

Report

This report explains the Alteryx workflow I created to process, clean, and consolidate data from three different sources: Sales, Inventory, and StoreMaster. Each dataset had its own structure and schema, so I first focused on standardizing them before joining and analyzing the data together.

I began the workflow by ingesting all three datasets using separate Input Data tools. After loading the data, I used the Select tool to review metadata and ensure that all columns had the correct data types, since mismatched types can cause errors during joins or calculations. I then applied the Data Cleansing tool across all datasets to remove leading and trailing spaces, preventing key mismatches and formatting issues.

Next, I used the Formula tool to standardize important fields. In the Sales sheet, I formatted StoreID, MaterialID, and date fields consistently and replaced null Net Sales values with zero. I created WeekStart (set to Monday) and WeekEnd (WeekStart + 6 days) to support weekly aggregation. I also added flags for negative sales, missing promo data and missing dates. In the Inventory sheet, I standardized StoreID, MaterialID, and SnapshotDate, and cleaned On_Hand, On_Order, and Safety Stock columns by converting dashes (–) to 0 so that inventory metrics could be calculated accurately. I also added a snapshot flag, missing inventory flag. The StoreMaster sheet was standardized for Store Number and other store-level attributes.

After cleaning and standardizing the datasets, I joined Sales with Inventory using StoreID, MaterialID, and WeekStart matched with SnapshotDate, based on the assumption that inventory snapshots are taken every Monday. This ensured that weekly sales values aligned with the corresponding inventory snapshot. I then joined the combined Sales–Inventory file with StoreMaster using StoreID to enrich the dataset with store metadata. After each join, I removed irrelevant fields.

To create a weekly summary, I used the Summarize tool to group data by StoreID, MaterialID, and SnapshotDate, and calculated totals for Units Sold and Net Sales, along with the first occurrence of other required fields. I sorted the data to support week-over-week calculations, then used the Formula tool to create Units Last Week, Sales Last Week, ASP Last Week, and 4-week average units. I also calculated Weeks of Supply, ASP, and comparisons for Units and Net Sales versus the previous week.

I finalized the workflow by adjusting data types in the Select tool and generating three outputs using the Output Data tool.

Flag Data

Flag Type	Count
Negative Sales Flag (Sales-level data)	234
Missing Promo Flag	372
Missing Inventory Records	306
Store Open Date Missing	1
No Sales on a Weekly Basis	35