

Tips and Tricks for Maximizing Efficiency on Benchling



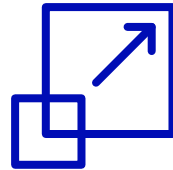
Key Considerations

Identifying Bottlenecks



What are the primary areas where you see delays or inefficiencies in your current Benchmarking processes?

Defining Success



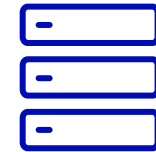
How will your team define success when it comes to improving productivity in Benchmarking?

Learning from Experience



Reflect on past attempts to improve efficiency. What strategies were successful, and what challenges did you encounter?

Setting Priorities



Which areas of Benchmarking should your team prioritize for productivity improvements, and why?

Discussion Points

Optimizing Notebook Entries

Template Consistency

- Are the notebook templates used across the team consistent and aligned with the SOPs?
- What improvements could be made to templates to get the entire team on the same page?

Entry Organization



- How organized are your current notebook entries?
- Would introducing sections improve searchability and usability?
- How do you currently manage sections of your notebook entries?

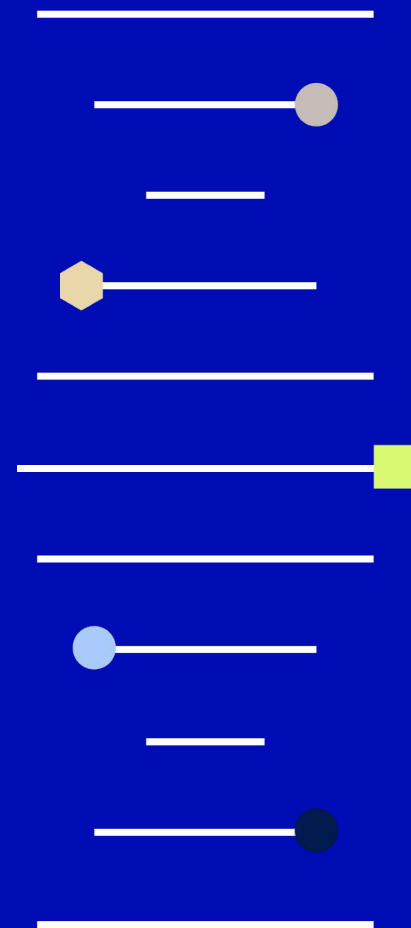
Reducing Redundancy

- How does your team complete routine work in an entry?
- Have you considered using sub-templates instead of constant copy and pasting?

Workflow Efficiency

- How could implementing shortcuts and other time-saving features streamline your team's workflow?

Notebook Tips & Tricks





Using Templates and Subtemplates in Notebook Entries

Maximize Consistency

Use Notebook Templates/Subtemplates

- Standardize your experimental documentation by using predefined **templates** that include all required fields and sections
- For repetitive sections within notebook entries, use **subtemplates**. These allow you to maintain consistency across entries and save time by avoiding the need to manually recreate common sections
- **Pro Tip:** Regularly update subtemplates to reflect any changes in standard operating procedures (SOPs)

Example Use Cases

- **Repetitive Procedures:** For labs that run the same experiment multiple times, templates can save hours by providing a pre-filled structure for each entry
- **Common Data Entry:** Use subtemplates for sections like “Materials Used” or “Procedures” that may be common in multiple experiments

[Templates Best Practice Guide](#)





Organize Entries with Sections and Entry Schemas

Maximize Searchability

Why Organization Matters

- Proper organization of notebook entries makes it easier to navigate and retrieve information, especially during audits or when revisiting old experiments

Creating Entry Sections

- Divide notebook entries into logical sections such as “Introduction,” “Methodology,” “Results,” and “Discussion.”
- Use Benchling’s Header tools to create headers and sub headers, ensuring that each part of the entry is clearly delineated

The screenshot displays a Benchling notebook interface. The top navigation bar includes tabs for 'REVIEW', 'NOTES', 'RELEVANT ITEMS', and 'METADATA'. The main content area is titled 'Sections' and features three distinct sections: 'First Section' (dated Friday, 5/31/2024), 'Second Section', and 'Third Section'. Below these sections is a 'Lookup Test Registry Schema 1' section, which contains a table with one row labeled 'Test Registry Schema*'. The interface includes a left sidebar with navigation icons, a top toolbar with editing tools, and a bottom status bar indicating 'Synced' and 'SPLIT WORKSPACE'.



Organize Entries with Sections and Entry Schemas (contd.)

Maximize Searchability

Leverage Entry Schemas for Searchability

- Entry schemas ensure consistency by tagging key metadata across experiments, projects, and groups, making data easier to search and analyze
- Once configured, schemas can be applied across any Notebook entries

[Selecting an Entry Schema for an Entry Help Center Article](#)



The screenshot shows a software interface with a top navigation bar containing tabs for 'Demo Entry', 'pUC19-GFP', 'Experiment Review', and 'Template 1'. Below this is a sub-navigation bar with 'REVIEW', 'NOTES', and 'METADATA' tabs. The main content area is titled 'Demo Entry' and contains several metadata fields: 'Authors' (JeffyPI), 'Location' (Entries), 'ID' (EXP21000004), and 'Created' (2/22/2021 10:28 AM). A 'Schema' dropdown menu is open, showing a search bar and a list of schemas: 'Generic Entry Schema' (selected), 'No schema', 'Generic Entry Schema', and 'Validation Data'. The 'Validation Data' option has a star icon and a hand cursor pointing to it.



Organize Entries with Sections and Entry Schemas (contd.)

Maximize Searchability

Best Practice Tips for Entry Schemas

- Always Select the appropriate Entry Schema when creating a new Notebook entry to ensure that all relevant metadata is captured
- **Admins:** Use required fields strategically to guide users in providing essential data
- Pre-populate Entry Schemas in templates to reduce repetitive data entry and ensure consistency across similar experiments
- Consider pre-filling key fields in the template, such as project names, to save time and eliminate errors

The screenshot displays the 'Settings' application interface. On the left, a sidebar lists various settings categories: RACHELLE JEON REGISTRY SETTINGS (General, Dropdowns, Entity schemas, Container schemas, Box schemas, Plate schemas, Location schemas, Label printing), INVENTORY SETTINGS (General, Label printing), TEMPLATE COLLECTIONS (Template collections, Test), LAB NOTEBOOK SETTINGS (Entry review processes), AUTOMATION SCHEMAS (Run schemas), RESULT SCHEMAS (Result schemas), TOOLS (Configuration migration), and DEVELOPER CONSOLE (Apps, Events). The main panel shows the 'Validation Experiment Template' configuration. It includes a 'Schema' dropdown menu with a search bar, a 'No schema' option, and a 'SCHEMAS' section with a 'Validation Entry' schema selected. The 'Validation Entry' schema has a 'FIELD' column and a 'VALUE' column. A note at the bottom states 'This entity has no custom fields.' The interface is in a 'SPLIT WORKSPACE' mode.



Choosing Teams as Authors

Maximize Efficiency

Benefits of Choosing Teams as Authors

- **Efficiency:** Assigning teams as authors streamlines the process, saving time by eliminating the need to manually add each individual contributor
- **Accountability:** Teams share ownership of the document, enhancing accountability and ensuring collective responsibility
- **Collaboration:** Promotes unified communication and consistent documentation, fostering better teamwork

The screenshot shows a web application window titled "Donor Sample Registration". The interface has a navigation bar with tabs: "ADD PROTOCOL", "NOTES", "METADATA" (which is active), "RELEVANT ITEMS", and "REVIEW". Below the navigation bar, the main content area is titled "Donor Sample Registration". Underneath, there is a section labeled "Authors" containing a dropdown menu. The dropdown is open, showing a list of options: "DSP" and "DT DSP Team" (which is highlighted). To the right of the "DT DSP Team" option, the word "team" is visible. Below the authors section, the text "EXP24000002" is displayed. At the bottom of the form, there is a "Schema" section with a dropdown menu that says "Select a schema..." and a downward arrow.



Choosing Teams as Authors (contd.)

Maximize Efficiency

Best Practices

- Define team roles and responsibilities to ensure everyone knows what is expected of them
- Use clear, consistent team names that reflect their function or project focus
- Keep team up to date to efficiently bulk-add team members as authors or even for permissions settings!

The screenshot shows a web interface for team management. At the top, there are navigation tabs: TEAMS, PROJECTS, CALENDAR, MEMBERS, and SETTINGS. A 'Create Team' button is in the top right. Below the navigation is a section titled 'Your Teams' which displays two team cards: 'Sequencing' with 3 members (green icon) and 'Cloning' with 2 members (red icon). Below this is a section titled 'Teams in Benchling Startup' which contains a table with two rows.

Name	Description
Cloning	Team dedicated to cloning projects
Sequencing	Team dedicated to sequencing projects

[Project Structure and Organization](#)
[Best Practice Guides](#)



Discussion Points

Optimizing Sample Management

Template Utilization

- How effectively is your team using templates for sample management?
- Are there opportunities to standardize or improve your templates?

Data Entry Efficiency



- Is the bulk import feature being fully leveraged?
- What could be done to make bulk entry more seamless?

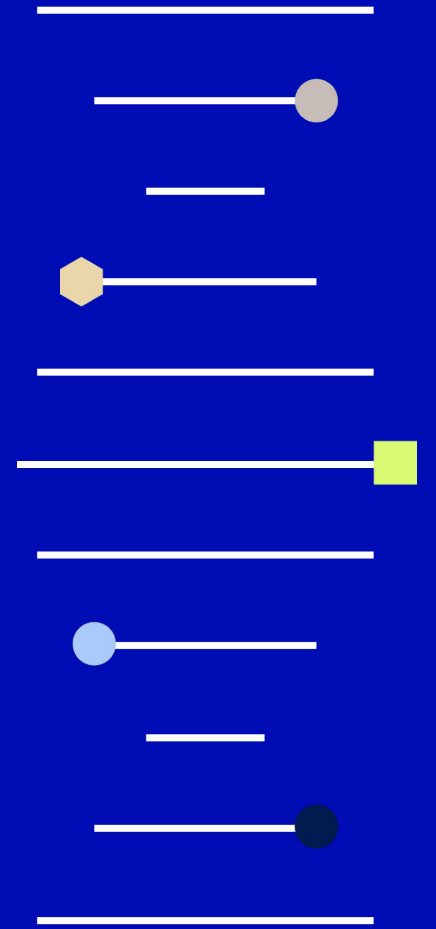
Accuracy and Speed

- Would implementing barcode scanning technology improve both accuracy and speed in sample tracking?

Consistency in Practices

- How consistent are your sample management practices across the team?
- What steps can be taken to make sure everyone is up to date on the sample management procedures?

Sample Management Tips & Tricks





Bulk Import for Efficiency

Maximize Efficiency

Tips

- Prepare your data in a CSV or Excel file, ensuring that it matches the format on Benchling
- Follow the bulk upload process to map the columns to the corresponding fields in Benchling, and correct any errors before they are imported

The screenshot shows the 'Entity Schemas / Donor Sample' page in Benchling. The 'Export' dropdown menu is open, showing two options: 'Export audit log' and 'Spreadsheet template'. The page content includes fields for 'Prefix' (DNR), 'Name' (Donor Sample), 'Warehouse name' (donor_sample), 'Entity type' (Custom Entity), and a 'Name template' section with a 'Set name template' link. There are also checkboxes for 'Use Registry ID as display label' and 'Include Registry ID in chips', and buttons for 'Example' and 'Example ID'.

You can find your registration table CSV template in your schema page as shown above

Considerations

- Maintain a consistent format in your data files to avoid errors during the import process
- Consider setting up an automated script to export data from other systems and format it correctly for smooth import process

[Registry Bulk Import Help Center Article](#)



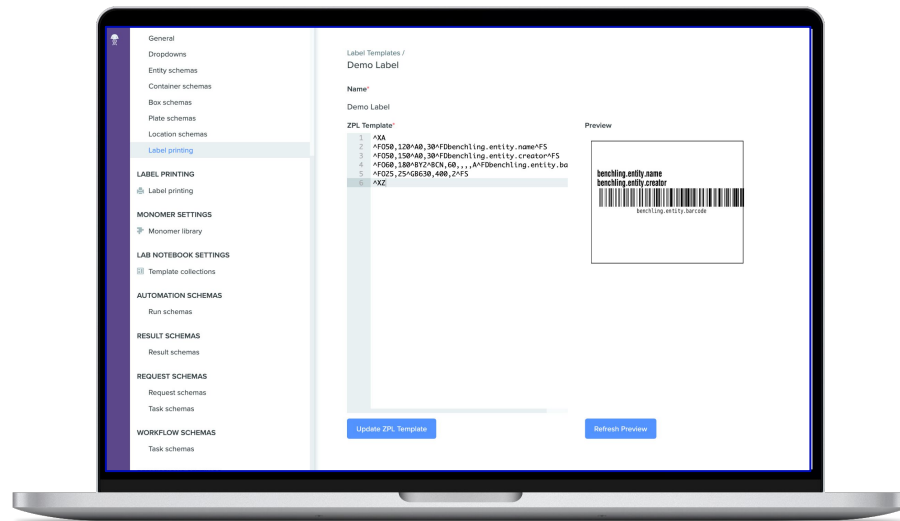


Barcode Scanning for Accuracy

Utilize barcode scanners to reduce Sample ID entry errors

Benefits

- Reduces Sample ID entry errors, speeds up the process of searching samples, and enhances the accuracy of tracking sample movements



Implementing Barcode Scanning

- Ensure that your samples are labeled with standardized barcodes that can be read by your scanning equipment
- Integrate your barcode scanner and label printer with Benchling
- Train your team on how to use the label printer and barcode scanner effectively, including how to troubleshoot common issues
- **Pro Tip:** Determine your label template to further streamline data entry and standardize the format across your lab



Effective Schema Management

Proper schema management ensures data consistency, integrity and accessibility

Computed vs Snapshot Fields

- Computed field is a schema field that automatically computes a value based on other values in your Benchling tenant
- Snapshot field is a type of computed field on results and workflows schemas to look up data from anything that is linked to inventory or registry items
- Unlike computed fields, snapshot fields are frozen in time
- Utilizing computed and snapshot fields effectively can save users time by automatically populating schema fields, eliminating the need for manual data searches.

Tips for Successful Schema Management

- **Regular Reviews:** Periodically review your schemas to ensure they still meet your lab's needs and adjust them as necessary
- **Training:** Provide training for team members on how to use schemas when registering entities, including the importance of following the defined data structure

[Data Modeling & Discovery Best Practice Guides](#)



Discussion Points

Enhancing Search and Automation

Search Efficiency

- How much time does your team spend searching for data?
- What data is your team searching for in Benchling frequently?
- Are there repeat searches that should be saved or shared with the team?"

Workflow Automation



- Which tasks are most time-consuming and could benefit from automation?

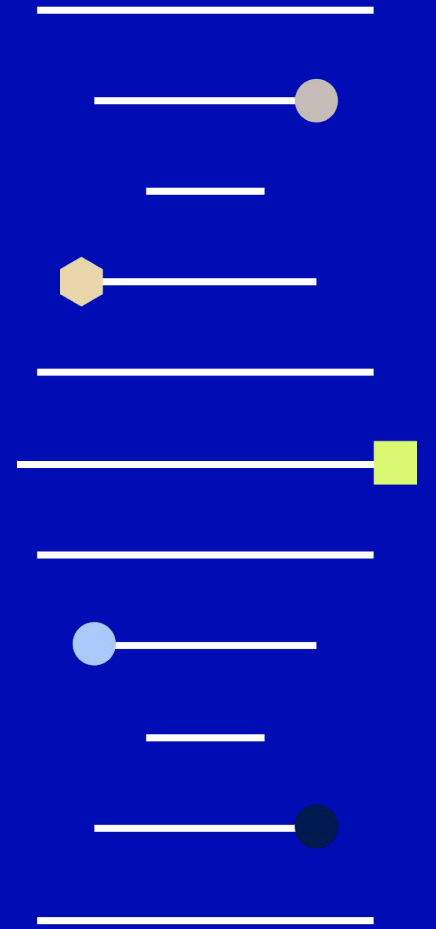
Task Management

- How well does your team manage tasks and deadlines currently?
- Where are the bottlenecks in your task management today?

Data Accessibility

- How can your team ensure that critical data is easily accessible to all members?
- Would setting up personalized or role-specific search configurations help achieve this?

Search and Automation Tips & Tricks





Using Saved Searches for Quick Access

Use Saved Searches to avoid manually entering search criteria

How to Create Saved Searches

- Perform a search in Benchling Global Search using the filters relevant to your task
- Save the search configuration for future use using Saved Searches
- **Pro Tip:** Use proper permissions settings to give the relevant users access to your saved search

Optimizing Search Collaboration

- **Permissions Management:** Assign appropriate permissions (View, Edit, Admin) to collaborators based on their role, ensuring they have the right level of access to use, modify, or share searches
- **Linking Searches:** Embed saved searches directly into entries, making it easy for collaborators to view relevant search results without leaving the notebook

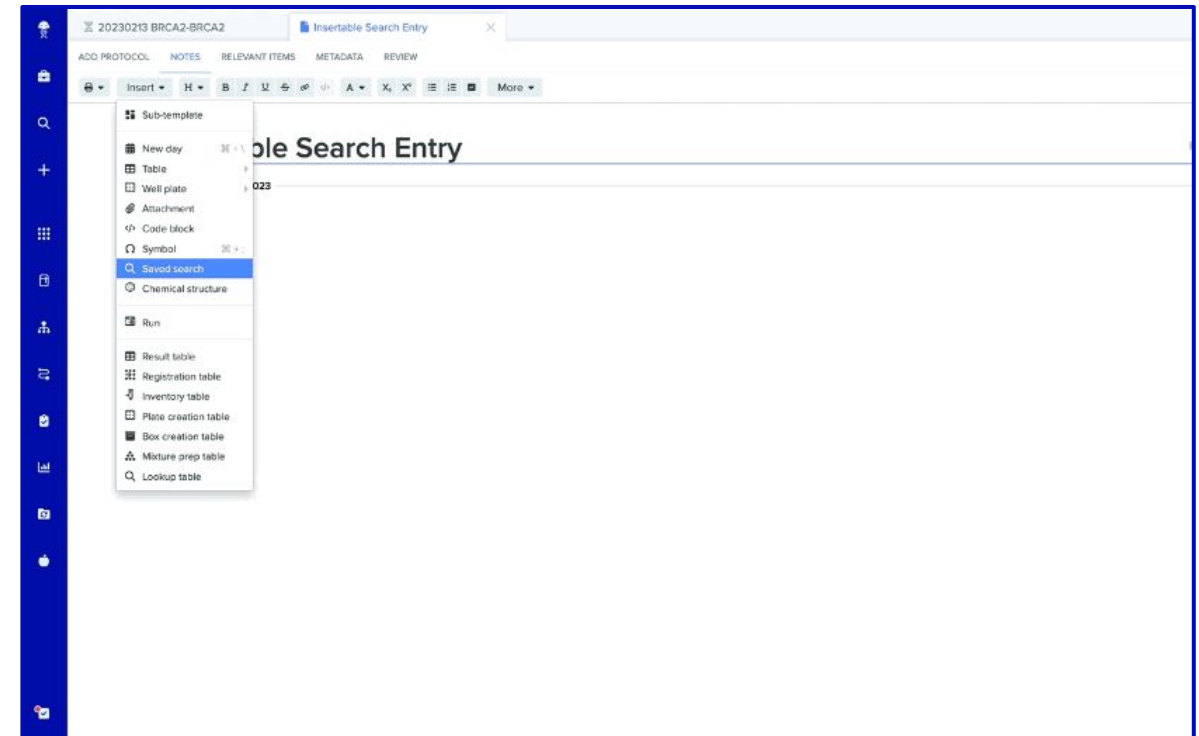


Using Saved Searches for Quick Access (contd.)

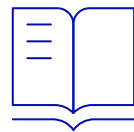
Use saved search to avoid manually entering search criteria

Example Use Cases

- **Commonly Accessed Data:** For teams that frequently search for the same set of samples or results, saved searches can reduce the time spent on repetitive tasks
- **Inventory Management:** Saved searches can help track inventory levels (by using sort by Quantity)
- **Project-Specific Data:** Saved searches that filter data by specific projects allow team members to quickly access all relevant samples, experiments, or results associated with a particular project



Resources for More Tips & Tricks



[Best Practice Guides Collection](#)



[Benchling Support](#)

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