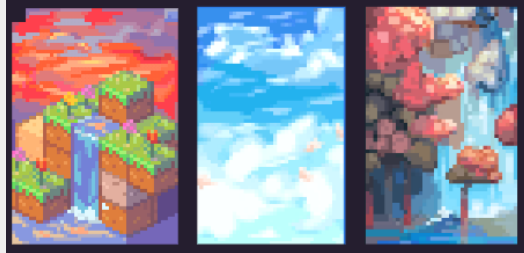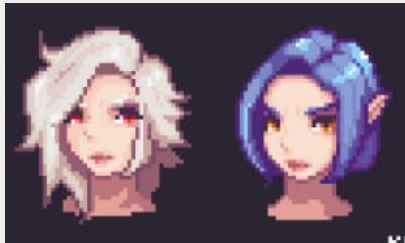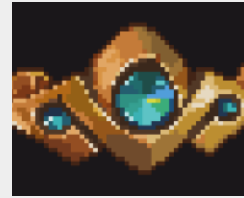# 1 Intro to Pixel Art

By Kira Fountain

Kirby and the Amazing Mirror, GBA 2004

Me?

- Been doing pixel art for about 4 years, 1 year professionally for a Minecraft client + commissions
- Current undergrad student in Comp Sci & Comp Arts

Session Agenda

1. What is and isn't pixel art?
2. Where to start
3. Terms & concepts
4. Things to avoid
5. Group critique: applying the concepts
6. Resources & practice

Why should you learn pixel art?

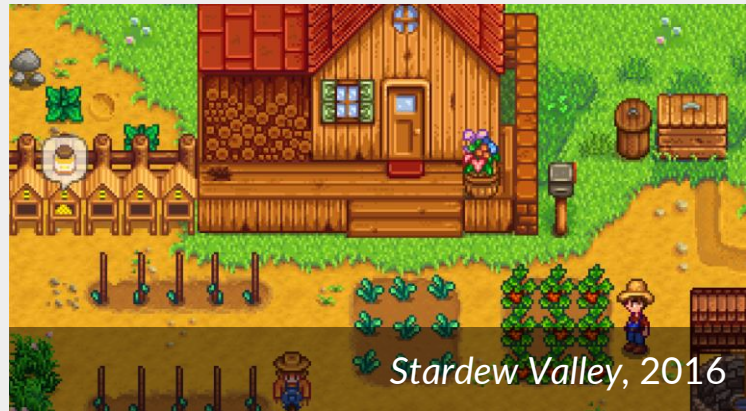Pixel art is still relevant today/in popular use

- Popular ongoing indie game art style
- Nostalgic to old games
- Easy to create passable assets in a short amount of time
- Analog/retro is popular
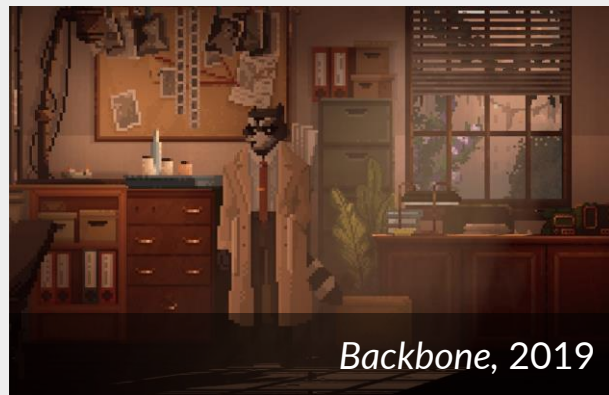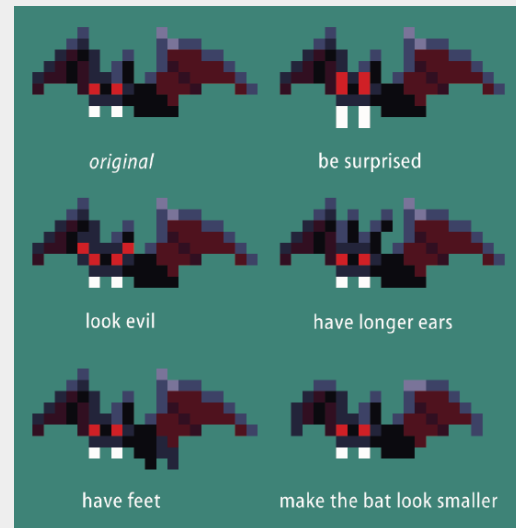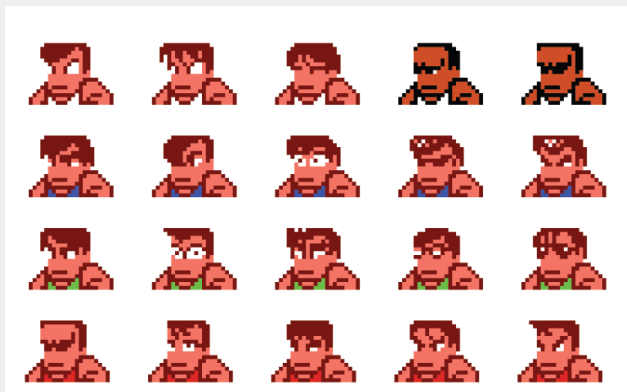

Backbone, 2019

Shovel Knight, 2014

Stardew Valley, 2016

What is pixel art?

Pixel art is set apart from other digital art because of the importance of *each* pixel

- Offsetting just a few pixels makes a **huge** difference
- Focus on control & precision
- Each pixel is **VALUABLE**

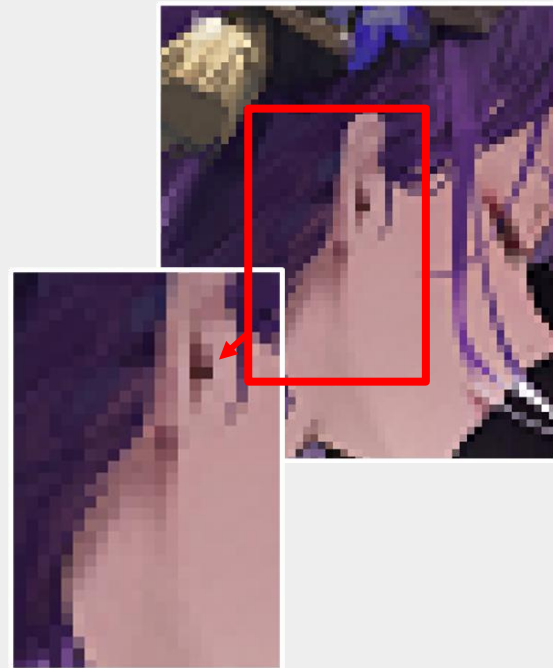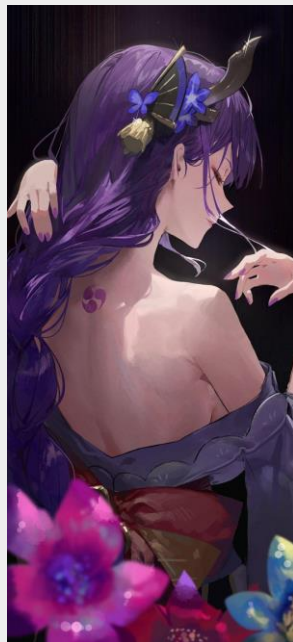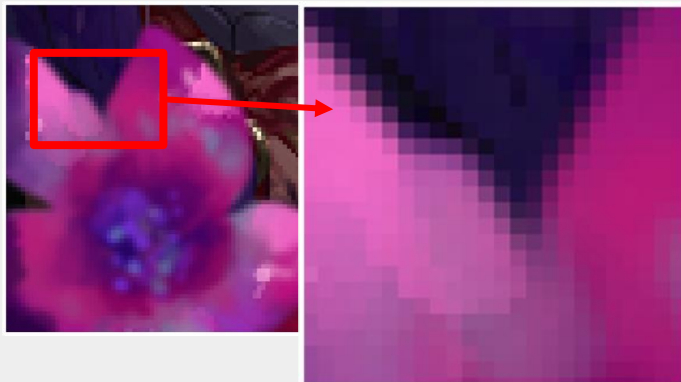See the difference a few pixels can make?

What isn't pixel art?

This digital painting has *pixels* but isn't pixel art.
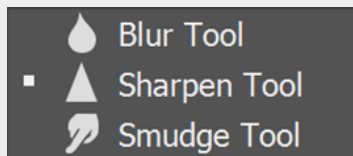The difference is in *how* its made.

Each pixel is not treated as important here:

What isn't pixel art?

Digital painting makes use of **automatic tools**

- Blur, blend, smear, smudge
- Any tool that places pixels automatically
- Generally frowned upon
- Creates colours you didn't intend

Pixel art is all about **CONTROL**
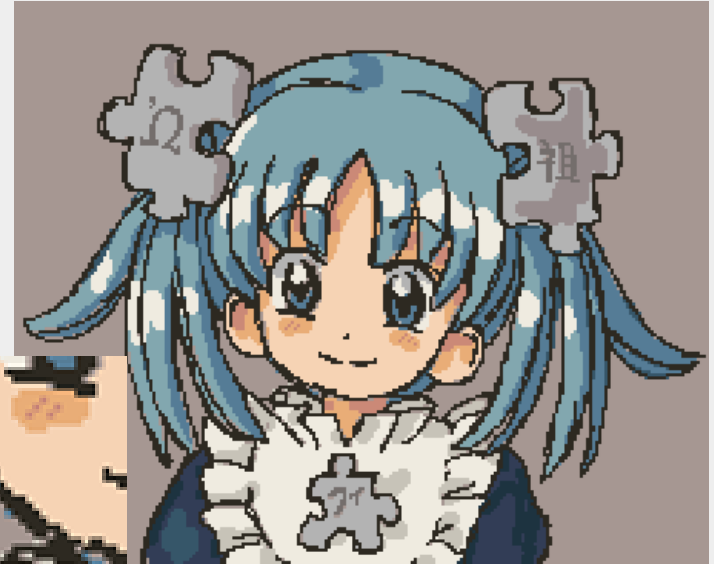
What isn't pixel art?

This also is generally **not** considered pixel art.

Just because you don't use a blur tool doesn't make it pixel art

- This method ignores the importance of **deliberate** placement of pixels
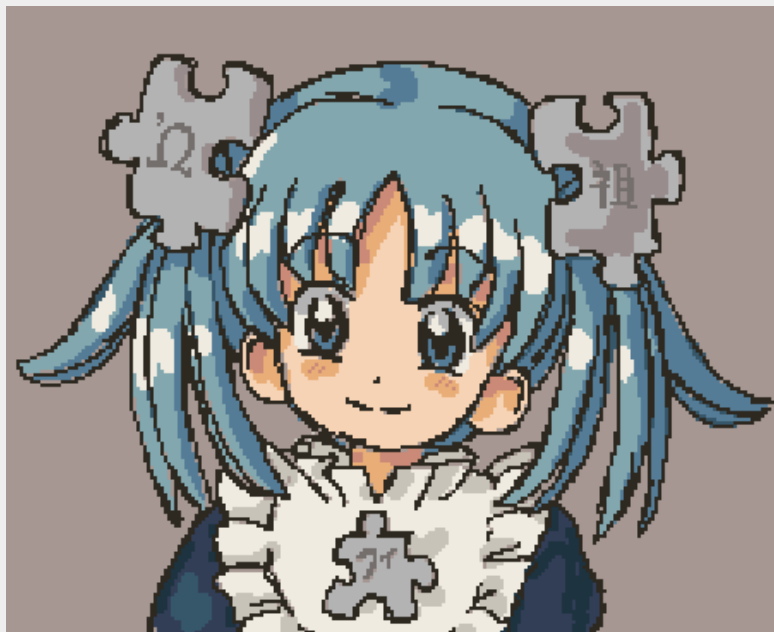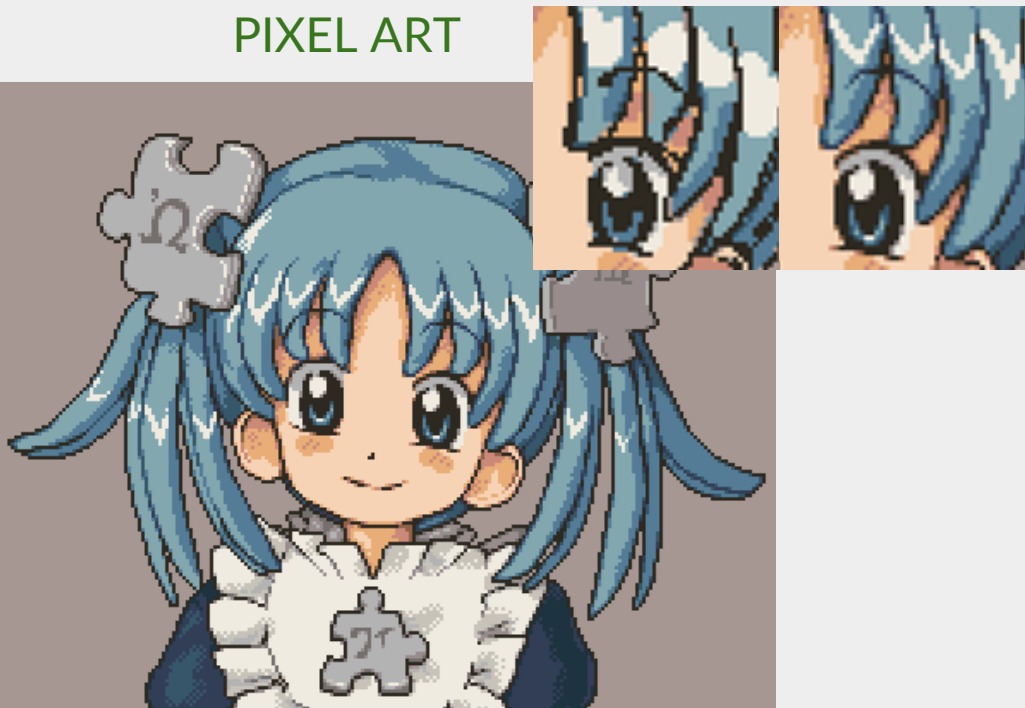- Some artists use this as a rough and go in and refine after

What isn't pixel art?

NOT PIXEL ART

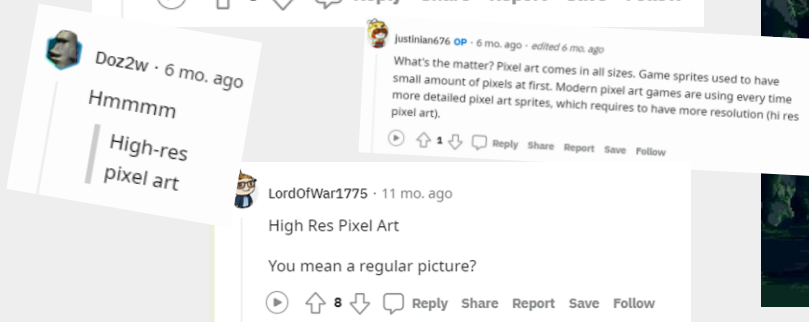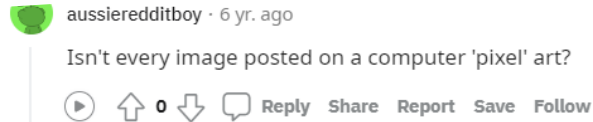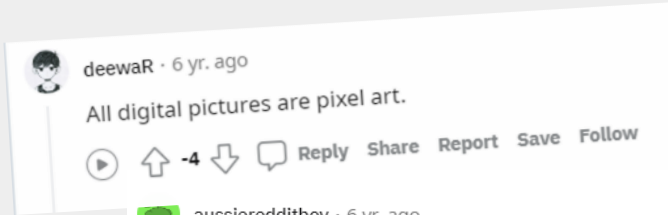PIXEL ART

What **isn't** pixel art?

Keep in mind that pixel art is a loose medium, people argue
all the time what is considered pixel art or not

deewaR · 6 yr. ago

All digital pictures are pixel art.

▶ ⬆ -4 ⬇ 💬 Reply Share Report Save Follow

aussieredditboy · 6 yr. ago

Isn't every image posted on a computer 'pixel' art?

▶ ⬆ 0 ⬇ 💬 Reply Share Report Save Follow

Doz2w · 6 mo. ago

Hmmmm

| High-res
| pixel art

justinian676 OP · 6 mo. ago · edited 6 mo. ago

What's the matter? Pixel art comes in all sizes. Game sprites used to have
small amount of pixels at first. Modern pixel art games are using every time
more detailed pixel art sprites, which requires to have more resolution (hi res
pixel art).

▶ ⬆ 1 ⬇ 💬 Reply Share Report Save Follow

LordOfWar1775 · 11 mo. ago

High Res Pixel Art

You mean a regular picture?

▶ ⬆ 8 ⬇ 💬 Reply Share Report Save Follow

What isn't pixel art?

Another example...

LordOfWar1775 · 11 mo. ago

High Res Pixel Art

You mean a regular picture?

8   Reply   Share   Report   Save   Follow

Merly23 OP · 11 mo. ago

yeah, i hand made the avatar above on aseprite!

-2   Reply   Share   Report   Save   Follow

ItsnotaLizard · 11 mo. ago

Using aseprite does not make that image pixel art imo it looks really cool tho

2   Reply   Share   Report   Save   Follow

Adrian0polska · 11 mo. ago

It's really cool, buuut... Like the other guy mentioned it probably doesn't fit a pixel art that much with that resolution :x. I personally don't mind, but I see other people downvoted you a lot :x

Commons misconceptions/myths

1. Pixel art is easy because there's less pixels.
   Pixel art is easy to pick up but hard to master.

1. Anyone can do pixel art, you don't need to know art fundamentals.
   Yes, anyone can pick up pixel art, just like any form of art. But fundamentals like perspective, lighting, color, lines etc. are all <u>necessary</u>

Where to start?

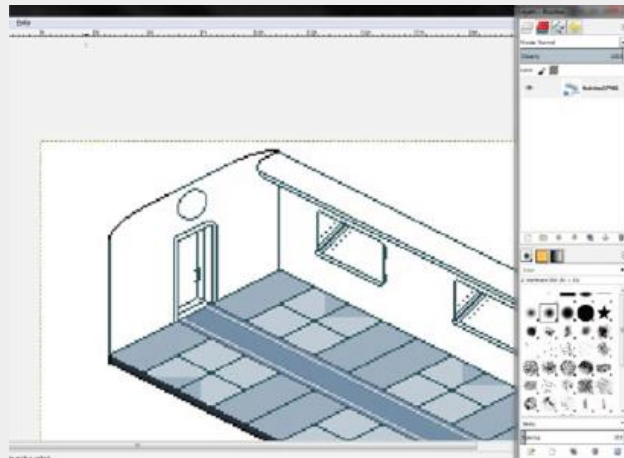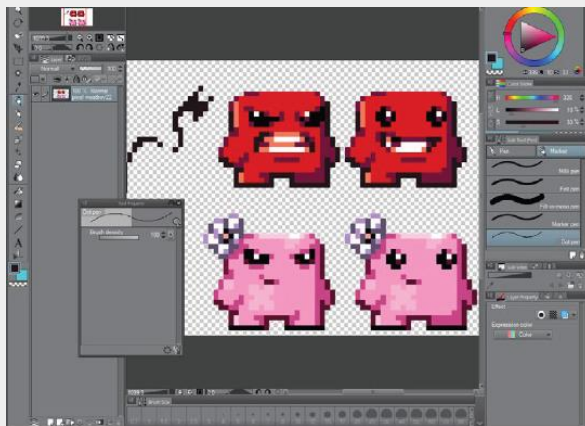# Software – where to start?

Some applications you may already use...

Photoshop ($$)
Price: Subscription

Clip Studio ($)
Price: $50

GIMP (FREE)
Price: $0

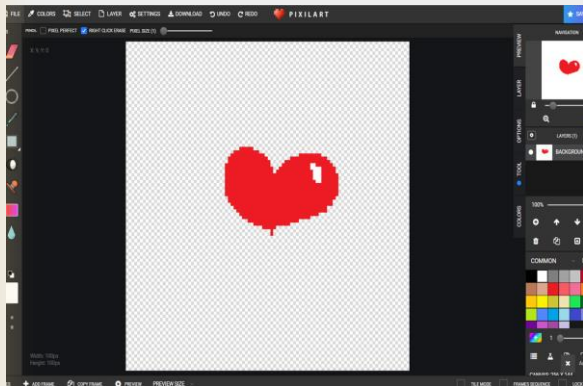# Software – where to start?
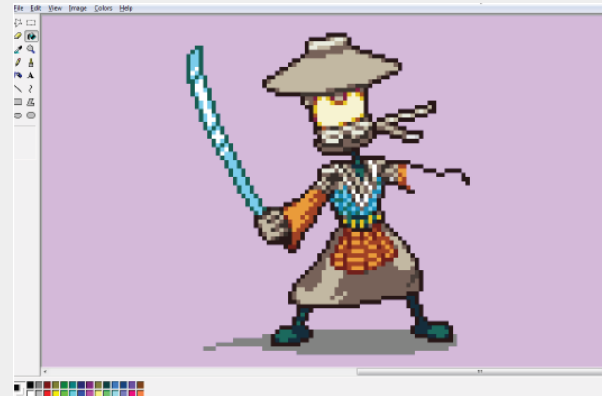
Dedicated pixel art programs

Aseprite ($)
Price: $20 or compile it

Pixilart (FREE)
ONLINE

MS PAINT
XP/VISTA (FREE)

Software – where to start?

- Doesn't really matter what you use
- Not about the tools, it's about how you use them

That said, make sure your software has at least these 4 tools:

1. **Pencil** – 1px tool of clean pixels
2. **Eyedropper** – To copy colours from your piece
3. **Eraser** – Also same as a transparent coloured pixel
4. **Bucket** – Fills an empty area with one solid colour

Software – where to start?
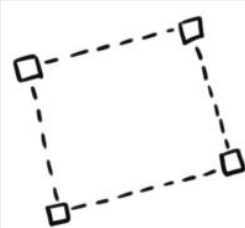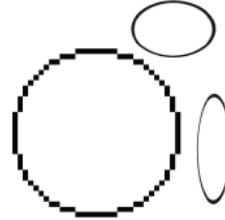
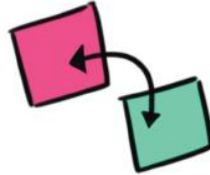Other extremely useful tools that you may recognize:

Rotate	Colour settings	Circle tool
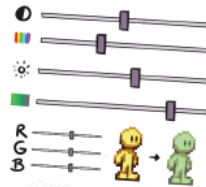
Select tool	Recolour	Line tool

Hardware – where to start?

Mouse: Better for clean up, final touches, precision pixel placing. Not so good for sketching lines.

OK!

Tablet: Great for sketching / strokes. Harder to tap repeatedly. Necessary for bigger pieces with lots of curves.

OK!

Note: If you are currently taking any **Fine Arts** course, you can borrow these from the CDA labs to take home.
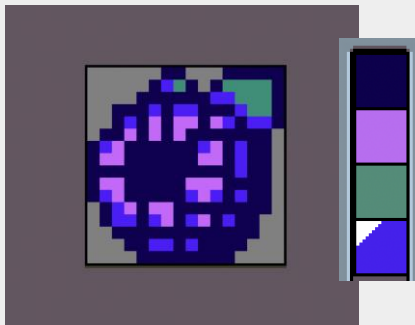
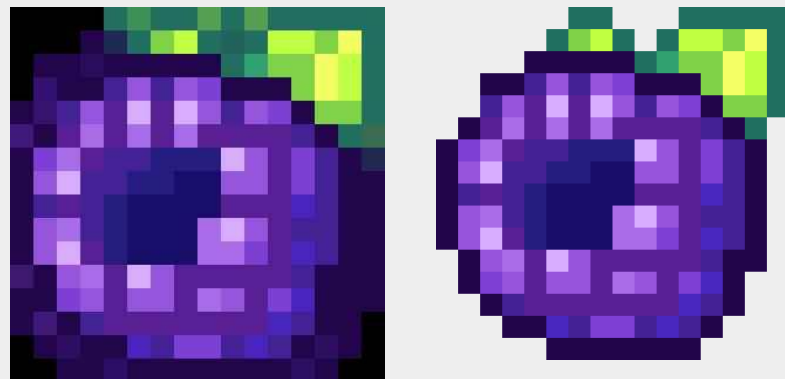# Where to start?

Start small:

16 x 16 px

Start limited:
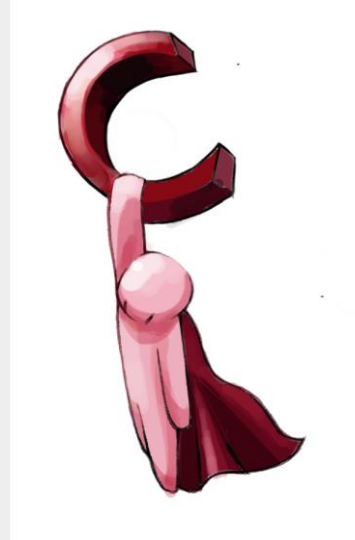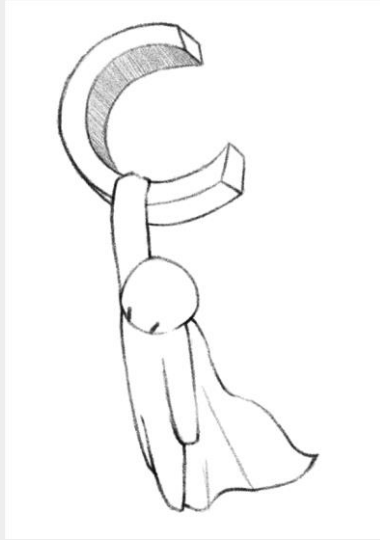
Only 4 colours

Use PNG:

Export

my_sprite.png

JPG vs. PNG

How to start?

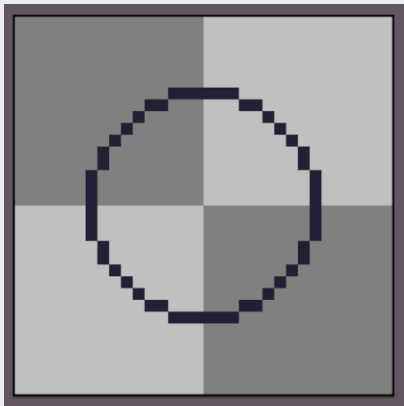Typical process in 2D painting : Linework, Colour Block, Refine
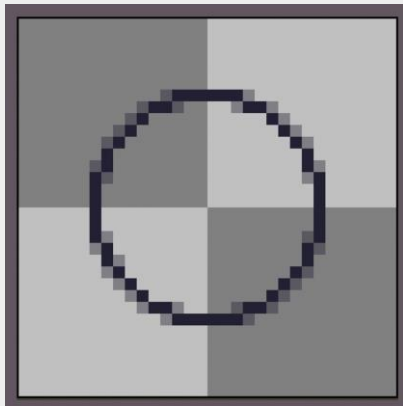
Terms & concepts

Terms to know: Antialiasing

- Adding additional pixels for a softer, more realistic or blended look
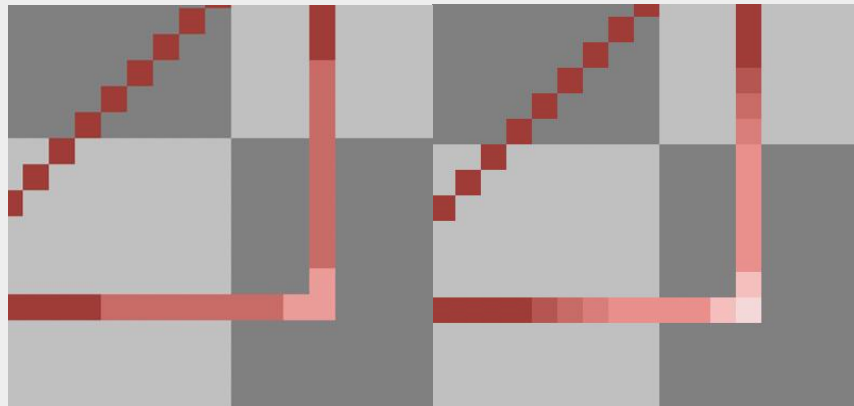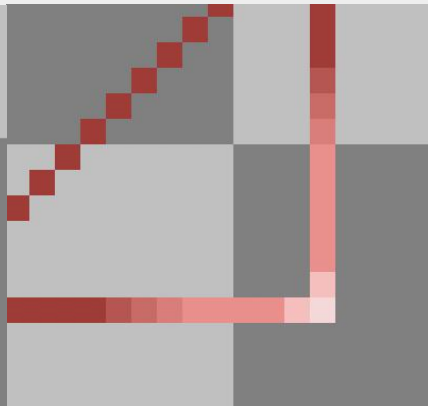- Most pixel art work & employers will choose styles with this
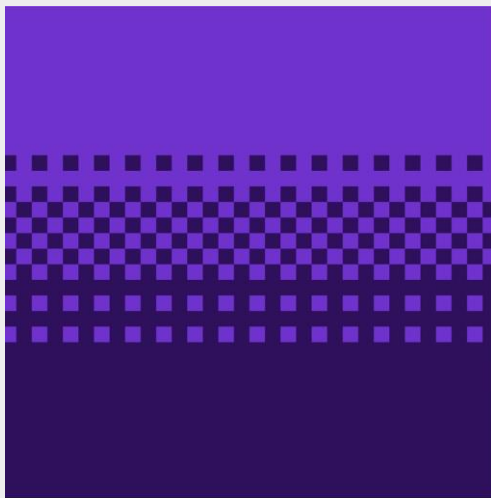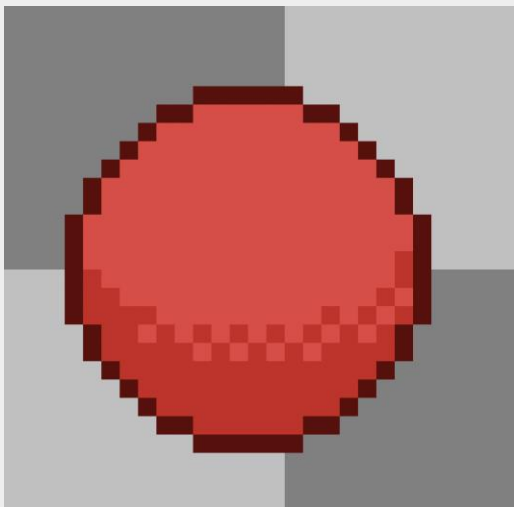
Without **Anti-aliasing** **Without** **Anti-aliasing**

Terms to know: Dithering

- Adding additional pixels to create a texture or gradient
- Good for limited colours, or skies/vast backgrounds

Terms to know: Dithering

Street Fighter Alpha 2

Why does this work?
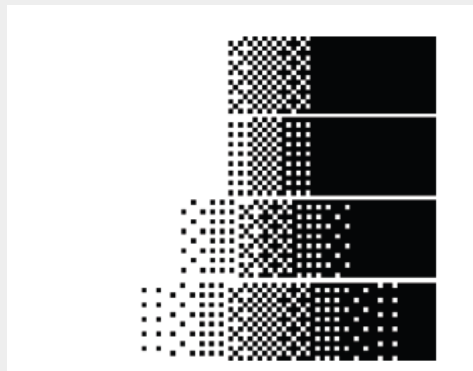- High res
- Appropriate texture

Terms to know: Dithering

Ecco the Dolphin

Why does this work?
- Keeps fundamentals
- Uses antialiasing for border to keep it together
- High res
- Far away / supposed to be fuzzy

Terms to know: Dithering variations
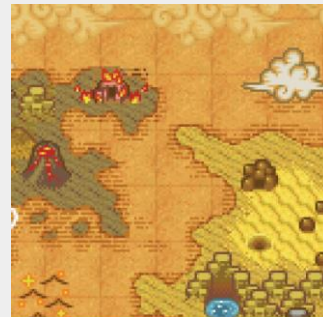
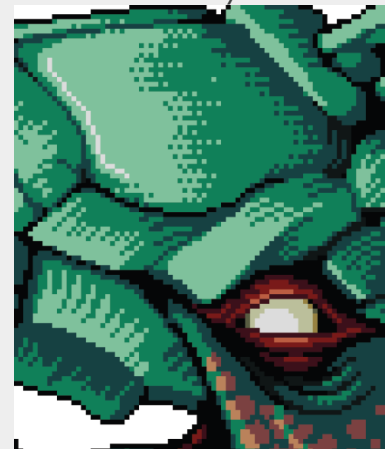## Checkered dithering

Parallel lines dithering

Used often for CRT TVs

Vectorman
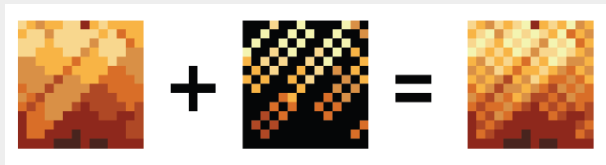
Discontinued lines

Pokemon Mystery Dungeon 3

Beyond Oasis

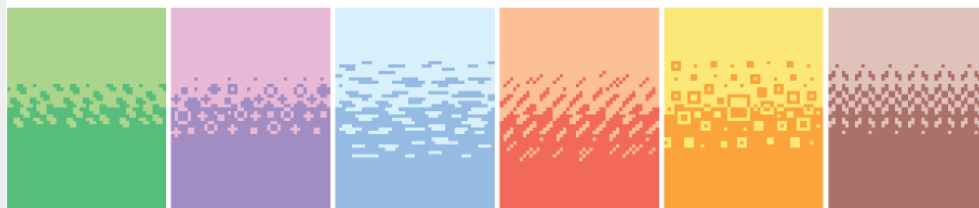Gives a good sketch or coloured pencil effect

Terms to know: Dithering variations
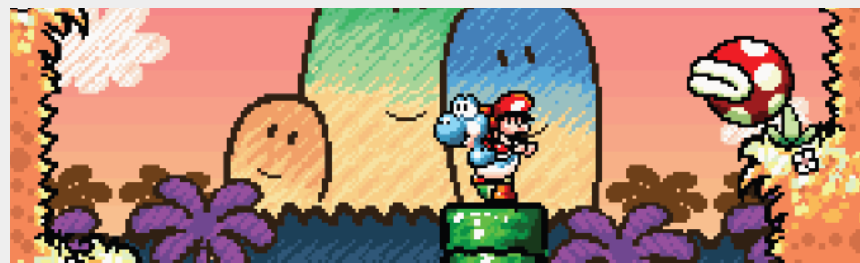
Intertwined dithering

Random dithering

Kirby's Dreamland 3 (SNES)

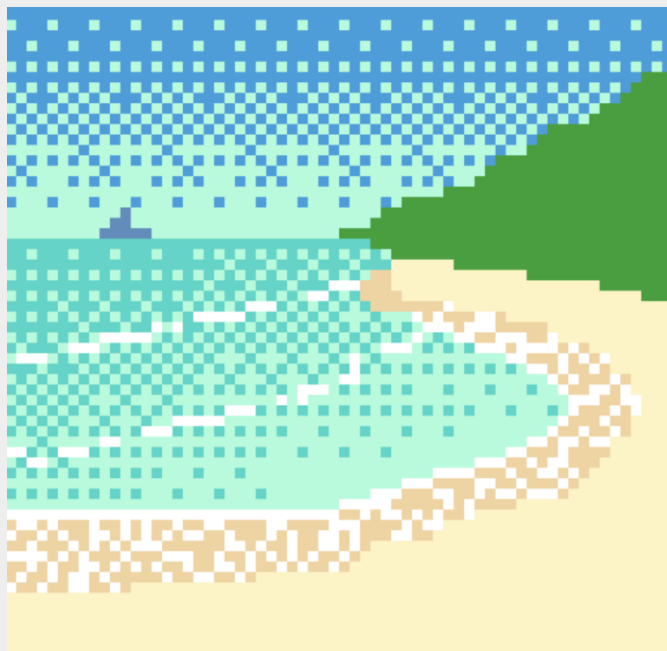*I would not recommend using this technique*

Stylized dithering

Yoshi's Island

Terms to know: Dithering

An example from the Pixel Art Discord
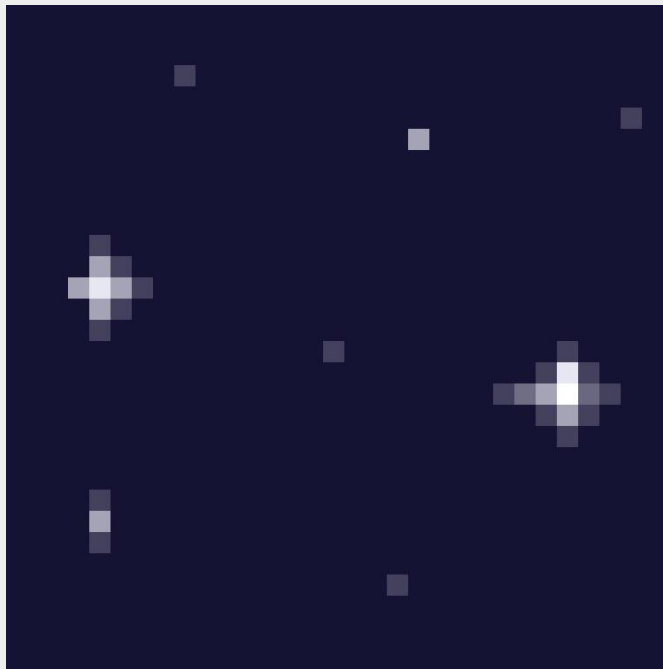

- Too much dithering
- Too low res
- Contrast is too high between colours
- Becomes messy
- Becomes unreadable

Terms to know: Orphan pixels

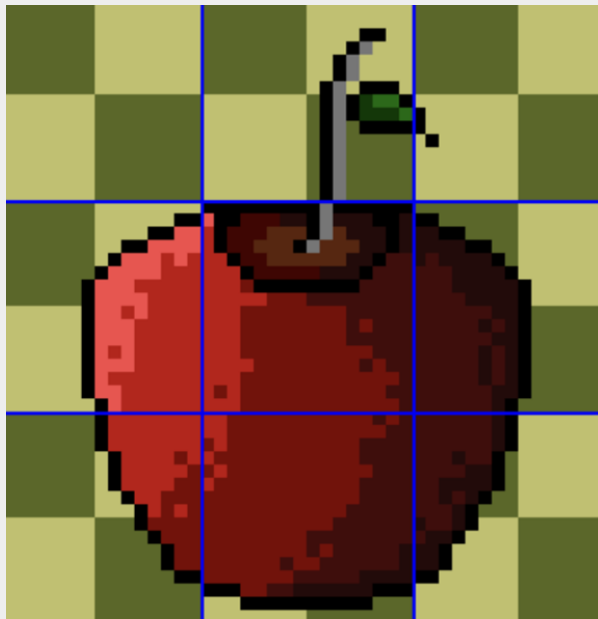- Adding single pixels to a piece, sometimes considered bad practice

Terms to know: Orphan pixels

An example from the Pixel Art Discord

- Orphaned pixels don't make sense
- Don't add anything to the piece
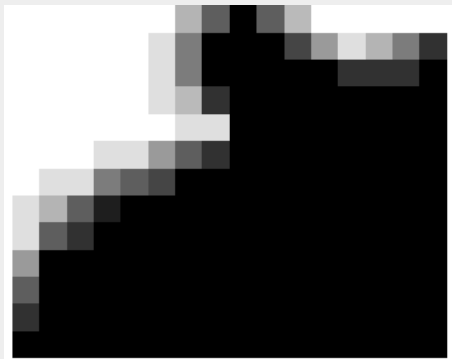
Things to avoid

Things to avoid: Bad AA

You want to avoid using too much AA or creating banding

Too much AA

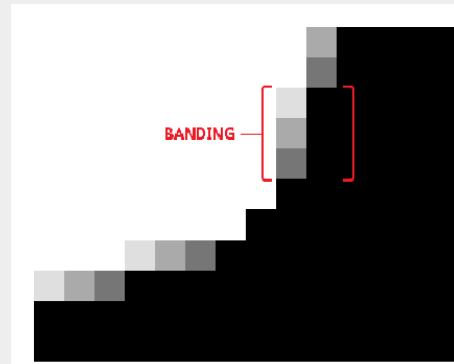Will look blurry

Too little AA
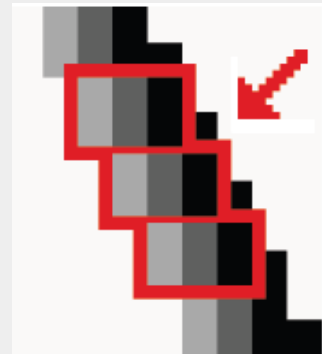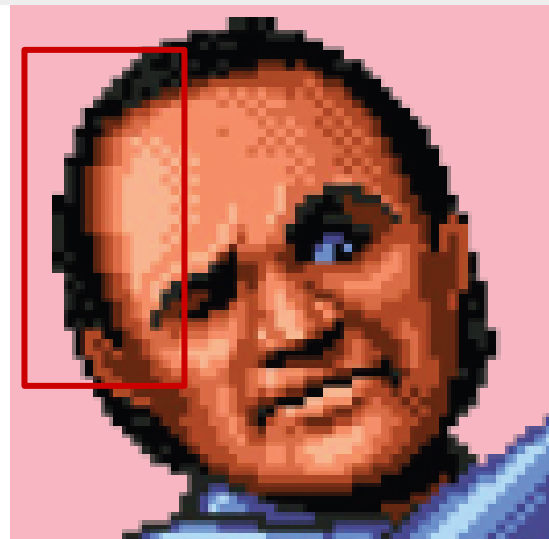

Won't have any AA effect

Banding

BANDING

Will look weird

Things to avoid: Banding
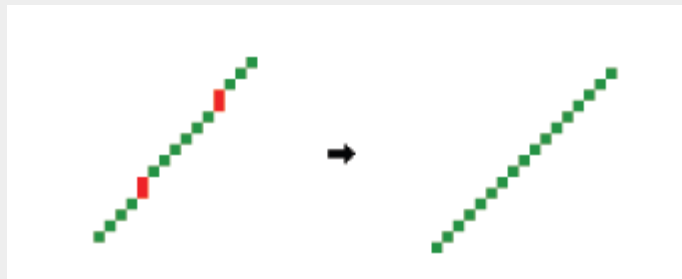
You want to avoid using too much AA or creating banding

- Blurs your lines
- Makes lines appear thicker than intended

Things to avoid: Jaggies

- Avoid creating "jaggies", these can bring down the value of your piece
- Linework is REALLY important
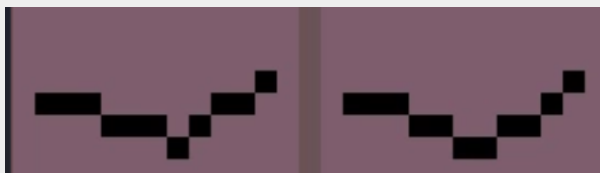
Things to avoid: Pillow shading

- Lighting is crucial for ANY art piece
- Pillow shading is when you don't take into account a light source and just add shadows around the edges
- NEVER DO THIS
- Completely flattens your image and ruins your shape
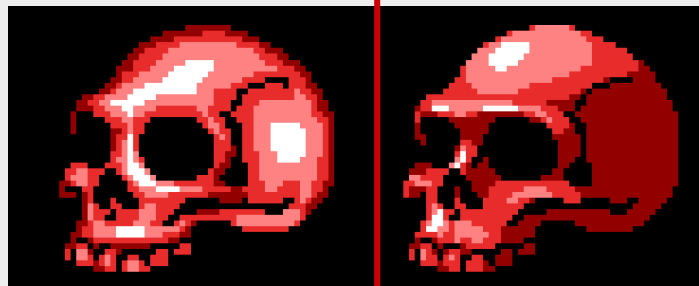
Pillow-shading | **Light source**

Pillow Shading

Colours & palettes

Colours & palettes: why palettes?

- When you are first starting out, helpful to have a starting point
- Helps you control your art
- Helps you focus on the fundamentals
- Colour is a big topic, makes it simpler to learn pixel art
- Challenges you to make do with less
  - Pixel art relies on doing more with less, get in the mindset
- Can convey a certain mood

Colours & palettes: Where to get palettes

- The most popular place is Lospec, specifically pixel art palettes
- Aseprite, built in:
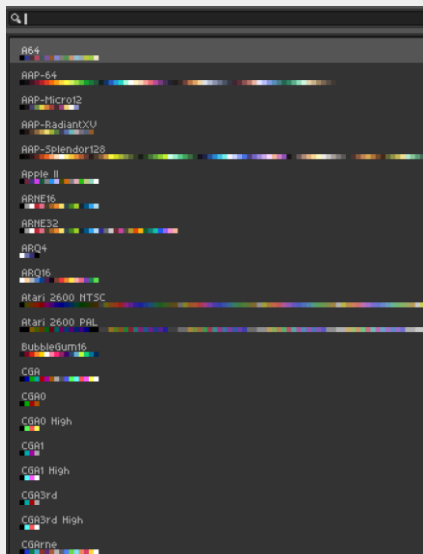
- Adobe Colour is also good, better tool if you need to make your own palette

- Color Hunt is okay but somewhat hit or miss for pixel art

Colours & palettes: Suggestions

Some of my favourite palettes to start with:

SLSO8

#0d2b45	#203c56	#544e68	#8d697a
#d08159	#ffaa5e	#ffd4a3	#ffecd6

Easy

Pear 36

#5e315b	#8c3f5d	#ba6156	#f2a65e	#ffe478
#cfff70	#8fde5d	#3ca370	#3d6e70	#323e4f
#322947	#473b78	#4b5bab	#4da6ff	#66ffe3
#ffffeb	#c2c2d1	#7e7e8f	#606070	#43434f
#272736	#3e2347	#57294b	#964253	#e36956
#ffb570	#ff9166	#eb564b	#b0305c	#73275c
#422445	#5a265e	#80366b	#bd4882	#ff6b97
#ffb5b5				

Easy

Colours & palettes: Suggestions

MORE

Oil 6 Palette

#fbf5ef	#f2d3ab	#c69fa5
#8b6d9c	#494d7e	#272744

Easy

Kirokaze Gameboy

#332c50	#46878f
#94e344	#e2f3e4
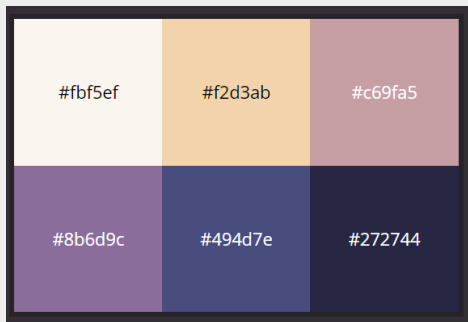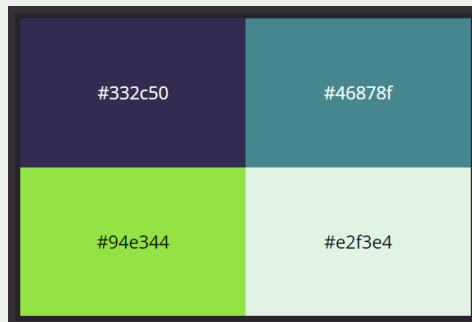
Medium

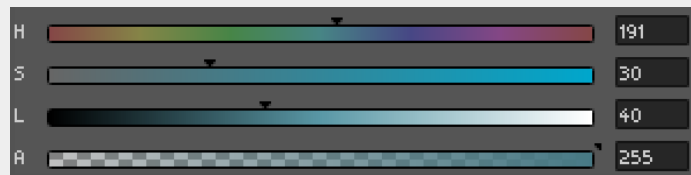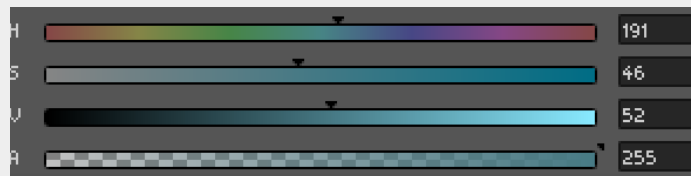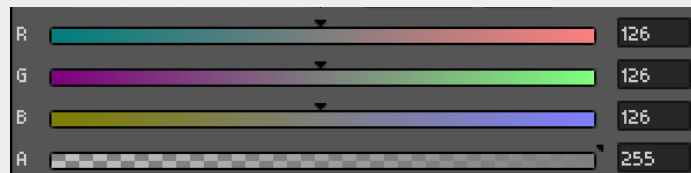### 1-bit Monitor Glow

#222323	#f0f6f0

💀
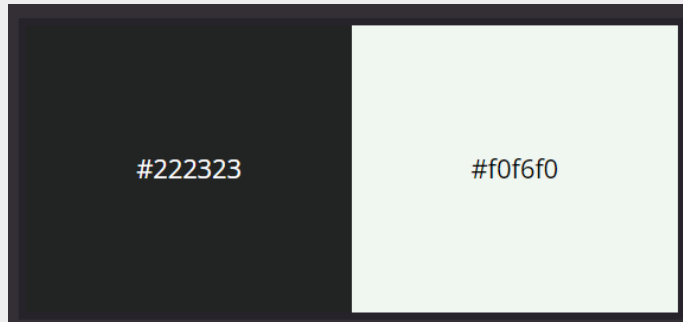
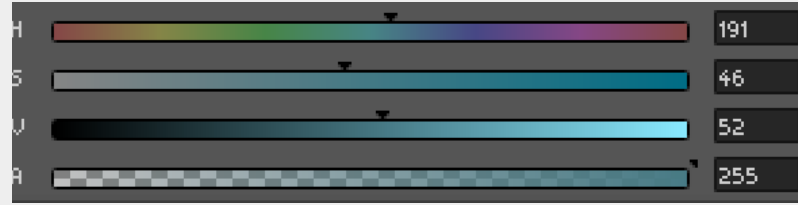# Colours & palettes: Effects of palettes
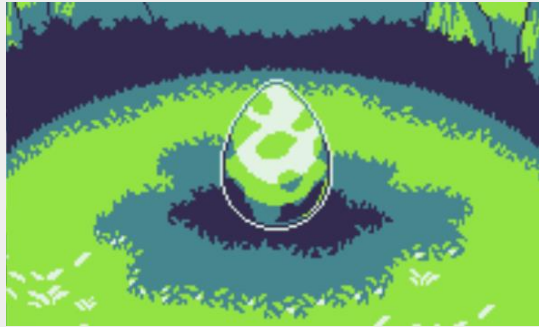
Colours & palettes: Hue shifting

Color wheels & sliders

- RGB: Red, Green, Blue
  - Best for web/coding
- CMYK: Cyan, Magenta, Yellow, Key
  - Best for printing
- HSV: Hue, Saturation, Value
  - Best for art making
- HSL: Hue, Saturation, Lightness
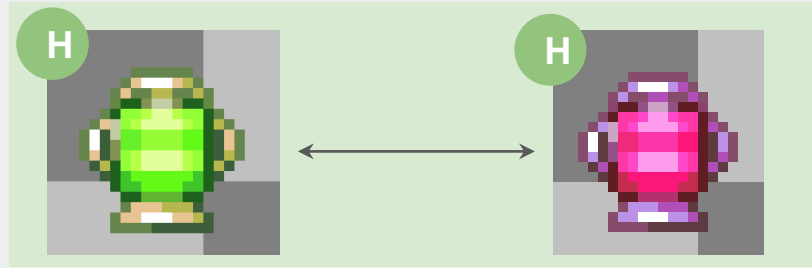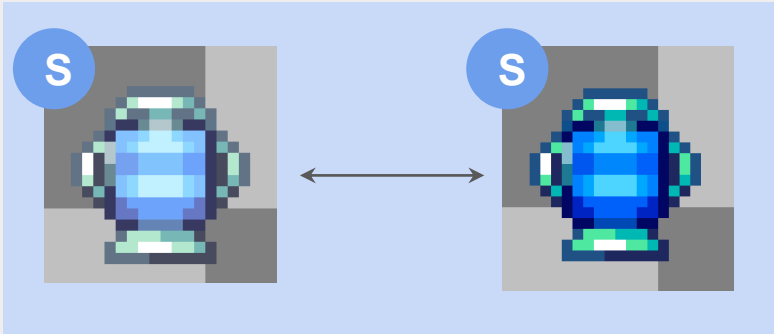 - Like HSV but less intuitive

Colours & palettes: HSV Slider
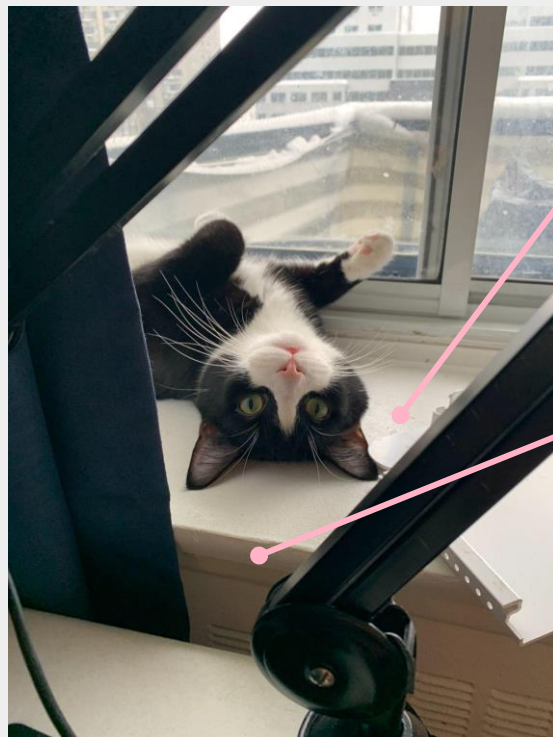
HSV Slider

Colours & palettes: Hue shifting

0   360

H: 34

H: 212

H: 37

H: 40

Colours & palettes: Hue shifting

0   360

Hue

194

209

228

Highlight: move towards warm colours and increase saturation (if necessary)

Shadow: move towards cool colours and decrease saturation
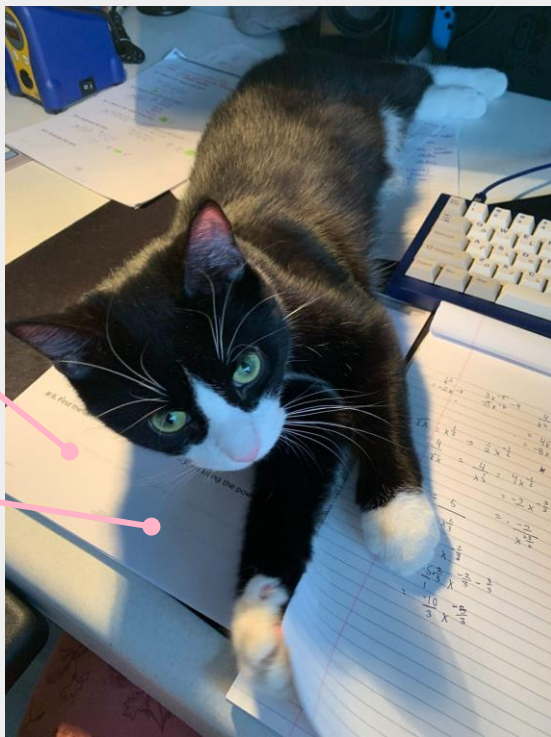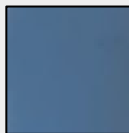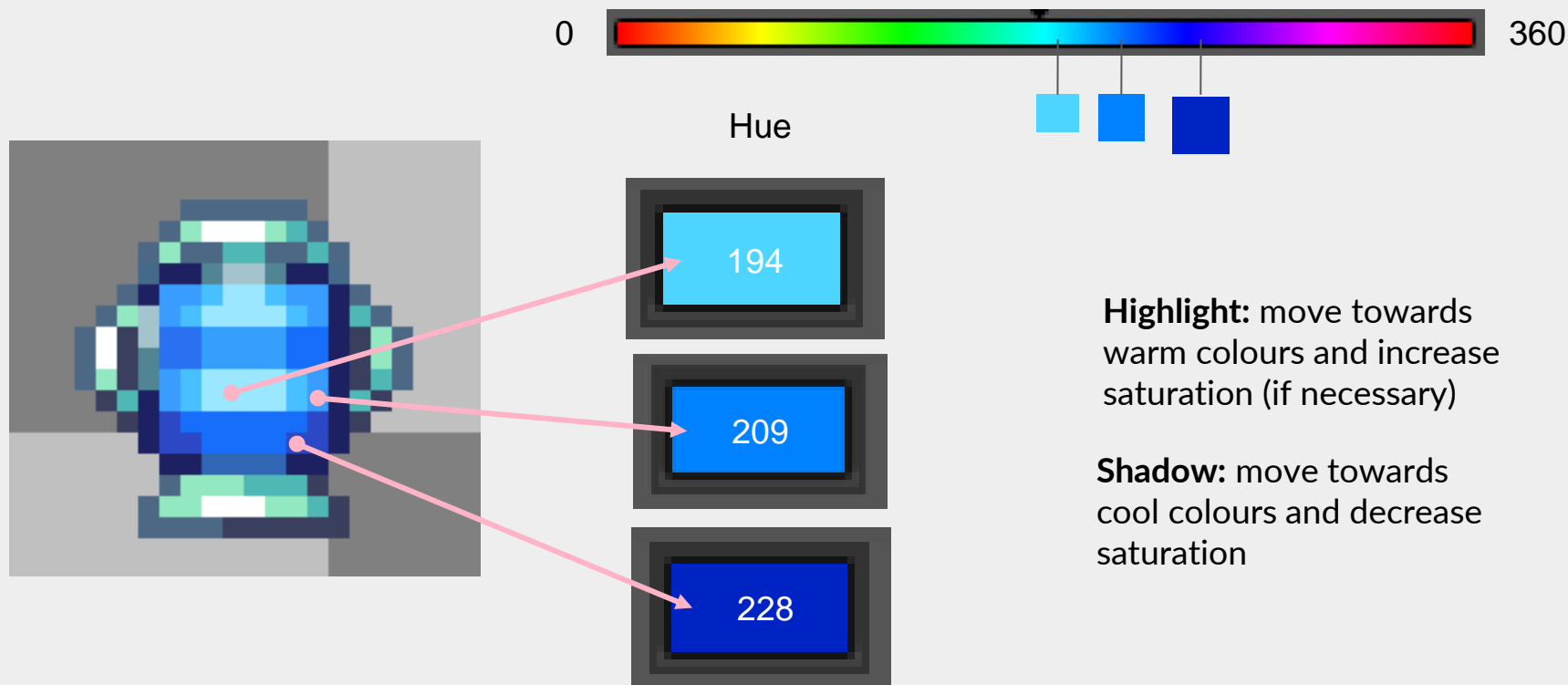
Colours & palettes: Hue shifting

With

Without

Colours & palettes: Hue shifting

Example from Pixel Art Discord

Group critique
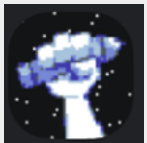
Group critique: Example 1

⚠ An example from the Pixel Art Discord

Cons

- Jaggies
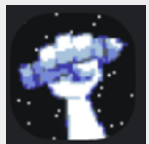- No shading
- No hue shift
- No highlights/shadows

Pros

- Decent form, just needs to be developed more

Group critique: Example 2

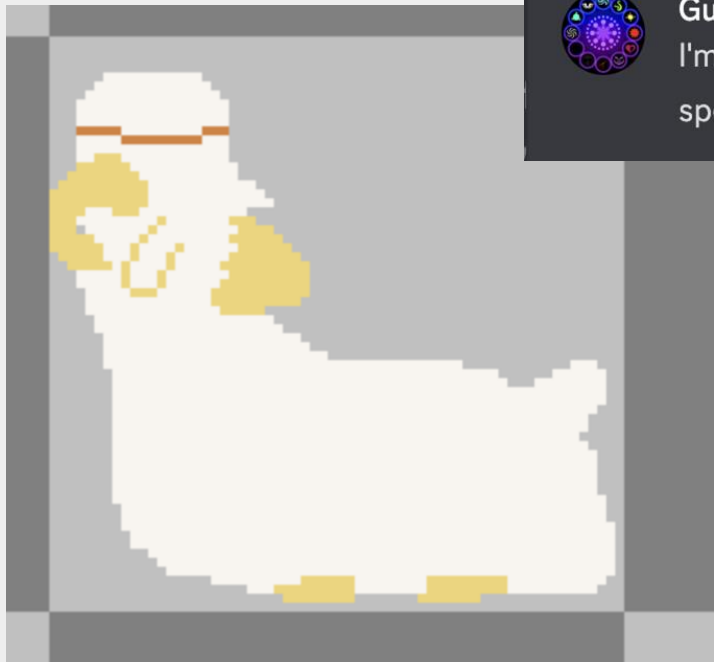⚠ An example from the Pixel Art Discord

Cons
- Coins are hard to read
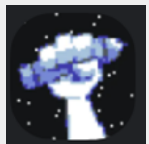- Too much noise
- Bags have "loops" that look like eyes
- No AA

Pros
- Good hue shifting
- Good outlines

Group critique: Example 3

⚠ An example from the Pixel Art Discord

Guest Archetype OP 01/21/2023 9:11 AM
I'm trying to create a sheep lying down specifically a ram

Cons

- Form is hard to read
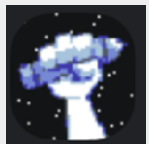- Jaggies
- Too high res not enough detail
- No shading

Pros

- ?

Group critique: Example 3

⚠ An example from the Pixel Art Discord

Cons
- Jaggies
- Banding
- Little colour shift
- Broken, messy outline
- Idk what's happening with the black pixels in the middle
- Pillow shading

Pros
- Colours are nice

Resources

1. *Pixel Logic* book by Michafrar
   a. Last updated 9 months ago
   b. English or French
   https://michafrar.gumroad.com/l/pixel-logic

1. Saint11 tutorials
   https://saint11.org/blog/pixel-art-tutorials/

1. Pixel Art Discord *(Hit or miss)*
   https://discord.gg/pixelart

1. Twitter #pixelart
   a. A good way to follow other artists and study their work

Try it yourself! Practice makes good art, no "talent" needed

[SLSO8](#)

#0d2b45	#203c56	#544e68	#8d697a
#d08159	#ffaa5e	#ffd4a3	#ffecd6

16 x 16 px
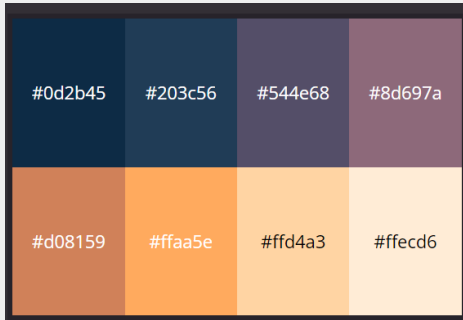
🍎 **Food from the kitchen**

- Loaf of bread
- Apple
- Cherries
- Milk carton
- Muffin
- Soup
- Carrot

I'll send a Google Form for next time so you can anonymously submit your art and I'll critique it in next session!