# Overview – JSON schema

**Properties** (JSON keys) are described in **objects**

| specification | key | values |
|---|---|---|
| data type | **“type”** | “string”,<br>“number”,<br>“boolean”<br>“array”,<br>“object |
| entry format | **“format”** | “date”<br>“email”<br>… |
| mandatory properties | **”required”** | array of properties |
| controlled list / vocabulary | **“enum”** | array of values |

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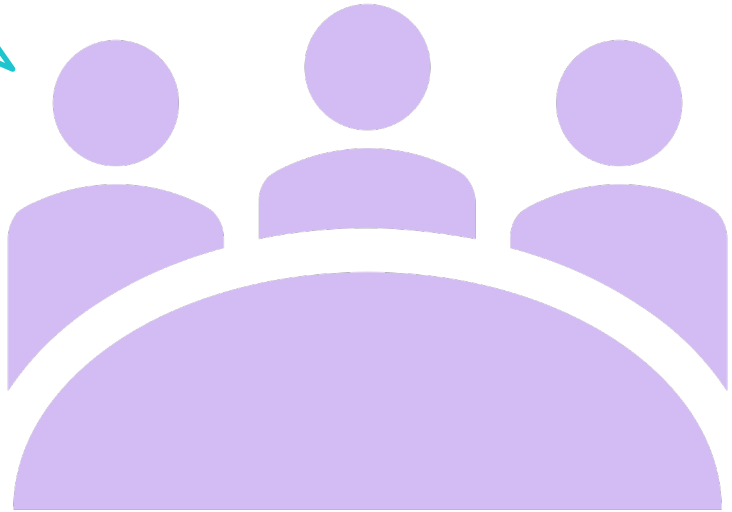
**www.json-schema.org**

Everyone documents their metadata differently!
It’s not comparable!

We need to harmonize the metadata records.




Questions?

# Meanwhile in your collaboration

JSON

```
{
  "experimentalConditions": {
    "ride": {
      "rideType": "roller coaster",
      "rideName": "Flight of the Bat",
      "location": "Gotham City, New Jersey"
    },
    "testPerson": {
      "sex": "male",
      "height": 180
    },
    "recording": {
      "testDevice": "iPhone X",
      "testDeviceFixture": "left upper arm",
      "testApp": "Physics Toolbox Suite by Vieyra Software"
    }
  }
}
```

# Meanwhile in your collaboration

JSON

```
{
  "experimentalConditions": {
    "ride": {
      "rideType": "roller coaster",
      "rideName": "Flight of the Bat",
      "location": "Gotham City, New Jersey"
    },
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      "sex": "male",
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    },
    "recording": {
      "testDevice": "iPhone X",
      "testDeviceFixture": "left upper arm",
      "testApp": "Physics Toolbox Suite by Vieyra Software"
    }
  }
}
```

Let's distribute the schema definitions among us.

# CHALLENGE 4:

# JSON Schema

In the following code block you see the JSON schema draft for the experimental conditions. Your collaborators already modelled constraints and valid values for `ride` and `testPerson`.

**Discuss and add constraints to `recording` property.**

- `testDevice`, `testDeviceFixture` and `testApp` are **mandatory properties** for the `recording` object
- `testDevice` value must be one of:
  - `iPhone X`
  - `iPhone 6`
  - `iPhone 6s`
  - `other`
- `testApp` value must be one of:
  - `Physics Toolbox Suite by Vieyra Software`
  - `Bunny Rollercoaster Physics App`
- `testDeviceFixture` value must be one of:
  - `left upper arm`
  - `right upper arm`
  - `mouth fixture device`
  - `other`

# CHALLENGE 5:

# Form Input & Validation with JSON Schema

```
{
  "title": "Sample JSON schema title",
  "description": "Sample description. Schema validates a JSON object ent
  "type": "object",
  "required": [
    "fileName",
    "abstract",
    "format",
    "creator",
    "date",
    "experimentalConditions",
    "columns"
  ],
  "properties": {
    "fileName": {
      "description": "Name of the described data file or set.",
      "type": "string",
      "minLength": 1
    },
    "abstract":{
      "description": "A free text abstract of the experimental setup.",
      "type": "string",
      "minLength": 24
    },
    "format": {
      "description": "The Internet Media Type of the resource, MIME Type
      "type": "string",
      "enum": [
        "text/csv",
        "video/mp4",
        "text/markdown",
        "image/png",
        "other"
      ]
```

Sample JSON schema title

Sample description. Schema validates a JSON object entry for the DC shared universe repository.

**fileName***

Name of the described data file or set.

**abstract***

A free text abstract of the experimental setup.

**format***

The Internet Media Type of the resource, MIME Type.

creator*

An array of people (1-n) primarily responsible for making the resource.

**creatorName**

The name of the creator, a person.

**creatorAffiliation**

The name of the institute the creator is working for.

# DISCLAIMER

This slide deck is part of the Lesson

**Fundamentals of Scientific Metadata: Why Context Matters**

published on **The Carpentries Incubator**.

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You can find more information about this course on **Github**.



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