

1. The record ID must be the first variable of the first form in the project
2. Keep forms short
	* Multiple shorter forms are easier to complete mentally.
	* Short forms also offer more opportunities to save your data. Data is not saved until the form is saved or the survey participant clicks “next page” or “submit.”
3. Group similar variables together
4. Minimize the use of free response fields
	* Wherever possible, use a multiple-choice field type instead of a text or notes field to ensure consistent responses and avoid user errors (e.g. typos).
	* If you are using free response text fields, validate the data type whenever possible (e.g. email address, phone number, date, zip code, number).
	* If applicable, set maximum and minimum values for fields validated as numbers. REDCap will let you enter numbers outside of this range (unless enforced by the @FORCE-MINMAX action tag), but it will let you know the number is outside the range. This will help minimize errors.
5. Break data collection fields into all key components
	* For example, if you are collecting addresses and you want to analyze both the state and the city, make those fields separate.
6. Consistently code your variables
	* If you have multiple questions that will use the same answer choices, code them all the same.
	* Avoid yes/no and true/false fields, which tend to cause problems if you need to add a third option later (e.g. N/A)—stick to radio buttons and dropdowns.
	* Code answer choices such as “unknown”, “N/A”, “prefer not to answer”, or “Other” as a number that stands out (e.g. 888 or 999). This will allow you to add similarly coded answer choices to the list if needed.
	* Don’t recode once you’ve started collecting data—this will corrupt your data. Add the new answer choices for the next number and input the number where you want it displayed in the list.
7. Variables names
	* Variable names should be short, alphanumeric, easy to type, and be meaningful—these are the labels that REDCap will use in piping, calculated fields, and branching logic and will be used when you are doing your analysis.
	* Variable names should not be changed once data collection has started.
	* If you change a variable name, you will also need to change all piping, calculations, and branching logic associated with it.
8. Flag fields that are identifiers
9. Add field notes
	* Use field notes to help data entry staff and survey respondents enter information correctly (e.g. units of measurement).
10. Calculated fields
	* REDCap is capable of calculations, but it is not designed as a statistical tool. Complex calculations should be done during analysis. As a rule of thumb, use calculations in REDCap if you need to see the calculation for the data collection process. If not, save calculations for analysis.
	* The [REDCap FAQ](https://umbredcap.umaryland.edu/index.php?action=help) is a great resource for formatting calculations.
11. Branching logic
	* Branching logic is a great way to hide fields that will be irrelevant to certain users and survey respondents, and a great way to streamline and customize the data entry process.
	* Branching logic goes in the child field—the field that you want to hide.
	* You can either use the drag and drop menu or write out advanced branching logic. You can also copy and paste branching logic if using the same logic for multiple fields.
	* The [REDCap FAQ](https://umbredcap.umaryland.edu/index.php?action=help) is a great resource for learning how to format branching logic.
12. Set up data quality rules to check for discrepancies in your data.
13. The Data Dictionary
	* The data dictionary is an alternate way to build your project (as opposed to the Online Designer).
	* You can create or view the Data Dictionary as a CSV file in Excel.
	* The data dictionary is particularly useful when you need to do repetitive work that requires few or small changes (e.g. copying branching logic to many fields or copying similar variables).
	* If copying variable names, you can use find-replace in excel to change the 1 or 2 characters per variable that will need to be changed.
14. User Roles
	* Ensure user roles are created, and users are appropriately assigned with the minimum required rights for their role on the project.
15. E-Consent
	* Enable the e-Consent Framework for participant consents.
16. Overall project design
	* Think about how data will need to be entered in the project and how you will analyze it while you’re building the database.
	* If possible, speak with any relevant stakeholders including statisticians and data entry personnel to incorporate their suggestions in your database design.
17. Test the project thoroughly
	* Add test records and enter data for each instrument in the project.
	* Verify that branching logic and calculations function without errors.
	* Test the survey distribution process including the public survey link, automated survey invitations, the survey queue or auto-continue functionality, and/or composing survey invitations via the participant list or within a record (if applicable).
	* Test sending alerts (if applicable).
	* Test any additional features enabled in the project.
18. Move the project to production before data collection begins.
19. Once data collection is complete, transition the project to Analysis/Cleanup to disable project functionality and preserve the data.