

Materials in Practice

Animation

Check out the
video series here



Materials

- Adobe Photoshop
- Computer
- Mouse
- Reference image

Teachers, you can find more information about how to access Adobe Photoshop at [Technology 4 Learning](#).

Techniques

Rotoscoping is a style of animation that involves tracing over live-action footage for accurate proportions. There are 2 types of graphics, **raster graphics** that use pixels and are better for painting and textures, whereas **vector graphics** use mathematical equations and are ideal for scalable, refined work.

When beginning to work in digital drawing and animation use a limited brush set and colour palette as well as reference images, which are crucial for maintaining proportions. Place reference material as the bottom layer for easy tracing. **Opacity** adjustments help with visibility while drawing. Onion skins enable a ghost effect, showing previous frames for smoother animation.

Standard animation is set at 24 frames per second. To reduce workload, animators can work 'in twos' meaning they work on 12 **frames per second**. Videos can be split or trimmed, and **transitions** can be applied between frames.

When adding detail and making adjustments, you can use **guidelines** to help achieve facial symmetry. Simplifying details can help enhance clarity and improve your animation style. Once it's time to add colour, create a new layer for base colours and choose a skin tone using the colour wheel.

Shortcuts

Tool	Shortcut
Brush tool	B
Eraser tool	E
Undo	Z
Duplicate	Ctrl + J
Transform	Ctrl + T
Eraser	Y
Zooming	Ctrl + + or -
Reset zoomed screen to full view	Ctrl + 0
Brush size adjustment	Use the bracket keys to resize: []

Safety

- Take regular breaks to avoid fatigue.
- Locking layers prevents accidental edits.
- Save your work regularly.



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Animation

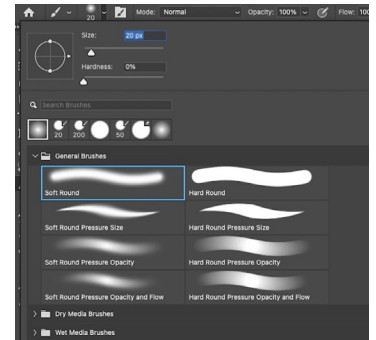
Processes

Setting up a new project in Photoshop

Open Photoshop and create a new file by selecting **File > New**.

- Choose the **Film & Video** preset and select 4K video as the starting format.
- Name the file to keep track of work.
- Adjust dimensions if needed.
- Press **Create**.

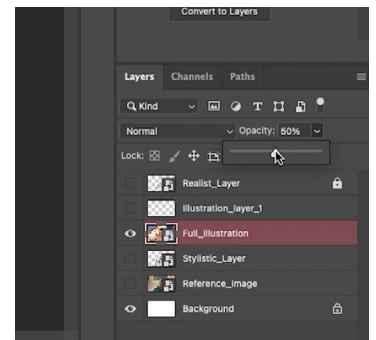
To optimise the **resolution** use 1080p instead of 4K for smoother performance, especially on slower computers



Brushes

Layers

The Layers panel can be found on the right-hand side. Naming layers helps to organise work efficiently. Select the plus icon at the bottom of the Layers panel to create a new layer. Locking layers prevents accidental edits and you can hide layers by selecting the eye icon to **toggle** visibility.



Layers, opacity and eye icon

Frame-by-frame animation

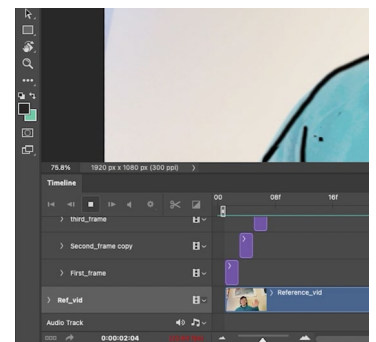
- Start with a **base frame** and sketch simple outlines.
- **Duplicate** layers (**Ctrl+J**) to speed up the process.
- Use **transform tools** (**Ctrl+T**) to adjust and refine movement.

Animating movement

- Adjust sketches slightly for smooth **transitions** between frames.
- Focus on exaggerating movements.
- Blurry or 'smear' frames can help simulate motion.

Exporting your project

When exporting animation, it helps to hide any reference footage before rendering, then export at 1080p and 24 **frames per second** to match animation settings.



Timeline

Top tips

- Start with basic shapes and movement before adding details.
- Plan your animation by working on key poses first before filling in in-between frames.
- Play back animation regularly to spot issues early.
- Remember, animation is time-consuming, but the results improve with practice!



Animating movements using a reference image as a guide

Vocabulary list

Animation

Term	Definition
Base frame	The starting or key frame in an animation sequence that serves as the foundation for creating motion or action.
Brush tool	A tool used for painting, drawing and creating texture in both static and animated artwork. It allows for various effects by adjusting size, opacity, flow and hardness
Duplicate layers	Creating an exact copy of a layer, which can be useful when you want to preserve an original while experimenting or making changes in animation.
Frames per second	Frames per second (FPS) refers to the number of individual frames displayed per second in an animation. A higher FPS results in smoother motion, while a lower FPS creates a more choppy or stylized effect.
Guidelines	Reference lines that help align and position elements accurately within a composition.
Onion skins	A feature that allows animators to see multiple frames at once, helping them create smooth transitions between frames.
Opacity	Refers to the transparency level of a layer or an element, determining how much of the underlying layers are visible. It is measured in percentages, with 100% opacity being fully visible and 0% opacity being completely transparent.
Raster graphics	Images made up of a grid of pixels, where each pixel holds colour and detail information.
Resolution	The amount of detail an image holds, typically measured in pixels per inch (PPI). The higher the resolution, the more detail is visible, making it suitable for high-quality printing or digital use.
Rotoscoping	A technique where an artist traces over video footage, frame by frame, to create realistic motion in an animation.
Toggle	Refers to switching between 2 settings, typically by pressing a specific key or button. It allows you to quickly enable or disable a tool, feature or view mode.
Transform tools	This tool allows you to modify the size, position, rotation and perspective of a layer or selection.
Transitions	The smooth change from one frame, scene or visual element to another. Transitions help create fluid movement, guide the viewer's eye, and enhance storytelling.
Vector graphics	Images created using mathematical paths instead of pixels, allowing them to be scaled infinitely without losing quality.