STRETCHLEARN · WORKBOOK

Vector Art — Workbook

This workbook turns the Vector Art course into reps you can keep. You will drill the Pen tool, build artwork from primitives, shade with mesh and cel layers, and ship a portrait, a scene, and a print-ready merch file. Work each section in order, save your swatch sets and components as you go, and use the included templates to track palettes, ink limits, and export specs so every later piece stays consistent and sellable.

Pen Tool and Bezier Control

Train accurate Pen-tool curves and prove you can describe shapes with the fewest, best-placed anchors.

Exercise: Pen-Tool Track Drills

Create a 1920 by 1080 px file. On a locked layer at 30 percent opacity, place a reference sheet with a straight run, an S-curve, a row of scallops, and a closed loop. Trace each on a layer above using only the Pen tool. Then switch to the Direct Selection tool and delete every anchor that is not at a curve extreme. Repeat the full set three times and keep your fastest clean attempt.

• Where did you place anchors, and did you keep them only at the top, bottom, left, and right extremes of each curve?

• How long were your handles relative to the gap to the next anchor, and did shorter handles read smoother?

• How many anchors did your closed loop end with before and after refining?

Exercise: Three Tools, One Shape

Pick one organic shape, for example a leaf or a speech bubble. Draw it three times: once with the standard Pen tool, once with the Curvature Pen, and once freehand with the Pencil followed by Object, Path, Simplify. Compare anchor counts and edit-ability.

• Which tool got you to a clean result fastest for this shape, and why?

• What anchor count did each version end with after simplifying?

• Which version was easiest to tweak afterward, and what does that tell you about your default tool choice?

Worksheet: Curve Decision Record

Fill this in for one shape you traced so you can repeat your reasoning on future art.

Shape drawn

Tool used (Pen / Curvature Pen / Pencil)

Number of anchors after refining

Smooth vs corner points used and where

Average handle length vs segment length (short / one-third / long)

What you would change next time

Checklist: Clean-Path Checklist

[ ] Anchors sit only at curve extremes, not scattered along segments
[ ] Handles are roughly one-third of the way to the next anchor
[ ] Smooth points flow through, corner points break only where intended
[ ] No redundant anchors remain after Object, Path, Simplify
[ ] Path is fully closed where it should be (start anchor met)

Shape Builder and Construction Workflows

Build artwork from primitives and combine it precisely with Shape Builder, Pathfinder, and the Align panel.

Exercise: Primitive Breakdown and Build

Choose a simple subject (a mug, a fox, a camera). Before drawing, list the primitives it breaks down into. Then build it using only rectangles, ellipses, polygons, and minimal Pen work, combining parts with Shape Builder or Pathfinder. Keep it geometric and symmetric.

• What primitives did you break your subject into before drawing?

• Where did you use Shape Builder by dragging, and where did you switch to a precise Pathfinder button?

• Which Pathfinder operation (Unite, Minus Front, Intersect, Divide) did each merge need?

Exercise: Divide for Shading

Take a face or object built from one base shape plus an overlapping shadow shape. Select both and use Pathfinder Divide, then recolor the resulting slices to create a hard-edged two-tone shade. Note how Divide differs from Trim and from a live Compound Shape.

• How many separate fillable regions did Divide produce?

• What changed when you tried Trim instead of Divide on the same shapes?

• When would you Alt-click Unite to keep a live Compound Shape instead of flattening?

Worksheet: Construction Plan

Plan one piece before building it so you rely on construction, not endless outlining.

Subject

Primitives it breaks into (list)

Exact sizes for key shapes (W x H in px)

Merge operations needed (Unite / Minus Front / Intersect / Divide)

Alignment plan (Key Object / Artboard / Selection)

Layer and group names

Checklist: Precision Output Checklist

[ ] Key shapes were sized numerically in the Transform panel, not eyeballed
[ ] Objects are aligned and distributed via the Align panel, not by hand
[ ] Align to Pixel Grid is on for any screen-bound art
[ ] Related parts are grouped and layers are named and locked where needed
[ ] No stray half-pixel edges remain when Pixel Preview is on

Color, Gradient Mesh, and Shading

Lock a reusable palette and practice both full gradient mesh and fast cel-shading for volume.

Exercise: Build a Five-Swatch Global Palette

Create five global swatches (dominant, secondary, accent, light neutral, dark neutral). For each, make three tints for shading. Apply them to a small illustration, then edit one global swatch and confirm every object using it updates. Save the set as a Swatch Library.

• What are your five base colors, and what role does each play?

• When you edited one global swatch, what updated across the artwork?

• Did you set any as spot (Pantone) colors for print, and why or why not?

Exercise: Mesh an Object, Then Fake It

Render one rounded object (an apple, a balloon, a bottle) two ways. First use a gradient mesh of about 4 by 4 with one highlight and one shadow point. Then recreate similar volume on a copy using only a freeform gradient plus Multiply shadow and Screen highlight shapes. Keep a flat backup before meshing.

• How many mesh points did you actually need for a smooth blend?

• Which method gave a cleaner, more editable result for this object?

• Which version would you choose if this were going on a t-shirt, and why?

Worksheet: Shading Method Log

Record how you shaded one piece so you can justify the method next time.

Object or subject

Method (gradient mesh / freeform gradient / cel with Multiply + Screen)

Mesh points used (if any)

Shadow opacity and blend mode

Highlight opacity and blend mode

Output destination (screen / large print / merch)

Checklist: Color and Shading Checklist

[ ] Colors are defined as global swatches before filling objects
[ ] Print-bound colors are CMYK or named spot inks, not stray RGB
[ ] A flat backup of any meshed shape was saved before meshing
[ ] Shading is clipped inside the parent silhouette so it does not bleed
[ ] Cel shadows use Multiply and highlights use Screen at sensible opacity

Illustration Projects and Print-Ready Output

Finish a portrait and a scene, then prepare correct, bleed-safe files for apparel, stickers, and posters.

Exercise: Stylized Vector Portrait

Place a portrait photo on a locked, dimmed layer. Reduce it to highlight, midtone, core shadow, and accent shapes using the Pen tool. Build features as separate small shapes and clip all shading inside the skin silhouette. Pull reference opacity down as you go to judge your shapes alone.

• What four value shapes did you reduce the face to?

• How did you keep shadows from spilling past the jawline?

• Where did simplified shapes read better than literal photographic detail (for example, hair)?

Exercise: Three-Band Scene

Build a scene in named background, midground, and foreground layers around one hero subject. Apply a single consistent light direction, use overlap and scale for depth, and add a low-opacity atmospheric overlay to distant layers. Drive the eye to one focal point with your highest contrast and most saturated accent.

• What is your light direction, and is every shadow consistent with it?

• Which depth cues did you use (overlap, scale, atmospheric perspective, placement)?

• Where is your focal point, and how does contrast and saturation steer the eye there?

Worksheet: Print Hand-Off Spec

Complete one row of facts per deliverable before you export or send to a printer.

Deliverable (t-shirt / sticker / poster)

Color mode (RGB / CMYK / spot)

Number of spot inks (if screen printing)

Required resolution and size (e.g. 300 PPI, 11 x 11 in)

Bleed set (e.g. 3 mm) and crop marks on/off

Cut line present and named CutContour (Y/N)

Type outlined and appearance expanded (Y/N)

Checklist: Pre-Send Print Checklist

[ ] Document is in the correct color mode for its destination
[ ] All type is outlined (Type, Create Outlines)
[ ] Strokes and effects are expanded (Object, Expand Appearance)
[ ] Bleed is set and full-bleed art crosses it
[ ] Die-cut or kiss-cut files include a CutContour spot path
[ ] File is packaged (File, Package) and a physical proof is ordered before volume

Your Action Plan

1. Do 20 minutes of Pen-tool track drills daily for one week until clean curves feel automatic
2. Adopt the one-third handle rule and place anchors only at curve extremes on every path
3. Switch to building from primitives plus Shape Builder and Pathfinder instead of outlining
4. Create and save a reusable five-swatch global palette with shading tints as a Swatch Library
5. Render one object with gradient mesh and one with cel shading, then pick a default per output
6. Complete a stylized vector portrait reduced to four value shapes, with shading clipped inside the face
7. Build a three-band scene with one light direction, depth cues, and a single clear focal point
8. Set up correct print files: right color mode, outlined type, expanded strokes, 3 mm bleed
9. Add a CutContour spot path for any die-cut or kiss-cut sticker before export
10. Package files and order one physical proof before selling anything in volume