M)					
Schema:Dataset	distribution	DataDownload	A downloadable form of this dataset, at a specific location, in a specific format (The description of the location for download of the dataset and the file format for download.)	dct:distribution (R)	dcat:distribution	distribution	MD_Metadata/distributionInfo/MD_Distribution/transferOptions	distribution (R)		distribution (R)	location/address/electronic @type="url" @ target="directDownload"		distribution		distrbtr (URI)			
Schema:DataDownload	distribution.encodingFormat		(The file format of the distribution.)	dcterms:format	dcat:mediaType dcterms:format	format	MD_Metadata/distributionInfo/MD_Distribution/transferOptions//distributionFormat					dcterms:format	encodingFormat					AccessInformation/Format
schema:CreativeWork	funder	Organization or Person	A person or organization that supports (sponsors) something through some kind of financial contribution.		dcterms:contributor	contributor with ContributorType/Sponsor(O)*	MD_Identification/credit or MD_Identification/citation//citedResponsibleParty//name [role = funder]		Grant information	acknowledges (O)	relatedObject|relatedInfo party/name where relation=isFundedBy	dcterms:contributor			grantNo (agency)		funder	ResourceHeader/Funding/Agency
schema:CreativeWork	publisher	Organization or Person	The publisher of the creative work	dct:publisher (R)	dcterms:publisher	Publisher (M)	MD_Identification/citation//citedResponsibleParty//name [role = publisher]		Dataset Publisher		registryObject:collection:citationInfo: citationMetadata:publisher OR registryObject@Group	Publisher - dcterms:publisher	Publisher (R)		publisher	Publisher/Provider (M)	publisher	ResourceHeader/Contact [@role=Publisher]
schema:Thing	contactPoint	Telephone, email, Place (etc)	A contact point, e.g. email, telephone, address	dct:contactPoint (R)	dct:contactPoint (R)		MD_Identification/pointOfContact//name (for the resource); MD_Metadata/contact//name					dcterms:mediator	dct:contactPoint	dct:contactPoint	contact	Access Contact (M)		ResourceHeader/Contact
schema:CreativeWork or schema:Thing	about or subjectOf	CreativeWork, Event, Communication	The subject matter of content	dcat:theme (R) dct:subject(O)	dcat:theme (R) dcterms:subject(O)	Subject*	MD_Identification/topicCategory ; additional categories in MD_Identification/descriptiveKeywords//keyword [type = subTopicCategory]				collection/subject							
schema:Thing	inLanguage	Language or Text	The language of the content or performance or used in an action. Please use one of the language codes from the IETF BCP 47 standard.	dct:language (R)	dcterms:language	Language (O)	MD_Metadata/language (for metadata record content language); MD_DataIdentification/language (for resource content language)		Language		(default to English) "en"	Language - dcterms:language		Language (O)	language	Language (R)		
schema:CreativeWork	dateCreated	Date or DateTime	The date on which the CreativeWork was created or the item was added to a DataFeed.	dct:created (O)	dcterms:created(O)	Date (R)/Created	MD_Metadata/dataInfo [dateType = creation] for metadata record; MD_Identification/citation//date [dateType = creation] for the described resource	dateCreated (M)	Date of collection		collection/citationInfo/citationMetadata/date[@type= 'created'] OR collection/dates[@type='created']	dcterms:created	dateCreated		created	Dates (date type) (O)	datedCreated	

(Left margin rotated text: "catalogue, dataset and distribution) that can be mapped to schema.org")

RDA Crosswalks from schemas to schema.org (V1.0, 2021-12-16)

Section	Parent Type	Property R: Required	Type	Description (text in bracket is from the Google dataset search guide)	DCAT-AP	DCATv3	Datacite (M: Mandatory, R: Recommended, O: Optional)	ISO19115-1	EOSC/EDMI (M: Minimum, R: Recommended, O: Optional)	Dataverse	DATS	RIF-CS	DC and DC Term	BioSchema	B2FIND	DDI	ECRIN Clinical Research Metadata Schema	CodeMeta	SPASE
B. Properties from DCAT/DCAT-AP (cat	schema:CreativeWork	datePublished	Date	Date of first broadcast/publication.	dct:issued (R)	dcterms:dateAccepted	PublicationYear (M)	same as above, dateType = publication	datePublished (O)	Publication Date		collection/citationInfo/citationMetadata/date[@type='publicationDate'] OR collection/citationInfo/citationMetadata/date[@type='issued'] OR collection/dates[@type='dc.issued'] OR collection/dates[@type='dc.available'] OR date the record was ingested into RDA	dcterms:dateAccepted		PublicationYear (R)	distDate (for export)	Creation Year (M)	datePublished	ReleaseDate
	schema:CreativeWork	dateModified	Date or DateTime	The date on which the CreativeWork was most recently modified or when the item's entry was modified within a DataFeed.	dct:modified (O)	dcterms:modified	Date (R)/Updated *	same as above, dateType = lastUpdate	dateModified (M)	Version Date			dcterms:modified	dateModified		version (date)	Dates (date type) (O)	dateModified	RevisionHistory/RevisionEvent/ReleaseDate*
	schema:CreativeWork	copyrightHolder	Organization or Person	The party holding the legal copyright to the CreativeWork.	dct:rightsHolder (O)	dcterms:rightsHolder		MD_Identification/resource Constaints//responsibleParty//name [restrictionCode = copyright]					dcterms:rightsHolder					copyrightHolder	
	schema:CreativeWork	mentions	Thing	Indicates that the CreativeWork contains a reference to, but is not necessarily about a concept.	dct:relation	dct:relation		MD_Identifcation/associatedResource/name/CI_Citation [associationType = 'crossReference']					dcterms:relation						
	schema:CreativeWork	isBasedOn	CreativeWork, Product, URL	A resource from which this work is derived or from which it is a modification or adaption.	dct:source(O)	dct:source(O)	isContinuedBy isCompiledBy isOriginalFromOf isSourceOf isDerivedFrom	MD_Metadata/resourceLineage//source//sourceCitation					dc:source					derivation	
	schema:Thing	isRelatedTo	Product, Service	A pointer to another, somehow related product (or multiple products).	dct:relation	dct:relation	relationType	MD_Identifcation/associatedResource/name/CI_Citation [associationType = 'crossReference']					dct:relation						
	schema:CreativeWork	encodingFormat	Text, URL	Media type typically expressed using a MIME format	dct:format (R) dct:mediaType(R)	dct:format (R) dct:me	Format(O)*	MD_Metadata/distributionInfo//transferOptions//distributionFormat//medium//name	format (R)		distribution.format	collection/address/electronic [@target='directDownload']/mediaType	dct:format (R) dct:mediaType(O)		format	encodingForm at		format	AccessInformation/Format
	schema:MediaObject	contentURL	URL	Actual bytes of the media object, for example the image file or video file.	dcat:accessURL (M) dcat:downloadURL(O)	dcat:downloadURL		MD_Metadata/distributionInfo//online//linkage [function = download]			access (M)								
	schema:MediaObject	contentSize	Text, URL	File size in (mega/kilo) bytes.	dct:byteSize(O)	dct:byteSize	Size(O)*	MD_Metadata/distributionInfo//transferOptions//transfer Size (and unitsOfDistribution)	size(R)				collSize						
	schema:Thing:Schedule	repeatFrequency	Duration, text	This term is proposed for full integration into Schema.org* Defines the frequency at which Events will occur according to a schedule Schedule. The intervals between events should be defined as a Duration of time.	dcterms:accrualPeriodicity	dcterms:accrualPeriodicity		MD_Metadata/distributionInfo//transferOptions//transfer Frequency					dcterms:accrualPeriodicity						
	schema:CreativeWork	funder	Organization or Person	A person or organization that supports (sponsors) something through some kind of financial contribution.	dcterms:contributor	dcterms:contributor	contributor with ContributorType/Sponsor(O)*	MD_Identification/citation//citedResponsibleParty//name [role = funder]		Grant information	acknowledges (O)	relatedObject|relatedInfo party/name where relation=isFundedBy	dcterms:contributor			funder		funder	ResourceHeader/Funding/Agency
	schema:CreativeWork	contributor	Organization or Person	A secondary contributor to the CreativeWork or Event.	dcterms:contributor	dcterms:contributor	Contributor (R)	MD_Identification/citation//citedResponsibleParty//name [role = contributor]		Contributor			Contributor - dcterms:contributor (Depositor)		Contributor (O)	contributor	Contributors (O)	Contributor	ResourceHeader/Contact [@role=Contrib
	schema:CreativeWork	producer	Organization or Person	The person or organization who produced the work (e.g. music album, movie, tv/radio series etc.).	dcterms:contributor	dcterms:contributor	contributor with contributortype=" Producer"	MD_Identification/citation//citedResponsibleParty//name [role = https://schema.org/producer]		Producer			dcterms:contributor			producer		producer	
	schema:CreativeWork	editor	Person	Specifies the Person who edited the CreativeWork.				MD_Identification/citation//citedResponsibleParty//name [role = editor]										editor	
	schema:CreativeWork	copyrightYear	Number	The year during which the claimed copyright for the CreativeWork was first asserted.	dcterms:dateCopyrighted	dcterms:dateCopyrighted	Copyrighted	MD_Identification/citation//date [dateType = https://schema.org/copyrightYear]					dcterms:dateCopyrighted					copyrightYear	
	schema:CreativeWork	isAccessibleForFree	Boolean	A flag to signal that the publication is accessible for free.												avlStatus dataAccs		isAccessibleForFree	
C. Properties from DCAT/DCAT-AP have no mapping in schema.org		rights			dct:rights(O)	dct:rights	Rights(O)*	MD_Identification/resource Constraints/MD_LegalConstraints				collection/rights	rights			rights disclaimer			
		in proposing: https://github.com/schemaorg	access rights		dct:accessRights(O)	dct:accessRights		MD_Identification/resource Constraints/MD_LegalConstraints					dct:accessRights			accessRights			AccessRights*
		conformance result / conformity (datta quality)			dct:conformsTo	dct:conformsTo		MD_Metdata/dataQualityInfo/DQ_DataQuality (import ISO19157)											
		has version			dct:hasVersion		hasVersion	MD_Identification/associatedResource								hasVersion			
		is version of			dct:isVersionOf		isVersionOf	MD_Identification/associatedResource								isVersionOf			
		provenance			dct:provenance	prov:qualifiedAttribution		MD_Metadata/resourceLineage								method relation software			RevisionHistory*

RDA Crosswalks from schemas to schema.org (V1.0, 2021-12-16)

						Schema.org												
	Parent Type	Property R: Required	Type	Description (text in bracket is from the Google dataset search guide)	DCAT-AP	DCATv3	Datacite M: Mandatory R: Recommended O: Optional	ISO19115-1	EOSC/EDMI M: Minimum R: Recommended O: Optional	Dataverse	DATS	RIF-CS	DC and DC Term	BioSchema	B2FIND	DDI	ECRIN Clinical Research Metadata Schema	CodeMeta	SPASE
														also referenced: https://bioschemas.org/profiles/					