History and Computing Workshop

Section I - DNA - Setting up VSCodium

Step 1: Make sure you are signed in to the local Google Drive

a. Press the Windows Key (start) on the keyboard and type Google Drive in the search box.

b. Click on the Google Drive icon.

c. Click on getting started and sign in.

Step 2: Now launch VSCodium

a. Click on Windows Key (start) on the keyboard and type VSCodium in the search box.

b. Click on the VSCodium icon and wait for it to open.

Step 3: Add the workshop folder to VSCodium Explorer

a. While in VSCodium, on the top left, look for the explorer sign and click on it or (Ctrl + Shift + E). Press the ‘Open Folder’ button.

b. Navigate to your Google Drive folder and find the folder ‘history_and_computing_workshop’

c. ‘Select Folder’ to add the ‘history_and_computing_workshop’ folder to the VSCodium Explorer.

Section II - Structured data for your Ashmolean object

In this section we will create **structured data** from our observations about Ashmolean Museum objects. This structured data will be processed by the Quire software and included in our book. We will use a format called YAML to encode our structured data.

Step 4. Find your group's Ashmolean Museum object in the Objects File

This is the first object your group studied in the Ashmolean handling session.

a. Open the Objects File ('objects.yaml') in VSCodium

Using VSCodium Explorer, open the 'history_and_computing_workshop' folder, then the folder called 'cheney_book'

In the 'cheney_book' folder, open the folder called 'content'

In the 'content' folder, open the folder called '_data'

In the '_data' folder, open the file called 'objects.yaml' in VSCodium

The 'objects.yaml' file should now have opened in VSCodium.

In summary, the file path to objects.yaml from Google Drive is '/history_and_computing_workshop/cheney_book/content/_data/objects.yaml'

b. Identify your Ashmolean object

We are now going to find the existing structured data for the object you examined during the Ashmolean handling session. The Quire software has been used to automatically turn Linked Art structured data about that object into YAML structured data about that object.

We locate the correct data using the object's **identifier**. Identifiers are unique labels assigned to each object, allowing the software (Quire, in this case) to distinguish between different items easily.

For Ashmolean objects, the identifier takes the form of the word 'ashmolean', followed by the object's accession number. For example the identifier:

```
ashmolean-AN1896-1908.AE.10
```

is for the Ashmolean object with the accession number AN1896-1908.AE.10.

Referring to your Ashmolean Handling Session Worksheet, find the accession number of the first object you handled, and write it down. What do you think it's identifier will be?

c. Find your Ashmolean object in the file ‘objects.yaml’

The Objects File (‘objects.yaml’) which you opened contains a structured data ‘object_list’, where each entry in the list describes an object from your handling sessions at the Ashmolean and Rumble Workshops.

Use the accession number for your object to find its object_list entry. Your object's identifier will be the value of the key-value pair where the key is ‘’id’. Remember that the identifier for your Ashmolean object will be derived from its accession number.

You can confirm you’ve found the correct object by checking the value of its ‘title’ key against your handling session notes.

Once you have found your group’s object, keep it open because you will need to copy it in Step 5.

d. The structure of an entry in objects.yaml

In the Quire software, object data is managed using an objects.yaml file, which organizes the keys and values for objects, each of which is distinguished by its unique IDs.

Here is the basic structure of an entry in objects.yaml:

```
- id: object_id
  creator: Name of the creator of the object
  year: Year of the object’s creation
  type: Type of object
  dimensions: Dimensions of the object
  figure:
   -  id: figure_id
```

- id is the unique identifier for the object_list entry for your museum object.
- Following this we see key-value pairs.
- Finally, the ‘figure’ entry references pictures of the museum object, which in turn have their own identifier (we will learn about figures later in this workshop).

Step 5. Adding your object observations as YAML

a. Locate the ‘objects_yaml_by_group’ folder

Navigate to the ‘history_and_computing_workshop’ folder, which you added to VSCodium in Step 3.

Inside the ‘history_and_computing_workshop’ folder, open the ‘objects_yaml_by_group’ folder.

b. Create a new YAML file for you to edit

In the sidebar of VSCodium on the left, ensure you are in the 'objects_yaml_by_group' folder. Create a new file by pressing the button that looks like a page with a plus sign on it in the top left.

Name your file using your group number, so you will be able to distinguish it from the files made by other groups. Use the following format: 'group_GROUPNUMBER_object_ashmolean.yaml', replace GROUPNUMBER with your group number.

For example, if you are group 12, you will name your file 'group_12_object_ashmolean.yaml'.

Make sure you have included the file extension .yaml at the end of the file name. The file extension indicates the file format - in this case showing this is a YAML file.

c. Copy your object entry for your museum object

In Step 4.c you found the entry for your group's Ashmolean object in objects.yaml. Copy that entry into the new YAML file you have just created. Only copy the entry for the Ashmolean object you located in Step 4.c.

d. Review the structured data for your object

Look carefully at the information you have just pasted in. Notice how it lists keys and values.

Each entry is delimited by a hyphen `-`, then the special key `id`', followed by a colon `:`, and finally the value for the ID key.

Each subsequent line will have the name of the key, followed by a colon `:`, then the value of the key.

For example, this is entry for Ashmolean object (ID `ashmolean-AN1896-1908.AE.10`):

```
- id: ashmolean-AN1896-1908.AE.10
    title: Replica gold cup from Vapheio
    creator: Émile Gilliéron
    year: late 19th - early 20th century (1871 - 1930)
    dimensions: h 7.9 cm dia 10.2 cm
    accession: AN1896-1908.AE.10
    linked art: http://dhoxss.linkedmusic.org/AN1896-1908.AE.10.json
    figure:
      - id: cat-ashmolean-AN1896-1908.AE.10
```

In this entry one key is `title`, for which the value is `Replica gold cup from Vapheio`.

What are the other keys and values?

e. Add your observations from your Ashmolean visit to the structured data

We are now going to add key-value pairs based on your observations from the Ashmolean handling session.

Referring back to your Ashmolean handling session worksheet, you can see that you recorded observations which aren't currently included in objects.yaml, for example the object's material, type, and condition.

For each of these observations, you should add a separate line to your YAML entry. Use the bold word in the 'Key Questions' column of your worksheet for the key, e.g. `material`, `type`, `condition`. Then type a colon `:`, and then use what you wrote in the 'Observations' column of the worksheet for the value.

For example, if your object was an ancient packing box, you might add a line:

```
    material: corrugated cardboard
```

Add your key-values, based on your worksheet observations, to your YAML file.

What are the benefits of everyone in the class using the same key names?

f. Check the syntax of your YAML entry

For the computer to process the contents of your updated YAML entry, it must conform exactly to the YAML syntax we learnt in Step 4.d.

You should now re-check your entry for any syntax errors. Work in pairs to double-check each for each other.

Syntax checklist:

- Are the lines indented correctly? Each line should be indented with two tabs or four spaces.
- Is there a colon between the key and the value? There should be a colon immediately following each of the keys, with no space between the key name and the colon.
- Are the necessary spaces included? After the key and the colon, there should be a space before the value.

g. (Optional) Create your own key names

If you wish, you can also add key-value pairs for details in your 'Other Observations' section of your handling worksheet. You will need to decide upon your own key name, as well as your own value.

What difficulties might arise when computers exchange information which has different key names?

Step 6. Copying your entry into objects.yaml

Once you have finished your entry, it needs to be copied back into the main `objects.yaml` file which will be used to build our book.

Once you have finished your entry, let your teacher know.

They will copy your entry back into the shared `objects.yaml` file which will be used to build our book. They will overwrite the original entry for your object with the entry you have updated.

Your teacher will show you this being done for the first group who complete this step.

Section III - Presentational mark-up for your story

In the previous steps we created structured data from our observations about Ashmolean Museum objects. This structured data will be processed by the Quire software and included in our book.

We also want to include stories about these objects in the book. In this section we will use **mark-up** to instruct the Quire software how we would like our stories to be presented. We will use a format called **Markdown** to encode our presentational mark-up.

Step 7. Add your Ashmolean story mark-up to a Markdown file

a. Find and open the Markdown file for your group

Open the 'content' folder, which you found at the beginning of Step 4.a.

Inside the 'content' folder, you will find a different folder called 'catalogue', which has been pre-populated with Markdown templates for the class: one for each groups.

The file path to the Markdown templates from the Google Drive is '/history_and_computing_workshop/cheney_book/content/catalogue'.

In the 'catalogue' folder, locate the Markdown file for your group's Ashmolean object. This will be a file with your group number followed by '_ashmolean.md'.

For example, if you are group 1, the file will have the name '1_ashmolean.md'. The file extension .md indicates it's a Markdown file. Open this Markdown file in VSCodium.

b. Find where you should write your story, and copy your story into the Markdown file

In your group's Markdown file, you will find the following text at line 12:

```
Write about your object here.
```

Replace this text with your reflections about your object, which you prepared in a Google Doc during the Rumble Workshop. Copy the text from the Google Doc into the Markdown file in VScodium (but keep the Google Doc open too!).

What happened to the formatting from your Google Doc when you pasted it into VSCodium?

c. Recreate your formatting and styles using Markdown

   Using the provided Markdown Reference Guide sheet, recreate any headings, formatting styles, paragraphs, lists, and external links to the text you prepared during the research lesson. Try to use as many Markdown features as you can.

d. Save your Markdown file

   Save the Markdown file in place by pressing **Control+S** or navigating to **File > Save** in the VSCodium menu.

Step 8. Reference your Ashmolean object ID in your Markdown

In our book, we want Quire to process each story so that it also includes the structured data (observations) for the object the story refers to.

a. Find the object ID lines in the Markdown file

   In the Markdown file for your group's Ashmolean object, which you opened in Step 9, you will find the following at lines 8-9:

```
object
  - id: blank
```

   Look at the syntax for these lines. Does it look familiar?

   By using a structured format to reference our object, Quire can process our request in a standardised way.

b. Reference the correct object ID

   Replace 'blank' with the ID of your group's chosen Ashmolean object from objects.yaml, which you identified in Step 4 (before updating the YAML for this object).

c. Save your Markdown file

   Save the Markdown file in place by pressing **Control+S** or navigating to **File > Save** in the VSCodium menu.

By the end of this section, you should have learned to

- Record observations as **structured data** (objects.yaml) in a digital catalogue and edit catalogue mark-up templates to reflect objects studied (Steps 4-6).
- Encode personal reflections about museum objects as **text with presentational mark-up** (Step 7).
- Within your presentational mark-up (Markdown), use an identifier from your structured data (objects.yaml) to include the latter within the former (Step 8).

Before the next session, we will use Quire to process all the data we have created so far - both structured data and presentational mark-up - and build a first version of our book.

Section IV - Building a book with Quire

Since the last session, we have used Quire to process all the data we have created so far - both structured data and presentational mark-up - and built a first version of our book.

We previewed the web version of the book as a class, then used Quire to export a PDF copy.

Step 9. Check your Ashmolean object page in the book

Open the shared folder ‘cheney_book’. Inside this folder look for the file `pagedjs.pdf` - this is the PDF created by Quire using our book data.

Page through the PDF until you find the page for your group’s Ashmolean object.

Does it include your observations as a table? Can you see how these have been derived from the key-value pairs you entered?

Is there a picture of the object automatically included from the Ashmolean object record?

Is your story present and correct? Is your story formatted and styled as you expect?

If any of these are missing or incorrect, let your teacher know - we may need to debug your data to uncover and correct any problems.

You may have made mistakes in your data entry which have led to these problems. Remember and learn from any mistakes so that you will not repeat them when creating a page for your Rumble object.

Section V - Adding your own photos to the book

We have already seen pictures of objects automatically included in our book, using the object records provided as Linked Art.

We will now add our own photos. This will also show us what processing Quire used to automatically include the Linked Art photos.

Step 10: Copy your photos into the Quire project

We are going to include photos you took in your Ashmolean handling session in our book. To do this, we first need to copy the photo into a folder which Quire can process.

Within the ‘history_and_computing_workshop’ folder, open the ‘student_photos’ folder. All of the photos taken by the class in the Ashmolean and Rumble handling workshops have been added to this folder.

Look through the photos until you find one depicting the object you identified in Step 4, which you would like to include in your group's page in the book. Remind yourself what you thought would make a good object photo during your handling sessions.

Write down the filename of your chosen photo. We will use this filename as an identifier later on.

Then copy or move your chosen photo into the following folder:
`cheney_book/content/_asset/images/figures/`

Be sure you have found the right folder before you move your photo.

What are all the other photos which are already in this folder? Where do you think they came from?

Step 11. Describing your photo using YAML

Now that your photo is in a place Quire can process it, we need to add some structured data so that Quire knows *how* to process it.

a. Create a new YAML file

In VSCodium, use the explorer to navigate back to the 'history_and_computing_workshop' folder, then 'figures_yaml_by_group'

Using VSCodium, create a new YAML file in the 'figures_yaml_by_group' folder. Name your file 'group_GROUPNUMBER_figure_ashmolean.yaml'. For example, if you are group 12, you will name your file 'group_12_figure_ashmolean.yaml'.

Make sure you have included the file extension .yaml at the end of the file name. Remember that .yaml indicates that the file is a YAML file.

b. Understanding the structure of a figures.yaml entry

In Quire, images are described with structured data in a figures.yaml file, which organises photos using unique IDs. This is very similar to the way objects.yaml recorded observations about Ashmolean Museum objects, which you wrote in Step 5.

As with objects.yaml, details are entered as key-value pairs. While the keys for figures.yaml are different to those in objects.yaml, the syntax rules for the YAML language remain the same

Here is the basic structure of an entry in figures.yaml:

```
- id: photo_id
  src: figures/filename.jpg
  caption: Write a description of your photo here!
  credit: Write the names of who took the photo
```

figures.yaml entry components:

- **id:** A unique identifier for your figure. Use the filename of your photo, which you wrote down earlier, but without the .jpg file extension. For example, if the file name is 'PXL_20241018_131308117.jpg', you should make an ID 'PXL_20241018_131308117'.
- **src:** The path to your image file. This will be `figures/` followed by the file name including the file extension. 'figures' is a special folder in the Quire project where image files are stored. For example, the value for src might be `figures/PXL_20241018_131308117.jpg`
- **caption**: A short description of what the photo shows. This is the text that will appear with your image in the project.
- **credit:** Give the members of group credit for the photo you took.

c. Create your figures.yaml entry

Each group will create an entry for a photo they took during the Ashmolean Museum Workshop.

Based on the structure above, prepare your group's entry for the photo you took.

Write a clear and concise caption for your photo.

Credit your group for taking the picture.

Here is an example for a photo of the Minoan Snake Goddess:

```
- id: PXL_20241018_131308117
  src: figures/PXL_20241018_131308117.jpg
  caption: Crazy snake lady!
  credit: Ms Elias, Cheney School
```

As you enter the keys and values for the figures.yaml entries, be sure to use the correct syntax for YAML. Work in pairs to help each other check for any mistakes:

- Are the lines indented correctly? Each line should be indented with two tabs or four spaces.
- Is there a colon between the key and the value? There should be a colon immediately following each of the keys.
- Are the necessary spaces included? After the key and the colon, there should be a space before the value.

Save the YAML file in place by pressing **Control+S** or navigating to **File > Save** in the VSCodium menu.

Step 12. Copy your entry into figures.yaml

Once you have finished your entry, it needs to be copied back into the main `figures.yaml` file which will be used to build our book.

Once you have finished your photo entry, let your teacher know.

They will add your entry to the shared `figures.yaml` file which will be used to build our book.

Your teacher will show you this being done for the first group who complete this step.

Step 13. Including your photo in your book page

Even though you have now copied your photo so Quire can process it, and given Quire YAML describing *how* to process it, we need to complete one further step: tell Quire *where* to process it to.

a. Adding shortcode references to your Ashmolean object Markdown

Quire uses special *shortcodes*, inserted into Markdown mark-up, to reference photos as *figures*. This instructs Quire to insert a copy of your photo and its description into the book when it processes the Markdown.

Re-open the Markdown file for your group's Ashmolean object in VSCodium. This is the file you saved at the end of Step 8.

Find a suitable place in your story where you want the photo to appear. This could be near your reflections or observations about the object.

Use the following format of shortcode to insert the figure:

```
{% figure "FIGURE_ID" %}
```

You created the figure ID you need to use in Step 11.

For the example YAML given in Step 11.c, which had an ID of `PXL_20241018_131308117`, you would include the following shortcode in your Markdown:

```
{% figure "PXL_20241018_131308117" %}
```

Save the Markdown files in place by pressing **Control+S** or navigating to **File > Save** in the VSCodium menu.

Once enough photo data has been added, we will use Quire to build a new version of the book. Once a new version has been built you can check the PDF to see how Quire has processed and included your photo (follow Step 9 again).

Section VI - Create a page for your Rumble object

Now you are going to add your observations and stories for your Rumble object, following the same process you did for your Ashmolean object.

Step 14. Add your Rumble observations as structured data

This is the object your group studied in the Rumble handling session.

a. Open the Objects File (‘objects.yaml’) in VSCodium

Using VSCodium Explorer, open the ‘history_and_computing_workshop’ folder, then the folder called ‘cheney_book’

In the ‘cheney_book’ folder, open the folder called ‘content’, then ‘_data’, then open the file called ‘objects.yaml’ in VSCodium

In summary, the file path to objects.yaml from Google Drive is ‘/history_and_computing_workshop/cheney_book/content/_data/objects.yaml’

b. Identify your Rumble object

We are now going to find the existing structured data for the object you examined during the Rumble handling session.

For Rumble Museum objects, the identifier takes the form of the word rumble, followed by a simplification of the object’s title. For example the identifier:

```
rumble-harvester_vase
```

Referring to your Rumble Handling Session Worksheet, find the title number of the first object you handled, and write it down. What do you think it’s identifier will be? Why might we not be able to use accession numbers for IDs with Rumble Museum objects?

c. Find your Rumble Museum object in the file ‘objects.yaml’

The Objects File (‘objects.yaml’) which you opened contains a structured data ‘object_list’, where each entry in the list describes an object from your handling sessions at the Ashmolean and Rumble Workshops.

Use the Rumble Museum object title to find its object_list entry. Your object's identifier will be the value of the key-value pair where the key is ‘’id’. Remember that the identifier for your Rumble object will be derived from its title.

Once you have found your group’s object, keep it open because you will need to copy it in Step 5.

d. Locate the ‘objects_yaml_by_group’ folder

Navigate to the ‘history_and_computing_workshop’ folder, then open the ‘objects_yaml_by_group’ folder.

e. Create a new YAML file for you to edit

In the sidebar of VSCodium on the left, ensure you are in the 'objects_yaml_by_group' folder. Create a new file by pressing the button that looks like a page with a plus sign on it in the top left.

This new file is in addition to the one you created earlier for your Ashmolean object (in Step 5).

Name your file using your group number, so you will be able to distinguish it from the files made by other groups. Use the following format: 'group_GROUPNUMBER_object_rumble.yaml', replace GROUPNUMBER with your group number.

Note that we have distinguished this file from the one you created earlier by using 'rumble' rather than 'ashmolean' in the filename.

For example, if you are group 12, you will name your file 'group_12_object_rumble.yaml'.

Make sure you have included the file extension .yaml at the end of the file name. The file extension indicates the file format - in this case showing this is a YAML file.

f. Add your observations from your Rumble workshop to the structured data

You are now going to add key-value pairs based on your observations from the Rumble handling session.

Referring back to your Rumble handling session worksheet, you can see that you recorded observations which aren't currently included in objects.yaml.

For each of these observations, you should add a separate line to your YAML entry. Use the bold word in the 'Key Questions' column of your worksheet for the key, e.g. `material`, `type`, `condition`. Then type a colon `:`, and then use what you wrote in the 'Observations' column of the worksheet for the value.

You are following the same process you used for creating the structured data for your Ashmolean object - refer back to Steps 5.k through 5.f for more help.

Add your key-values, based on your worksheet observations, to your YAML file.

Then carefully check your YAML syntax - use the checklist in Step 5.f.

g. Copying your entry into objects.yaml

Once you have finished your entry, it needs to be copied back into the main `objects.yaml` file which will be used to build our book.

Once you have finished your entry, let your teacher know.

They will copy your entry back into the shared `objects.yaml` file which will be used to build our book, joining the object entries you made earlier for your Ashmolean objects.

Step 15. Add your Rumble story mark-up to a Markdown file

a. Find and open the Markdown file for your group

Re-open the ‘content’ folder, then the ‘catalogue’ folder. In the ‘catalogue’ folder, locate the Markdown file for your group’s Rumble object. This will be a file with your group number followed by ‘_rumble.md’.

For example, if you are group 1, the file will have the name ‘1_rumble.md’. Open this Markdown file in VSCodium.

b. Copy you story into the Markdown file

In your group’s Markdown file, you will find the following text at line 12:

```
Write about your object here.
```

Replace this text with your reflections about your Rumble object, which you prepared in a Google Doc during the Rumble Workshop. Copy the text from the Google Doc into the Markdown file in VScodium.

c. Recreate your formatting and styles using Markdown

Using the provided Markdown Reference Guide sheet, recreate any headings, formatting styles, paragraphs, lists, and external links to the text you prepared during the research lesson.

d. Save your Markdown file

Save the Markdown file by pressing **Control+S** or navigating to **File > Save** in the VSCodium menu.

Step 16. Reference your Rumble object ID in your Markdown

a. Find and reference the correct object ID

In the Markdown file for your group’s Rumble object, replace the ‘blank’ found at lines 8-9:

```
object
  - id: blank
```

with the ID of your group’s Rumble object from objects.yaml, which you identified in Step 14.

b. Save your Markdown file

Save the Markdown file in place by pressing **Control+S** or navigating to **File > Save** in the VSCodium menu.

Step 17. Add your own Rumble photos

a. Copy your photo into the Quire project

In the ‘student_photos’ folder, find a photo you took in the Rumble handling session, which is of the object you identified in Step 14.

Copy or move your chosen photo into the following folder:
`cheney_book/content/_asset/images/figures/`

b. Create a new YAML file to describe your photo

In VSCodium, use the explorer to navigate back to the ‘history_and_computing_workshop’ folder, then ‘figures_yaml_by_group’

Using VSCodium, create a new YAML file in the ‘figures_yaml_by_group’ folder. Name your file ‘group_GROUPNUMBER_figure_rumble.yaml’. For example, if you are group 12, you will name your file ‘group_12_figure_rumble.yaml’.

Make sure you have included the file extension .yaml at the end of the file name.

c. Create your figures.yaml entry

Each group will create an entry for a photo they took during the Rumble Workshop handling session.

Using the YAML structure introduced in Step 11.b, prepare your group’s entry for the photo you took of the Rumble object. Write a clear and concise caption for your photo in the same way you did in Step 11.c. Credit your group for taking the picture.

Carefully check the YAML syntax using the checklist in Step 11.c.

d. Copy your entry into figures.yaml

Once you have finished your entry, it needs to be copied back into the main `figures.yaml` file which will be used to build our book.

Once you have finished your photo entry, let your teacher know.

They will add your entry to the shared `figures.yaml` file which will be used to build our book.

e. Add a shortcode reference to your Rumble object Markdown

Re-open the Markdown file for your group’s Rumble object in VSCodium. This is the file you saved at the end of Step 15.

Find a suitable place in your story where you want the photo to appear. Then use this shortcode format to insert a reference to the figure:

```
{% figure "FIGURE_ID" %}
```

Look back at how you did this in Step 13 if you need a reminder.

Once enough photo data has been added, we will use Quire to build a new version of the book. Once a new version has been built you can check the PDF to see how Quire has processed and included your photo (follow Step 9 again).

Section VII - Linking Ashmolean and Rumble Objects

Now we have a page for an object from both the Ashmolean and Rumble Museums, we can use mark-up to add a *hyperlink* to our stories so we can jump from one to the other.

Step 18. Open the Markdown files for both your Ashmolean and Rumble objects

Open the 'catalogue' folder, and find both the Markdown files for your group which you have already edited: the one for your Ashmolean object, *and* the one for your Rumble object.

Step 19. Create a link to the Rumble object in the Ashmolean story

In the Markdown file for your group's Ashmolean object, find a suitable place in the text where you want to add a link to the Rumble object page. When you wrote your story in the Rumble Workshop you thought about how the Ashmolean and Rumble objects are connected - this would be a good place.

Use the following Markdown syntax to create the link:

```
[Link text](path-to-page)
```

The 'link text' is the words which will be marked up as a hyperlink (similarly to HTML).

The 'path-to-page' is where the link goes to. In your case, the Rumble object Markdown files are located in the 'catalogue' folder. Therefore, the path for your Rumble object will be '/catalogue/group_number_rumble.md'.

Example: To link to your Rumble object page, enter the following in your Ashmolean object Markdown file:

```
[It's similar to our Rumble object](/catalogue/GROUPNUMBER_rumble.md)
```

Note: Remember to replace 'group_number' with your group number. For example, if you are group number 8, the link to your Rumble object page would be:

```
[It's similar to our Rumble object](/catalogue/8_rumble.md)
```

Replace the example link text with your own words, or mark-up existing words in your story.

Save the Markdown file in place by pressing **Control+S** or navigating to **File > Save** in the VSCodium menu.

Step 20. Create a link in the other direction: to the Ashmolean object from your Rumble story

Follow the instructions in the previous step, but instead add the linking mark-up to the Rumble Markdown file (e.g. `GROUPNUMBER_rumble.md`), and make the hyperlink reference your Ashmolean object. For example:

```
[It's made of the same material as this Ashmolean object](/catalogue/GROUPNUMBER_ashmolean.md)
```

Don't forget to save your Markdown file.

By the end of this section, you should have learned to

- use Quire to include catalogue data and marked-up text within a digital book
- explain how marked-up text and catalogue data enable Quire to automate book creation

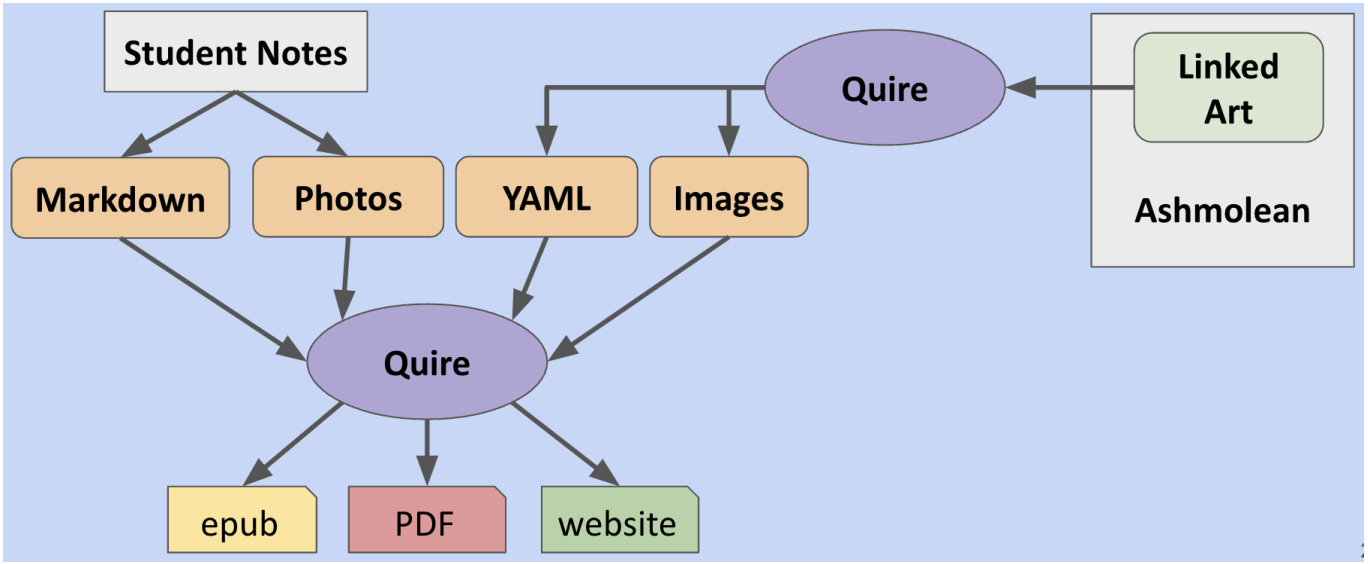
Section VIII - Adding more objects to the book

It is possible to add as many museum objects as you like to the book by creating additional structured data and stories. You could, for example, add pages to describe the other objects you saw on your Ashmolean Museum visit; or create a more complete catalogue of the Rumble Museum collection.

If you wanted to research more information to make additional pages, where could you look?

Section IX - Final thoughts

When you go home tonight and tell your parents about what you did today, what will you say? Can you use this diagram to help you?



Create a new Google Doc in the 'student_summaries' folder for yourself, and write a short paragraph describing what you have done today, and what you have learnt.