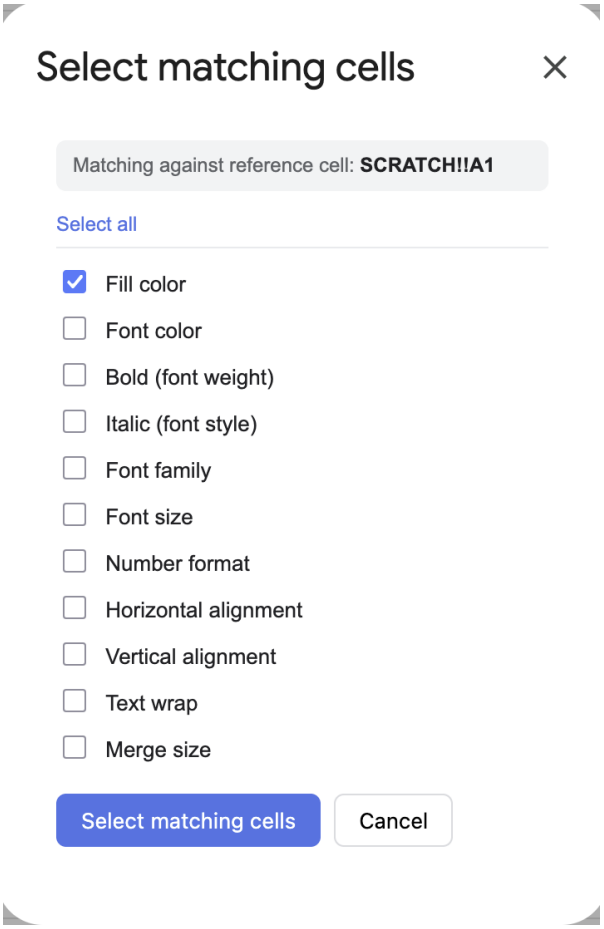
Google Sheets - Super Menu w/ Apps Script

Add a sweet fuckin' menu in Google Sheets that will shave off hours of your life. After all, time is the only resource you can never get back.

1. Replace fill color (replaceFillColor) - Finds all cells with hex color and replaces the hex color of your choosing
2. Select matching cells (selectMatchingCells) - This one is so tight, you can find all cells that match certain conditions and bulk edit them.
3. Copy (Formula Safe) - this copies formats and formulas of a selection
4. Paste (Formula Safe) - this copies formats and formulas of a selection, formulas references are absolute and aren't transposed (unless they are referenced within the copied selection, and then the self-reference updates). You're welcome!!!



Here's the Apps Script

```
/**
 * Tech Almanac Tools – utilities under a sub menu:
 *   1. Replace fill color   (replaceFillColor)
```

```
 *   2. Select matching cells (selectMatchingCells)
 *   3. Copy (Formula Safe) - this copies formats and formulas of a selection
 *   4. Paste (Formula Safe) - this copies formats and formulas of a selection, formulas
references are absolute and aren't transposed (unless they are referenced within the copied
selection, and then the self-reference updates). You're welcome!!!
 * "Select matching cells" needs a companion HTML file named "MatchDialog".
 */

function onOpen() {
  SpreadsheetApp.getUi()
    .createMenu('Tech Almanac Tools')
    .addItem('Replace fill color…', 'replaceFillColor')
    .addItem('Select matching cells…', 'selectMatchingCells')
    .addSeparator()
    .addItem('Copy (formula-safe)', 'formulaSafeCopy')
    .addItem('Paste (formula-safe)', 'formulaSafePaste')
    .addToUi();
}

/* ============================================================
 * TOOL 1 — Replace fill color
 * ============================================================ */

function replaceFillColor() {
  const ui = SpreadsheetApp.getUi();
  const sheet = SpreadsheetApp.getActiveSheet();

  const findResp = ui.prompt(
    'Replace fill color',
    'Color to FIND (hex, e.g. #cfecff):',
    ui.ButtonSet.OK_CANCEL
  );
  if (findResp.getSelectedButton() !== ui.Button.OK) return;
  const findColor = normalizeHex(findResp.getResponseText());
  if (!findColor) {
    ui.alert('That doesn\'t look like a valid hex color. Try something like #cfecff.');
    return;
  }

  const replaceResp = ui.prompt(
    'Replace fill color',
    'Color to REPLACE it with (hex, e.g. #ffffff):',
    ui.ButtonSet.OK_CANCEL
  );
  if (replaceResp.getSelectedButton() !== ui.Button.OK) return;
  const replaceColor = normalizeHex(replaceResp.getResponseText());
  if (!replaceColor) {
    ui.alert('That doesn\'t look like a valid hex color. Try something like #ffffff.');
    return;
  }

  const range = sheet.getDataRange();
  const backgrounds = range.getBackgrounds();
  const startRow = range.getRow();
  const startCol = range.getColumn();

  const matchedA1 = [];
  for (let r = 0; r < backgrounds.length; r++) {
    for (let c = 0; c < backgrounds[r].length; c++) {
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```
      if (backgrounds[r][c].toLowerCase() === findColor) {
        backgrounds[r][c] = replaceColor;
        matchedA1.push(sheet.getRange(startRow + r, startCol + c).getA1Notation());
      }
    }
  }

  if (matchedA1.length === 0) {
    ui.alert('No cells with fill ' + findColor + ' found on "' + sheet.getName() + '".');
    return;
  }

  sheet.setActiveRangeList(sheet.getRangeList(matchedA1));

  const confirm = ui.alert(
    'Confirm replacement',
    'Found ' + matchedA1.length + ' cell(s) with ' + findColor +
    ' on "' + sheet.getName() + '".\n\nReplace their fill with ' + replaceColor + '?',
    ui.ButtonSet.OK_CANCEL
  );
  if (confirm !== ui.Button.OK) return;

  range.setBackgrounds(backgrounds);
  SpreadsheetApp.getActive().toast('Replaced ' + matchedA1.length + ' cell(s).', 'Done', 5);
}

/**
 * Normalize a user-entered hex string to lowercase 6-digit form (#rrggbb).
 * Accepts "#cfecff", "cfecff", "#abc", "abc". Returns null if invalid.
 */
function normalizeHex(input) {
  if (!input) return null;
  let h = input.trim().toLowerCase().replace(/^#/, '');
  if (/^[0-9a-f]{3}$/.test(h)) {
    h = h.split('').map(function (ch) { return ch + ch; }).join('');
  }
  if (/^[0-9a-f]{6}$/.test(h)) return '#' + h;
  return null;
}

/* ============================================================
 * TOOL 2 — Select matching cells
 * ============================================================ */

function selectMatchingCells() {
  const html = HtmlService.createHtmlOutputFromFile('MatchDialog')
    .setWidth(320)
    .setHeight(460);
  SpreadsheetApp.getUi().showModalDialog(html, 'Select matching cells');
}

/** Called by the dialog on load, to show which cell is the reference. */
function getActiveCellAddress() {
  const sheet = SpreadsheetApp.getActiveSheet();
  return sheet.getName() + '!' + sheet.getActiveCell().getA1Notation();
}

/**
 * Called by the dialog. `options` is an object of booleans keyed by attribute.
```

```
 * Selects every cell on the active sheet that matches the reference cell on
 * all enabled attributes. Returns { count } or { error }.
 */
function runMatch(options) {
  const sheet = SpreadsheetApp.getActiveSheet();
  const range = sheet.getDataRange();
  const startRow = range.getRow();
  const startCol = range.getColumn();
  const numRows = range.getNumRows();
  const numCols = range.getNumColumns();

  // Reference cell position relative to the data range.
  const active = sheet.getActiveCell();
  let refR = active.getRow() - startRow;
  let refC = active.getColumn() - startCol;
  if (refR < 0 || refC < 0 || refR >= numRows || refC >= numCols) {
    return { error: 'Select a cell that contains data first, then run this again.' };
  }

  // Read only the attribute matrices we actually need.
  const data = {};
  if (options.background)   data.background   = range.getBackgrounds();
  if (options.fontColor)    data.fontColor    = range.getFontColors();
  if (options.fontWeight)   data.fontWeight   = range.getFontWeights();
  if (options.fontStyle)    data.fontStyle    = range.getFontStyles();
  if (options.fontFamily)   data.fontFamily   = range.getFontFamilies();
  if (options.fontSize)     data.fontSize     = range.getFontSizes();
  if (options.numberFormat) data.numberFormat = range.getNumberFormats();
  if (options.hAlign)       data.hAlign       = range.getHorizontalAlignments();
  if (options.vAlign)       data.vAlign       = range.getVerticalAlignments();
  if (options.wrap)         data.wrap         = range.getWraps();

  const hasAttr = Object.keys(data).length > 0;
  if (!hasAttr && !options.merge) {
    return { error: 'Pick at least one condition to match on.' };
  }

  // Build merge maps: dimensions string per cell + which cells are anchors.
  const mergeDims = [];
  const isAnchor = [];
  for (let r = 0; r < numRows; r++) {
    mergeDims[r] = new Array(numCols).fill('1x1');
    isAnchor[r] = new Array(numCols).fill(true);
  }
  const merges = range.getMergedRanges();
  merges.forEach(function (m) {
    const mr = m.getRow() - startRow;
    const mc = m.getColumn() - startCol;
    const rows = m.getNumRows();
    const cols = m.getNumColumns();
    const dim = rows + 'x' + cols;
    for (let r = mr; r < mr + rows; r++) {
      for (let c = mc; c < mc + cols; c++) {
        if (r >= 0 && c >= 0 && r < numRows && c < numCols) {
          mergeDims[r][c] = dim;
          isAnchor[r][c] = (r === mr && c === mc);
        }
      }
    }
```

```
    // Snap the reference to its merge anchor if it sits inside this merge.
    if (refR >= mr && refR < mr + rows && refC >= mc && refC < mc + cols) {
      refR = mr;
      refC = mc;
    }
  });

  // Reference values.
  const ref = {};
  Object.keys(data).forEach(function (k) {
    ref[k] = norm(k, data[k][refR][refC]);
  });
  const refMerge = mergeDims[refR][refC];

  // Scan and collect anchor cells that match on every enabled attribute.
  const matched = [];
  for (let r = 0; r < numRows; r++) {
    for (let c = 0; c < numCols; c++) {
      if (!isAnchor[r][c]) continue; // skip interior cells of merges
      let ok = true;
      for (const k in data) {
        if (norm(k, data[k][r][c]) !== ref[k]) { ok = false; break; }
      }
      if (ok && options.merge && mergeDims[r][c] !== refMerge) ok = false;
      if (ok) matched.push(sheet.getRange(startRow + r, startCol + c).getA1Notation());
    }
  }

  if (matched.length === 0) return { count: 0 };
  sheet.setActiveRangeList(sheet.getRangeList(matched));
  return { count: matched.length };
}

/** Normalize values so equivalent formats compare equal (colors are case-folded). */
function norm(key, val) {
  if (key === 'background' || key === 'fontColor') return String(val).toLowerCase();
  return val;
}

// ?? Formula-Safe Copy ????????????????????????????????????????????????

function formulaSafeCopy() {
  const sheet = SpreadsheetApp.getActiveSpreadsheet().getActiveSheet();
  const range = sheet.getActiveRange();

  // Store the A1 notation and sheet name in script properties
  const props = PropertiesService.getScriptProperties();
  props.setProperty('FSC_RANGE',  range.getA1Notation());
  props.setProperty('FSC_SHEET',  sheet.getName());

  SpreadsheetApp.getUi().alert(
    `Copied ${range.getA1Notation()} — now select your destination cell and run Paste
(formula-safe).`
  );
}

// ?? Formula-Safe Paste ???????????????????????????????????????????????

function formulaSafePaste() {
```

```
const ui    = SpreadsheetApp.getUi();
const props = PropertiesService.getScriptProperties();
const srcRangeNotation = props.getProperty('FSC_RANGE');
const srcSheetName     = props.getProperty('FSC_SHEET');

if (!srcRangeNotation || !srcSheetName) {
  ui.alert('Nothing copied yet — run Copy (formula-safe) first.');
  return;
}

const ss       = SpreadsheetApp.getActiveSpreadsheet();
const srcSheet = ss.getSheetByName(srcSheetName);
const srcRange = srcSheet.getRange(srcRangeNotation);

// Grab formulas (as strings) and display values separately
const formulas = srcRange.getFormulas();       // raw formula strings, e.g. "=A1+B1"
const values   = srcRange.getDisplayValues();  // what the cell shows if not a formula

// Source range bounds
const srcRow  = srcRange.getRow();
const srcCol  = srcRange.getColumn();
const srcRows = srcRange.getNumRows();
const srcCols = srcRange.getNumColumns();

// Destination anchor
const dest    = ss.getActiveSheet().getActiveRange();
const destRow = dest.getRow();
const destCol = dest.getColumn();

// Row/col offset from source to destination
const rowOffset = destRow - srcRow;
const colOffset = destCol - srcCol;

// Regex matches cell addresses like B4, $B$4, B$4, $B4
const cellRef = /(\$?)([A-Za-z]{1,3})(\$?)(\d+)/g;

/**
 * If the address falls within the source range, shift it by the paste offset.
 * Anchored ($) axes are never shifted, matching normal paste behaviour.
 * Addresses outside the source range are left untouched.
 */
function shiftIfInRange(colAnchor, colLetter, rowAnchor, rowNum) {
  const col = columnLetterToIndex(colLetter.toUpperCase());
  const row = parseInt(rowNum, 10);
  if (row >= srcRow && row < srcRow + srcRows &&
      col >= srcCol && col < srcCol + srcCols) {
    const newCol = colAnchor ? col : col + colOffset;
    const newRow = rowAnchor ? row : row + rowOffset;
    return (colAnchor ? '$' : '') + columnIndexToLetter(newCol) +
           (rowAnchor ? '$' : '') + newRow;
  }
  return (colAnchor ? '$' : '') + colLetter.toUpperCase() +
         (rowAnchor ? '$' : '') + rowNum;
}

// Build payload: rewrite intra-range references, pass external refs through as-is
const payload = formulas.map((row, r) =>
  row.map((formula, c) => {
    if (formula === '') return values[r][c];
```

```
      return formula.replace(cellRef, (match, ca, cl, ra, rn) =>
        shiftIfInRange(ca, cl, ra, rn)
      );
    })
  );

  const destRange = ss.getActiveSheet().getRange(
    destRow, destCol, payload.length, payload[0].length
  );

  // Copy formatting first, then overwrite with values/formulas
  srcRange.copyTo(destRange, SpreadsheetApp.CopyPasteType.PASTE_FORMAT, false);
  destRange.setValues(payload);
}

// ?? Helpers ????????????????????????????????????????????????????????????

function columnLetterToIndex(letters) {
  let n = 0;
  for (let i = 0; i < letters.length; i++) {
    n = n * 26 + (letters.charCodeAt(i) - 64);
  }
  return n;
}

function columnIndexToLetter(n) {
  let s = '';
  while (n > 0) {
    const rem = (n - 1) % 26;
    s = String.fromCharCode(65 + rem) + s;
    n = Math.floor((n - 1) / 26);
  }
  return s;
}
```

Here's the MarchDialog.html for the Select Matching Cells Modal

```
<!DOCTYPE html>
<html>
<head>
  <base target="_top">
  <style>
    body {
      font-family: Arial, Helvetica, sans-serif;
      font-size: 13px;
      color: #202124;
      margin: 12px;
    }
    .ref {
      background: #f1f3f4;
      border-radius: 6px;
      padding: 8px 10px;
      margin-bottom: 12px;
      font-size: 12px;
      color: #5f6368;
    }
    .ref b { color: #202124; }
    label {
      display: block;
```

```
      padding: 4px 0;
      cursor: pointer;
    }
    label input { margin-right: 8px; }
    .toggle {
      margin-bottom: 6px;
      padding-bottom: 6px;
      border-bottom: 1px solid #e8eaed;
    }
    .toggle a {
      font-size: 12px;
      color: #1a73e8;
      text-decoration: none;
      cursor: pointer;
    }
    .toggle a:hover { text-decoration: underline; }
    .buttons {
      margin-top: 14px;
      display: flex;
      gap: 8px;
    }
    button {
      font-size: 13px;
      padding: 7px 14px;
      border-radius: 6px;
      border: 1px solid #dadce0;
      background: #fff;
      cursor: pointer;
    }
    button.primary {
      background: #1a73e8;
      color: #fff;
      border-color: #1a73e8;
    }
    button:disabled { opacity: 0.5; cursor: default; }
    #status { margin-top: 12px; font-size: 12px; min-height: 16px; }
    #status.err { color: #c5221f; }
    #status.ok { color: #188038; }
  </style>
</head>
<body>
  <div class="ref">
    Matching against reference cell: <b id="refCell">…</b>
  </div>

  <div class="toggle">
    <a href="#" id="toggleAll" onclick="toggleAll(); return false;">Select all</a>
  </div>

  <div id="opts">
    <label><input type="checkbox" id="background" checked> Fill color</label>
    <label><input type="checkbox" id="fontColor"> Font color</label>
    <label><input type="checkbox" id="fontWeight"> Bold (font weight)</label>
    <label><input type="checkbox" id="fontStyle"> Italic (font style)</label>
    <label><input type="checkbox" id="fontFamily"> Font family</label>
    <label><input type="checkbox" id="fontSize"> Font size</label>
    <label><input type="checkbox" id="numberFormat"> Number format</label>
    <label><input type="checkbox" id="hAlign"> Horizontal alignment</label>
    <label><input type="checkbox" id="vAlign"> Vertical alignment</label>
    <label><input type="checkbox" id="wrap"> Text wrap</label>
```

```
    <label><input type="checkbox" id="merge"> Merge size</label>
  </div>

  <div class="buttons">
    <button class="primary" id="run" onclick="run()">Select matching cells</button>
    <button onclick="google.script.host.close()">Cancel</button>
  </div>

  <div id="status"></div>

  <script>
    var KEYS = ['background','fontColor','fontWeight','fontStyle','fontFamily',
                'fontSize','numberFormat','hAlign','vAlign','wrap','merge'];

    google.script.run.withSuccessHandler(function (addr) {
      document.getElementById('refCell').textContent = addr;
    }).getActiveCellAddress();

    function setStatus(msg, cls) {
      var s = document.getElementById('status');
      s.textContent = msg;
      s.className = cls || '';
    }

    function syncToggleLabel() {
      var allChecked = KEYS.every(function (k) {
        return document.getElementById(k).checked;
      });
      document.getElementById('toggleAll').textContent = allChecked ? 'Select none' : 'Select
all';
    }
    KEYS.forEach(function (k) {
      document.getElementById(k).addEventListener('change', syncToggleLabel);
    });
    syncToggleLabel();

    function toggleAll() {
      var allChecked = KEYS.every(function (k) {
        return document.getElementById(k).checked;
      });
      KEYS.forEach(function (k) { document.getElementById(k).checked = !allChecked; });
      syncToggleLabel();
    }

    function run() {
      var options = {};
      KEYS.forEach(function (k) { options[k] = document.getElementById(k).checked; });

      var btn = document.getElementById('run');
      btn.disabled = true;
      setStatus('Scanning…');

      google.script.run
        .withSuccessHandler(function (result) {
          btn.disabled = false;
          if (result.error) { setStatus(result.error, 'err'); return; }
          if (result.count === 0) { setStatus('No matching cells found.', 'err'); return; }
          setStatus('Selected ' + result.count + ' cell(s). Closing…', 'ok');
          setTimeout(google.script.host.close, 700);
        })
```

```
        .withFailureHandler(function (err) {
          btn.disabled = false;
          setStatus(err.message || String(err), 'err');
        })
        .runMatch(options);
    }
  </script>
</body>
</html>
```

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