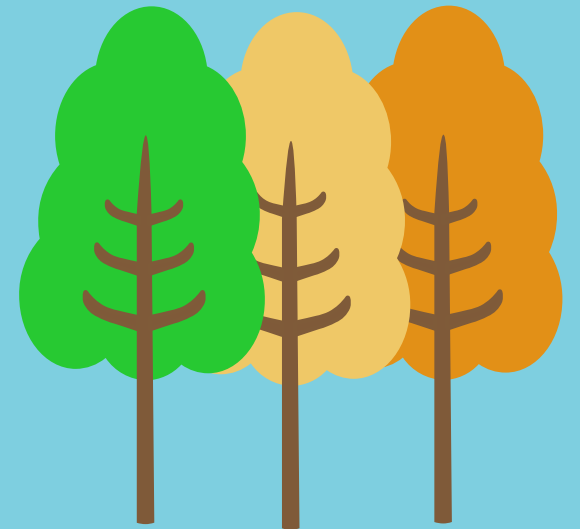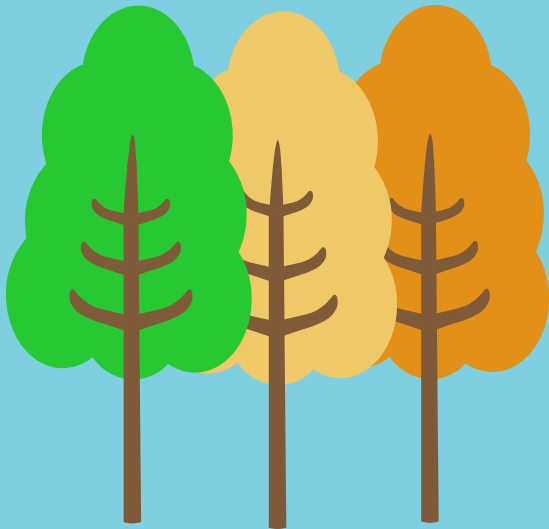# SEASON PASS

Interactive Media Design

Amie Frain

Introduction

The Assignment Brief

"Education Leeds wishes to create a new campaign to revitalize the National Curriculum for children across the Key Stage 1-3 age groups in the subject of Science. This commission is to create an interactive learning tool supporting a Science subject area in one of the Key Stage age groups. The interactive should work on a tablet device and also on the Education Leeds website. It will be the first in a series of resources which help students with their homework and preparation for Key Stage assessments.
We are keen for this interactive to be quick to launch, quick to navigate and most importantly, fun. We'd like to create an accessible learning experience and for it to be funny, light-hearted and engaging and are seeking something fresh."

Target Audience

Key Stage 1 - 5 to 7 Year Old's

My target audience for my interactive is 5 to 6 year old children.

"Age five is a key year for supporting your child's reading skills. At this age, kids begin to identify letters, match letters to sounds and recognize the beginning and ending sounds of words. ... Five-year-olds still enjoy being read to — and they may start telling their own stories, as well."

Because my target audience is only just beginning to read, my interactive would need to be more visual than text based.

Research

Initial Research

I began by looking on the .gov website to determine what was included within the science curriculum in England for Key Stage 1 and 2 children.

I began by reading the aims for which the curriculum endeavours to achieve. This is what I found:
"The national curriculum for science aims to ensure that all pupils:
- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future."

https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-ofstudy

Statutory Requirements

I also looked at what the requirements were for the different subject areas to try and gain a better understanding of the curriculum, and brainstorm ideas which would meet these requirements.

The Key Stage 1 areas were:

- Working Scientifically
- Plants
- Animals Including Humans
- Everyday Materials
- Seasonal Changes

Research

BBC Bitesize

Next I wanted to look at the "BBC Bitesize" website. This was due to the fact it is a well known tool used by school children, as such the website has provided valuable insight in to how an educational, interactive site works.
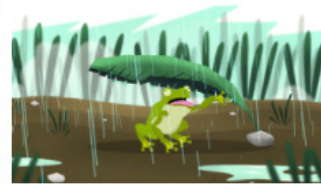
I began by going to my subject field for my chosen age range. Which was the science section for year 1 / Key Stage 1 children. This is for children ages 5 to 6 years of age. Straight away I could see interactive content for the statutory requirements of the curriculum.

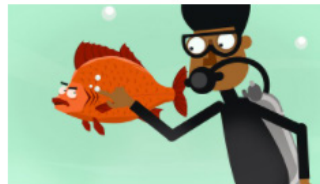https://www.bbc.co.uk/bitesize
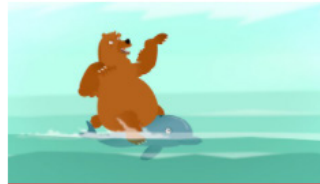
Animals >

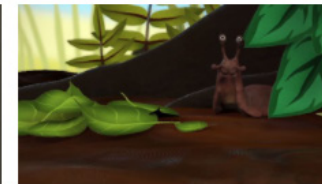What are mammals?

What are amphibians?
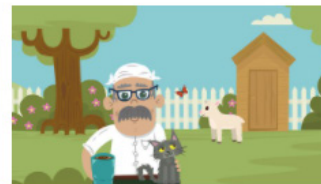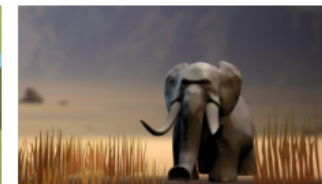
What are birds?

What are fish?

What are reptiles?

What are minibeasts?

What types of food do animals eat?

What is the life cycle of an animal?

What do animals need to survive?

Research

BBC Bitesize

The information is given in a short video explaining the subject, in this case "what is a mammal" with the main points in bullet points below. Followed by a quiz.

I found the design to not be very visually stimulating and the quiz to be quite small. I think for 5 to 6 year old children, they would benefit from the overall text size to be a lot bigger so it is easier for younger children to read.

https://www.bbc.co.uk/bitesize/topics/z6882hv/articles/zp92xnb

What makes an animal a mammal? Learn about the different characteristics that make an animal a mammal in this video.

A few things to remember about mammals:

- All mammals have hair
- All mammals have lungs
- All mammals are warm blooded
- Mammals can live on land or in water
- Most mammals give birth to live babies. But there are a few mammals who lay eggs

Now practise what you've learned with the activity and quiz below!

Question 1 of 5
Which of these is a mammal?

Dolphin

Duck

Research

Interactive Learning

I then looked for additional interactive learning tools online. I found a site called 'Splash Learn' which is an interactive maths website. Learning is achieved through a series of games which answer math related questions by selecting an answer from multiple choices. The user interface is extremely visually stimulating and a space character offers encouragement and reads out the questions at the start of each round. These features will be very useful for younger children who still may struggle to read properly.

https://uk.splashlearn.com/maths-games-for-year-1
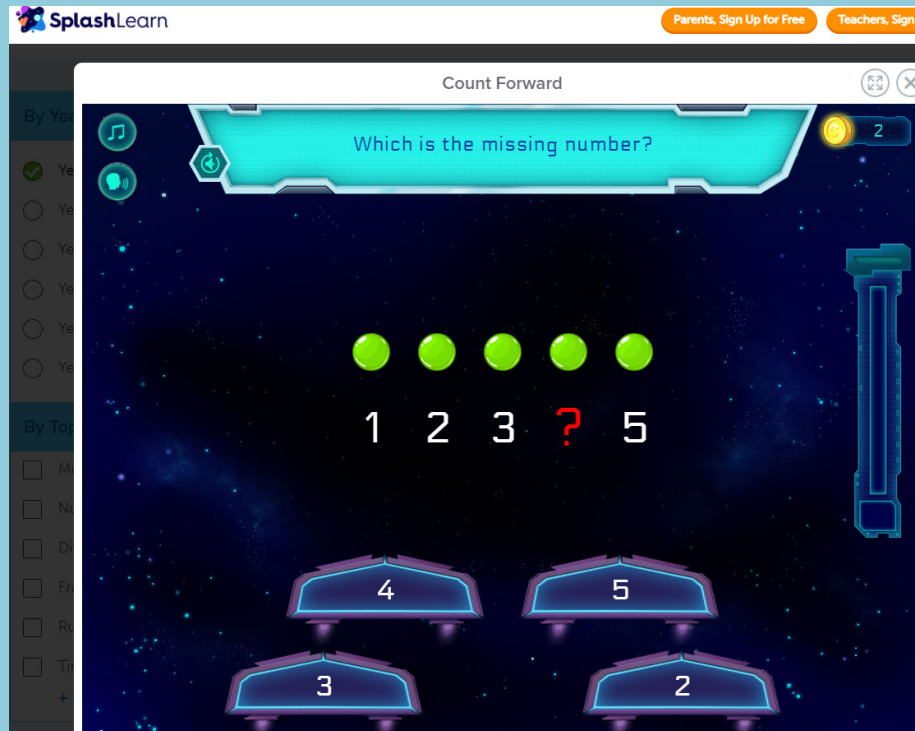
Research

Sago Mini School

Because the brief stipulates we are creating an interactive to be used on a tablet. I borrowed my daughters tablet and took a look at her interactive, educational applications.

SAGO mini school is one of her favourites. The UI is simple, colourful and very visually stimulating. The text is minimal and there a voice queues as well as text based instructions.

The app makes use of Fittz law and Jakob Neilsons Heuristic principles, in the sense that buttons are large and placed in practical placement to reduce the time it takes for the button to be pressed. Large areas of the screen are the buttons which reduces the chance of error like the button being missed. The Gestalt principle of closure, proximity and similarity is used in the sense that the different sections for example to the right on the bugs screen, are close together in the same shape and style with the same function. These buttons allow you to move between sections

I could not get a link to the app. But the link shows some game play on You Tube.
https://www.youtube.com/watch?v=DoMZ3N916GI

Research

Sago Mini School

I then watched as my daughter interacted with the app. I wanted to see how she held the device, where buttons may be accidentally pressed, how easy my daughter navigated the UX design.

She holds the tablet at the top with her left hand and rests the tablet on her person. Then uses her right hand to navigate the interface. The back button is at the top left which she uses her left thumb and the home button is at the bottom right.
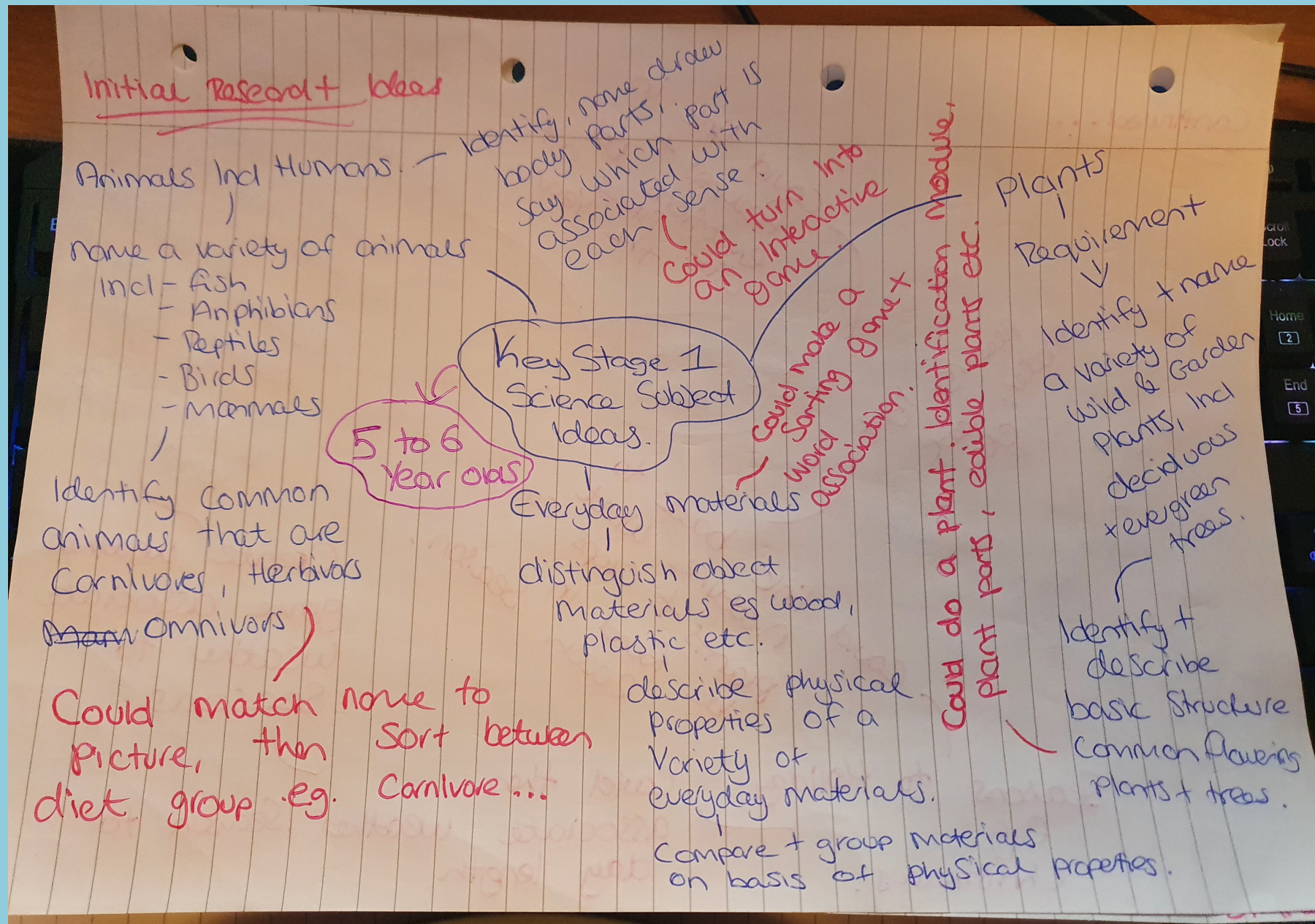
Because my daughter is of a similar age to what my interactive is aimed at. I will be taking into consideration how she uses her tablet when I design my interface, she has smaller hands than older children and as such interacts and holds it in a different way.
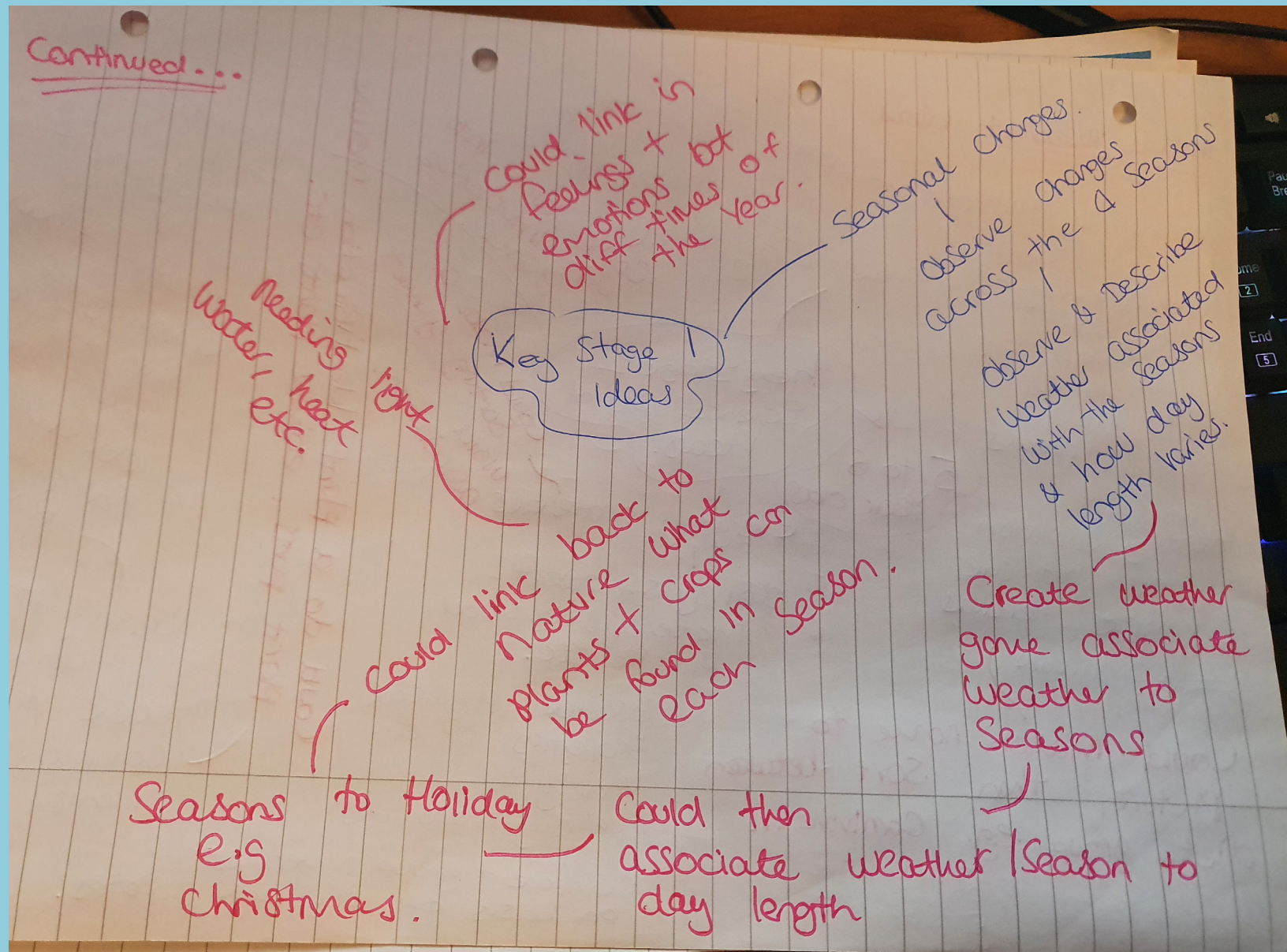
Research Summary

To conclude, BBC bitesize is not as visually stimulating as other examples I have shown. Although it does incorporate some UX Design Principles by grouping sections together. Bitesize provides many choices for different learning examples which will increase time to make a choice - Hicks law stipulates "reaction times are slower in proportion to the number of choices presented". The splash learn example was definitely more stimulating but the best I personally believe is the Sago Mini school. It is stimulating, easy to navigate and incorporates many of the design principles. Big buttons in easily pressed areas, easy and efficient to navigate (as per Jakob Neilsons Heuristics). The sections are grouped well and easily navigated. My daughter presses the buttons easily Fittz law. Miller number is incorporated in the sense that tasks are broken down in to logical chunks likewise is BBC Bitesize. I will take all this in to consideration in my designs. WW
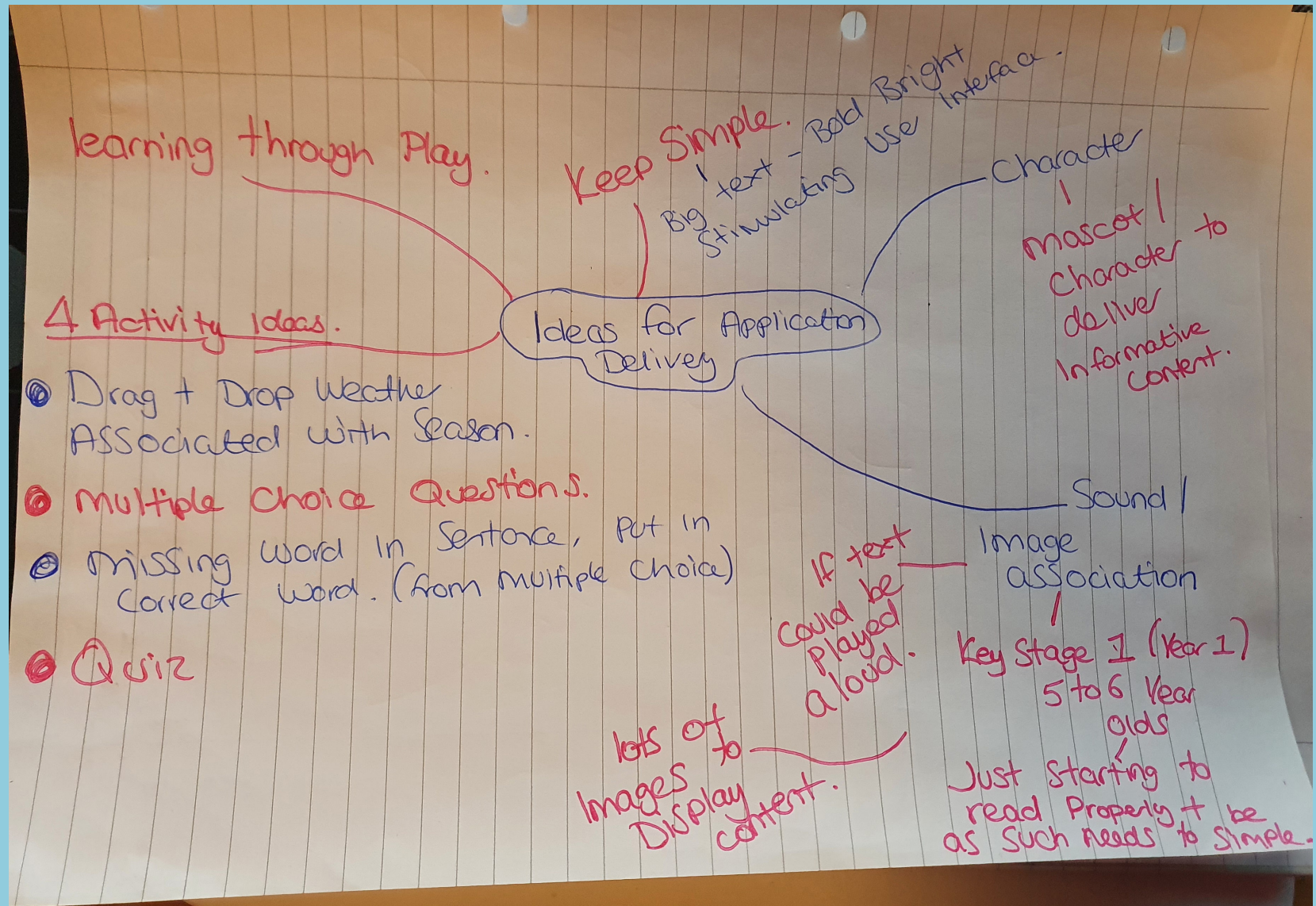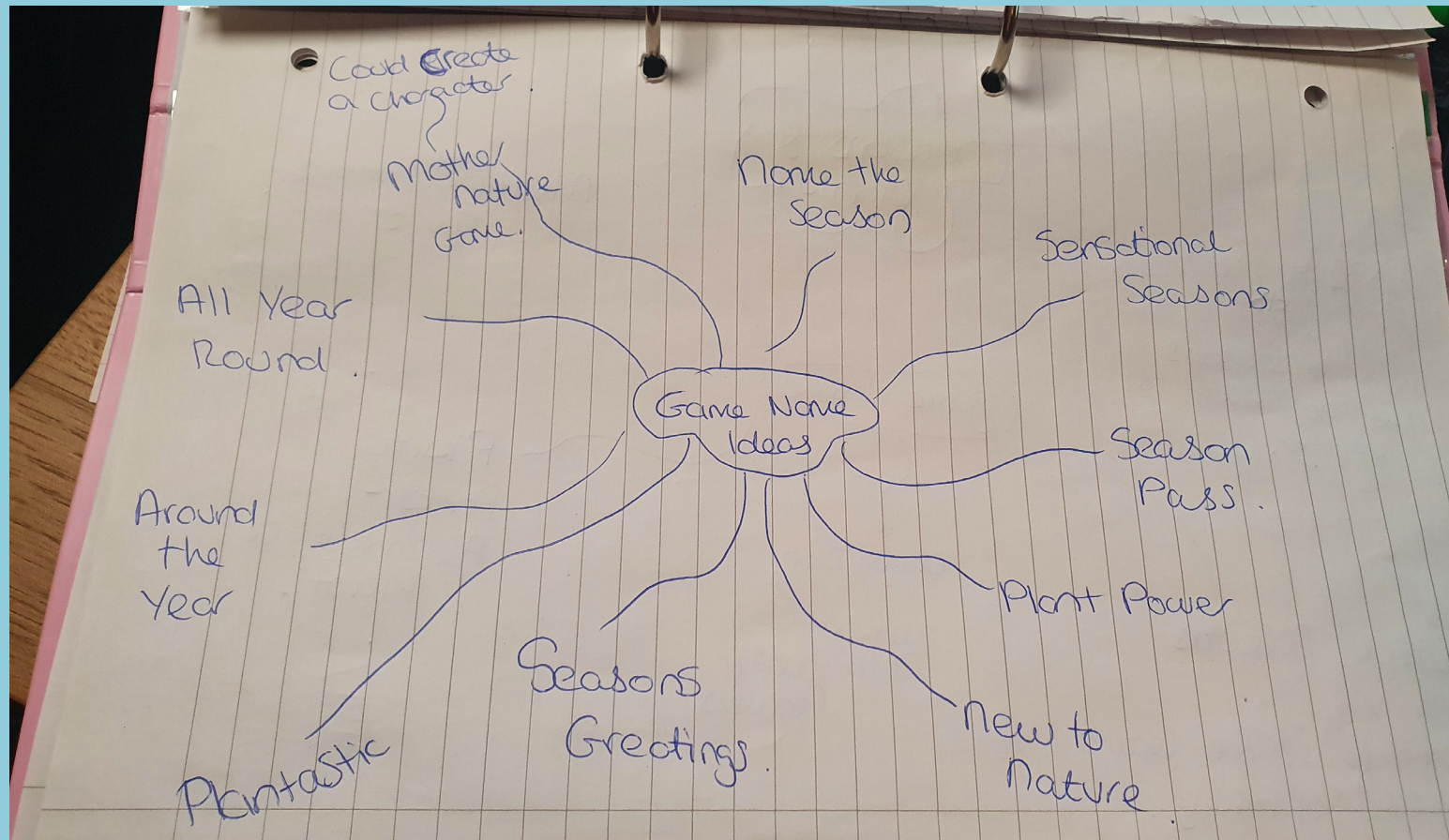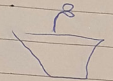
Mind Maps & Planning

Initial Research + Ideas

Animals Incl Humans. — Identify, name draw body parts. Say which part is associated with each sense.

Could turn into an interactive game

name a variety of animals
Incl - fish
  - Amphibians
  - Reptiles
  - Birds
  - Mammals

5 to 6 Year olds

Key Stage 1 Science Subject Ideas.

Could make a Sorting game + Word Association.

Could do a Plant. Identification Module, Plant parts, edible plants etc.

Identify common animals that are Carnivores, Herbivors ~~Main~~ Omnivors

Could match name to picture, then Sort between diet group .eg. Carnivore....

Everyday materials

distinguish object materials eg wood, plastic etc.

describe physical properties of a variety of everyday materials.

Compare + group materials on basis of physical properties.

Plants

Requirement
v
Identify + name a variety of wild & Garden Plants, Incl deciduous + evergreen trees.

Identify + describe basic Structure common flowering Plants + trees.

Mind Maps & Planning

Continued...

Could link in feelings + emotions bt diff times of the year.

Seasonal changes.
Observe changes across the 4 Seasons

Key Stage 1 Ideas

Observe & Describe weather associated with the seasons & how day length varies.

Needing light Water, heat etc.

Could link back to Nature what plants + crops cn be found in each season.

Create weather gone associate weather to Seasons

Seasons to Holiday e.g christmas.

Could then associate weather/season to day length

Mind Maps & Planning

Mind Maps & Planning

Mind Maps & Planning

I.m.D   Interactive Ideas.

Could water a plant to make it grow.

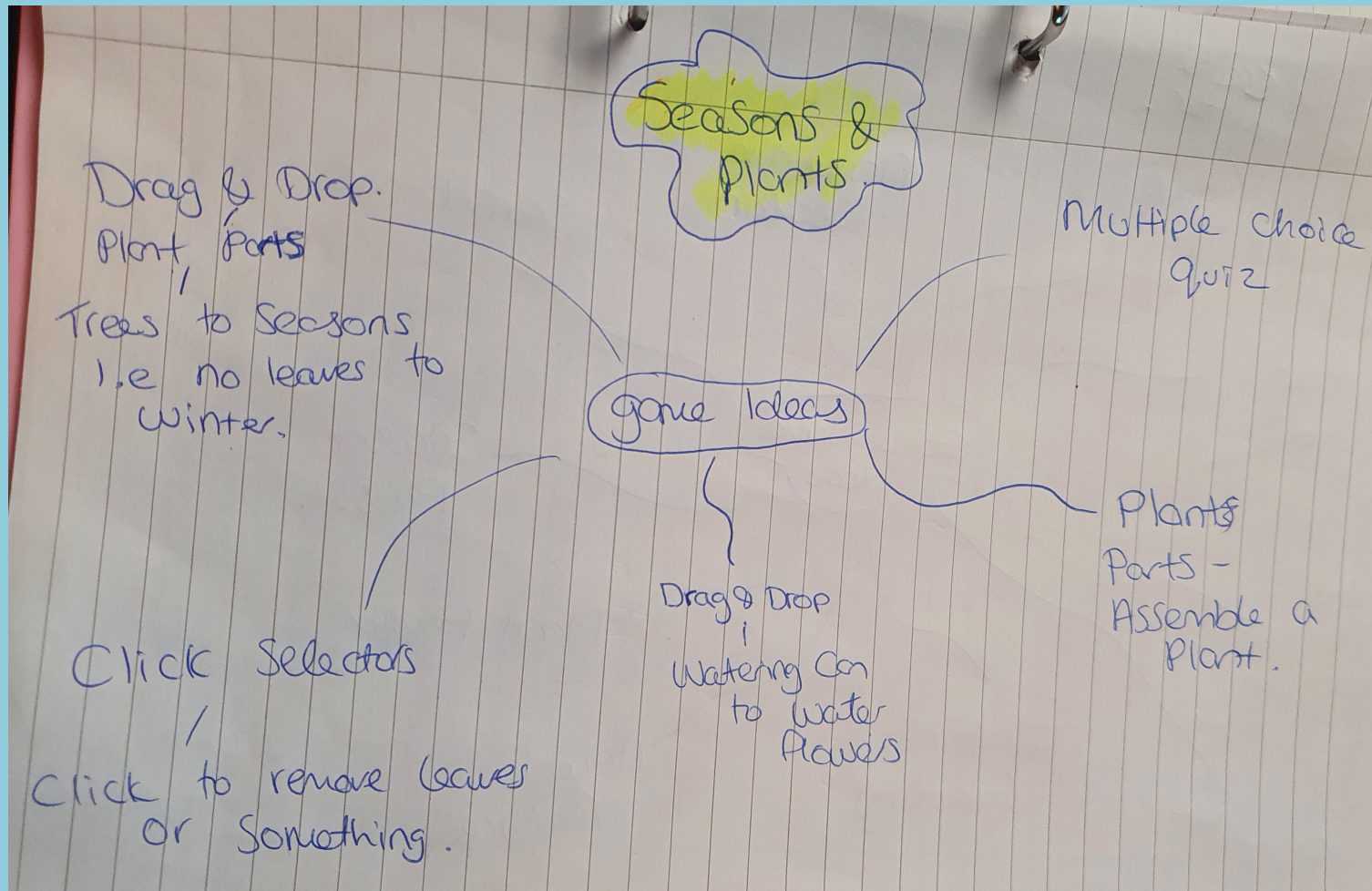Drag & Drop   Seasons to match
                          Trees.

Tree orange leaves → Autumn.
Tree no leaves → winter.
Tree with blossom → Spring.
Trea with leaves → Summer.

Learning first. then 4 seperate
page stages. for each season.
                                    PTO.

Mind Maps & Planning
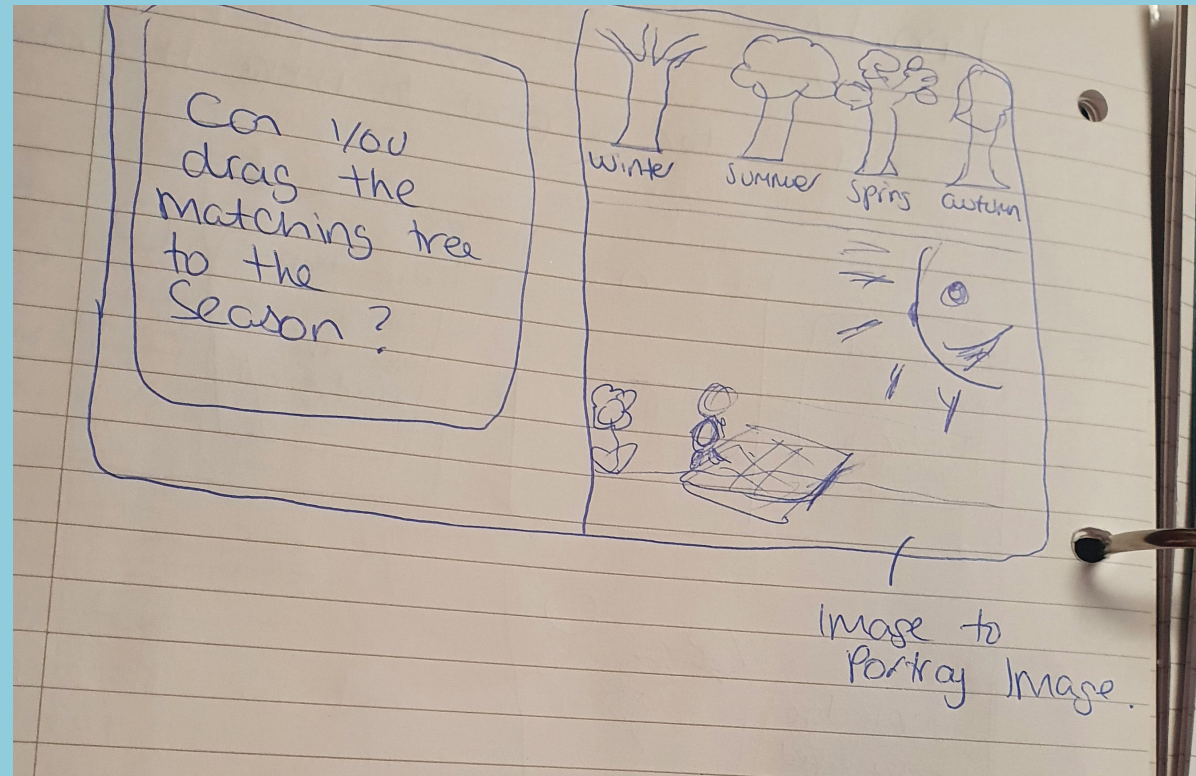
Mind Maps & Planning

Collecting Assets

Assets

I want to use some real life examples in the learning sections of my interactive. As such I have collected some copyright free assets. Any that will be used will be referenced in the final hand in.

Photo by Max Andrey from Pexels

Visual Planning

Chosen Colour Scheme

This is the main colour scheme I will be using for my interactive.

I have chosen these colours as each one could represent part of the seasons and plants. These colours are often found in nature, and seasonal changes.

For example, blues can be associated with Winter, orange with Autumn, yellow with spring and summer and likewise with the greens.
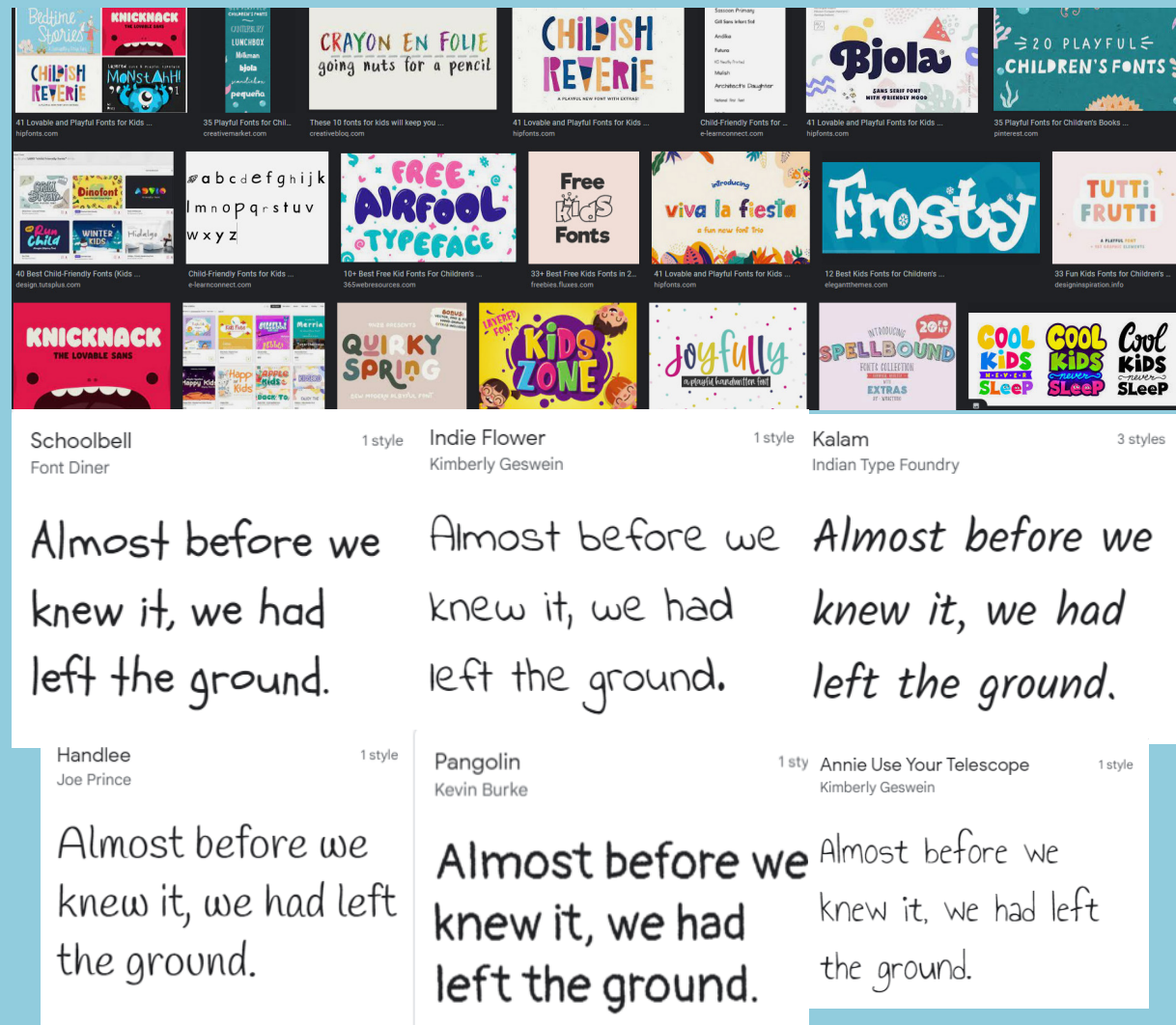
Visual Planning

Typeface Research

I began by researching typefaces for children. I wanted to find something fun, yet easy to read, Such as comic sans ms. I spent some time looking through the different suggestions before looking on Google Fonts.

In Google Fonts, I searched keywords such as Children, Crayon, Nature, Plants and Fun which did not retrieve any results. I then searched School and got a pretty cool typeface called 'Schoolbell'. Searching keywords seemed fruitless. I then went on and chose the 'Handwriting' option from the drop down menu.
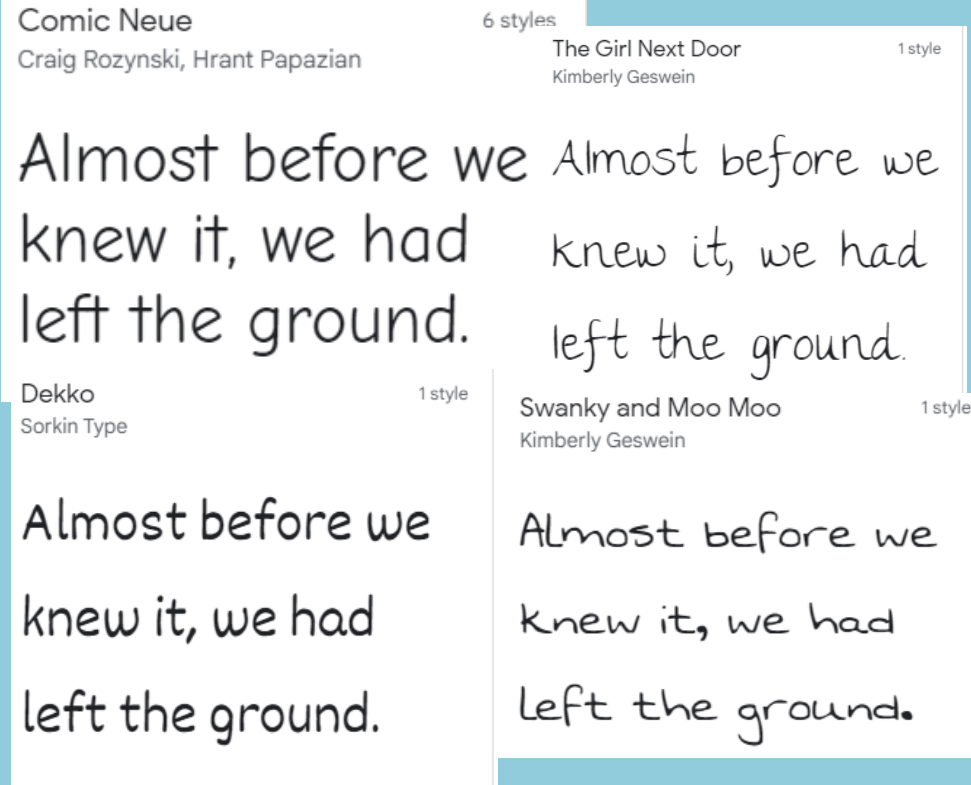
I went on to look for Comic Sans style fonts, this is because I know children find these typefaces easier to read and are more familiar. This is due to learning how to read and write in school. These kind of fonts still have a fun feel about them.

Visual Planning

Chosen Typefaces.

I whittled down to these four options for my primary font. I will make my final choice later during the design process.

Comic Neue   6 styles
Craig Rozynski, Hrant Papazian

Almost before we knew it, we had left the ground.

The Girl Next Door   1 style
Kimberly Geswein

Almost before we knew it, we had left the ground.

Dekko   1 style
Sorkin Type

Almost before we knew it, we had left the ground.

Swanky and Moo Moo   1 style
Kimberly Geswein

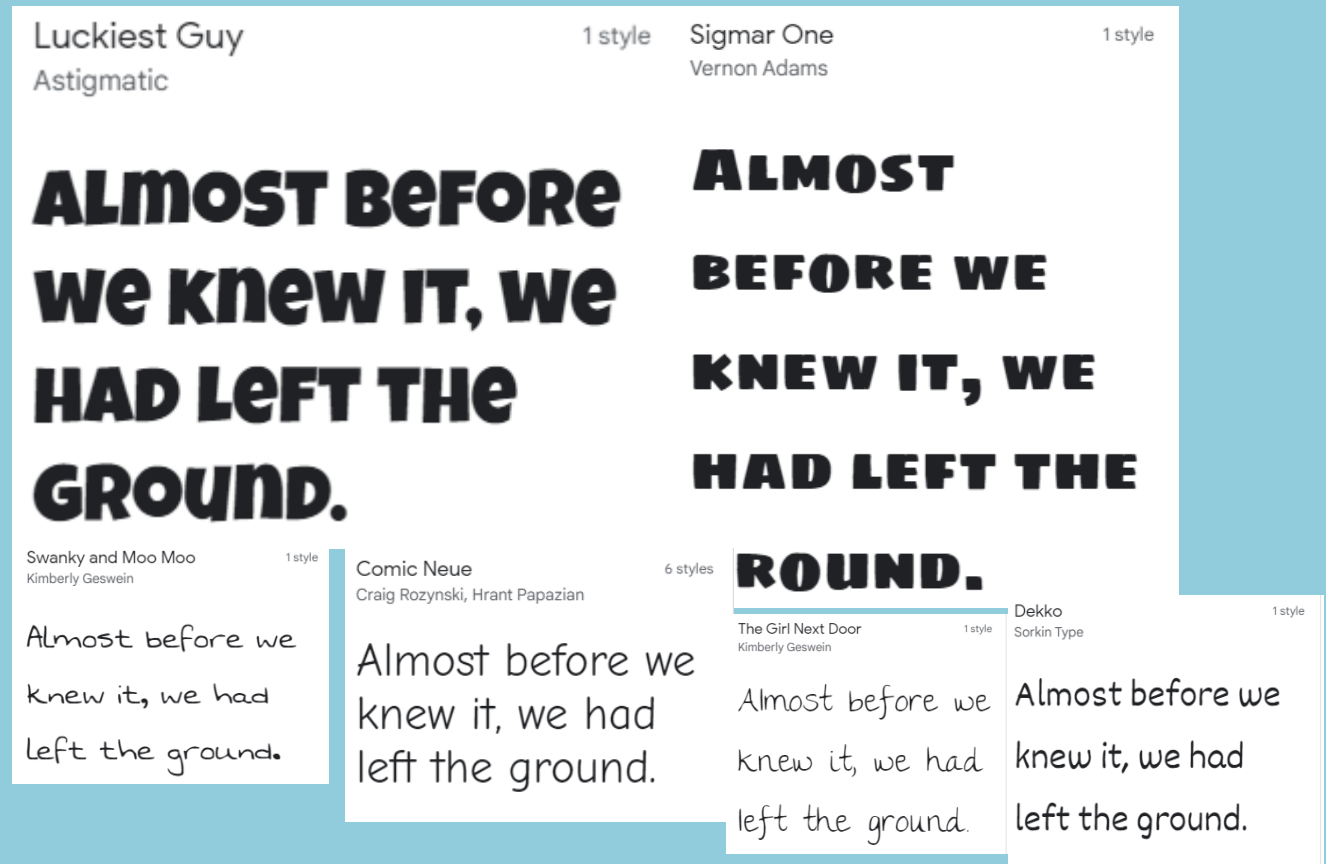Almost before we knew it, we had left the ground.

Visual Planning

Chosen Typefaces.

I then wanted a bolder choice for the Secondary font that I wanted to use for my headings and logo.

I wanted a bold, fun yet clear choice for my logo and heading typeface.

I then tested how they looked while paired with the primary font choices.

Luckiest Guy   1 style
Astigmatic

ALMOST BEFORE we knew IT, we HAD LEFT THE GROUND.

Sigmar One   1 style
Vernon Adams

ALMOST BEFORE WE KNEW IT, WE HAD LEFT THE ROUND.

Swanky and Moo Moo   1 style
Kimberly Geswein

Almost before we knew it, we had left the ground.

Comic Neue   6 styles
Craig Rozynski, Hrant Papazian

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The Girl Next Door   1 style
Kimberly Geswein

Almost before we knew it, we had left the ground.

Dekko   1 style
Sorkin Type

Almost before we knew it, we had left the ground.

Visual Planning

Chosen Typefaces.

I like how these ones pair together. I will test them in my designs to see if they work.

Luckiest Guy — 1 style
Astigmatic

ALMOST BEFORE WE KNEW IT, WE HAD LEFT THE GROUND.

Comic Neue — 6 styles
Craig Rozynski, Hrant Papazian

Almost before we knew it, we had left the ground.

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The Girl Next Door — 1 style
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Almost before we knew it, we had left the ground.

Dekko — 1 style
Sorkin Type

Almost before we knew it, we had left the ground.

Visual Planning

Layout and Design Choices

As part of the design process, I wanted to test different colours from the colour palette as backgrounds against some assets to see what the contrast was like. I cant use the greens from the palette as they will be used in the game. Same with oranges, I may have to add additional colours as I do not think the blue and yellow works.

I began experimenting with different colours, as well as shades of greens and blues.
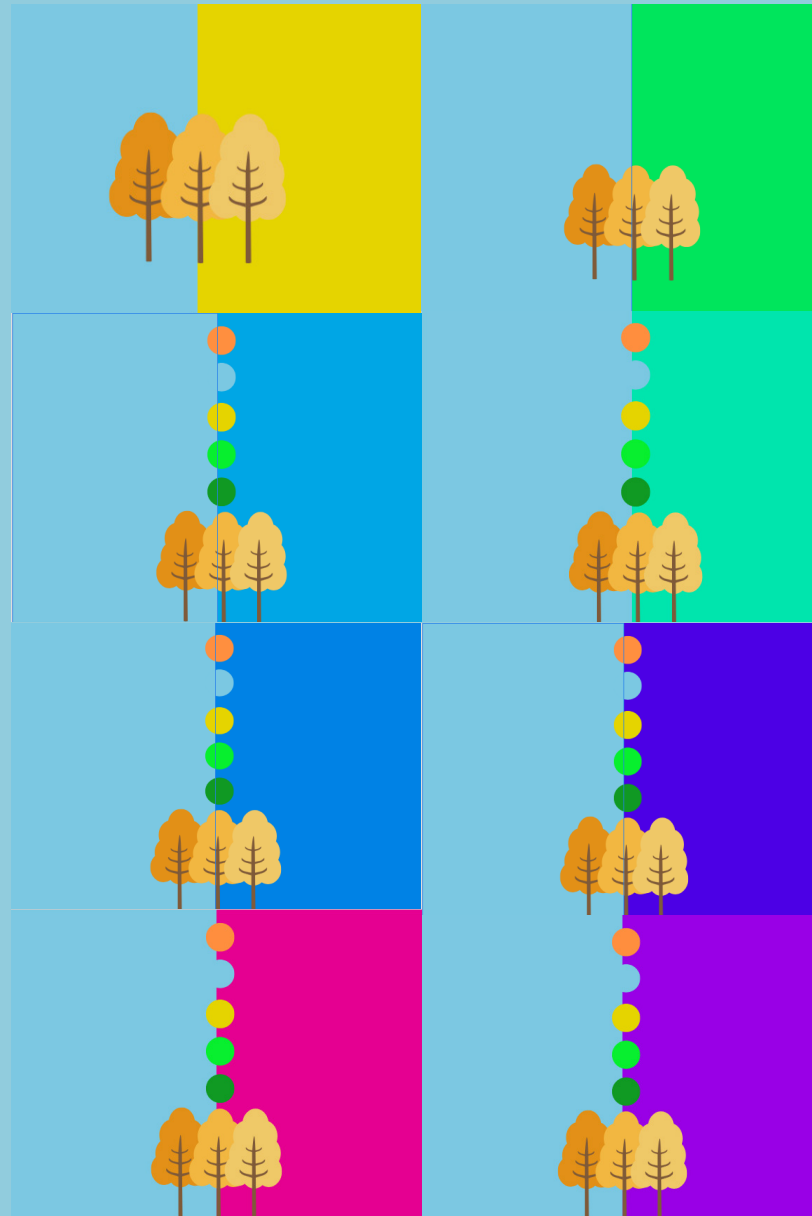
Visual Planning

Layout and Design Choices

I will move forward with these colours to see how they match the rest of the interactive. It may be that I change the colours later in the design process.
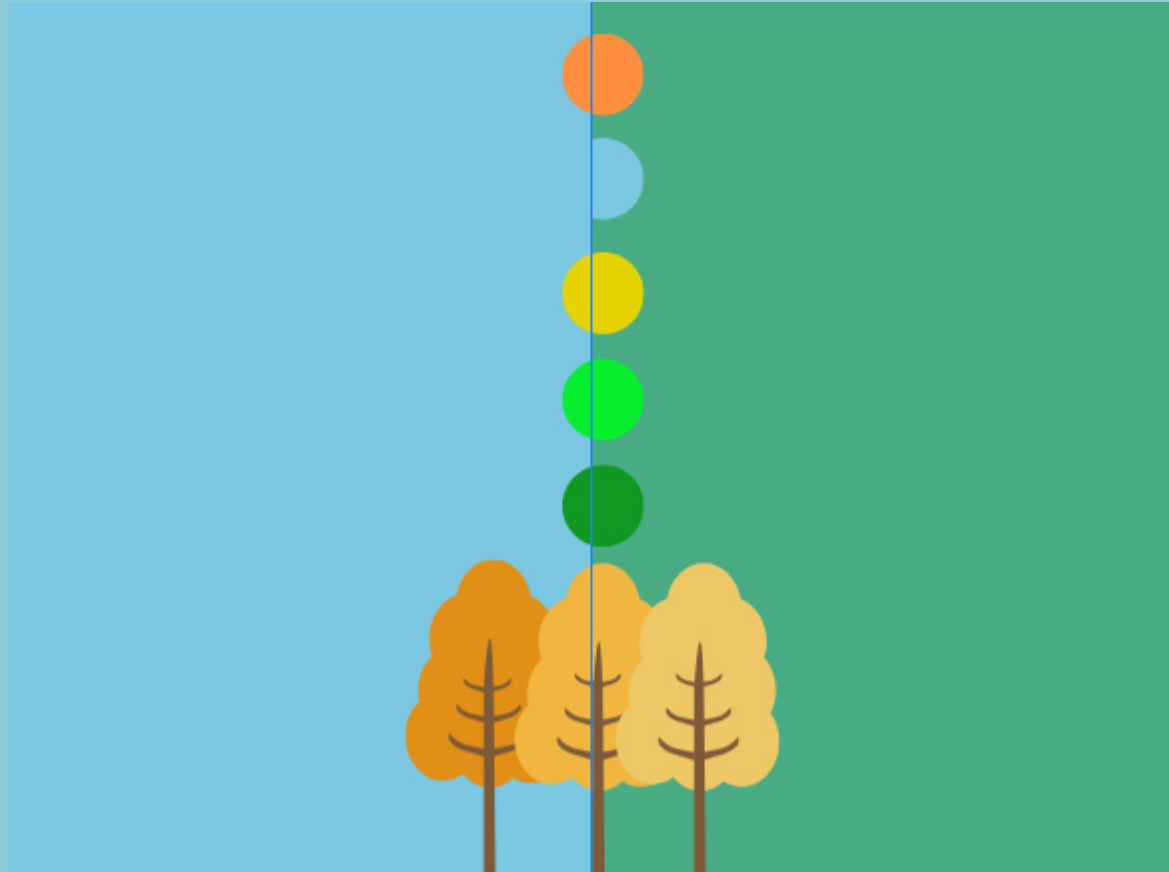
Logo Design Process

Initial Sketches

I began by sketching out some logo design ideas.
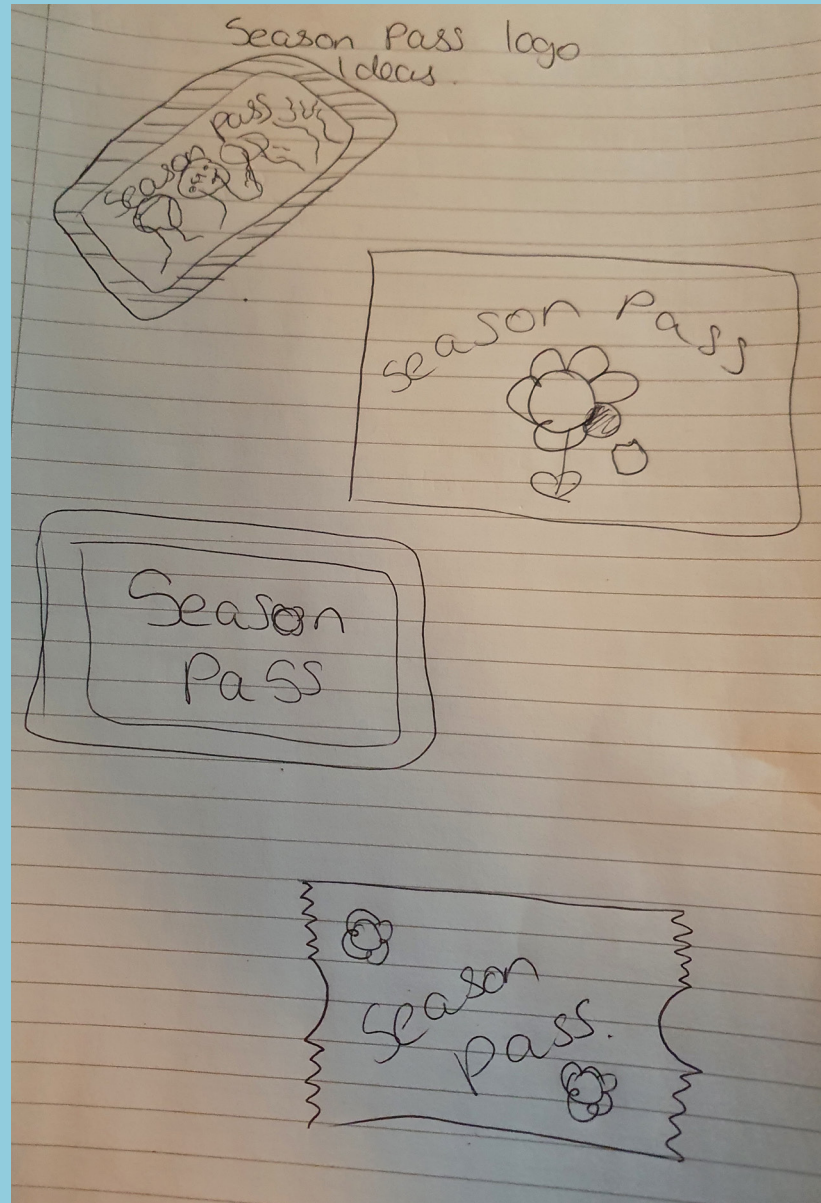
Logo Design Process

Initial Design

My initial plan was to create a Logo which symbolised a season pass, like you would get for an attraction.

I began by using the Luckiest Guy typeface I found on Google Fonts and created a pass shaped object.

I also began creating assets to try and make the design more visually interesting. I created this flower first and started experimenting with gradients.

Logo Design Process

Experimentation

Next I wanted to make the designs visually stimulating as possible, I experimented with different layouts and colours.

Logo Design Process

Experimentation

I then added a snowflake and sun which I improved as the design process continued.

Logo Design Process

Experimentation

Here I am experimenting with different colour and layout options.

Reference:

Please note, this tree was created for my visual communications assignment. Which was used on this tablet design for my final hand in. I have adapted the colours and gradients in the versions used in this assignment.

Logo Design Process

Assets

For the logo, I thought a good way of representing the different seasons would be trees in different colours to represent the difference from Spring to Winter.
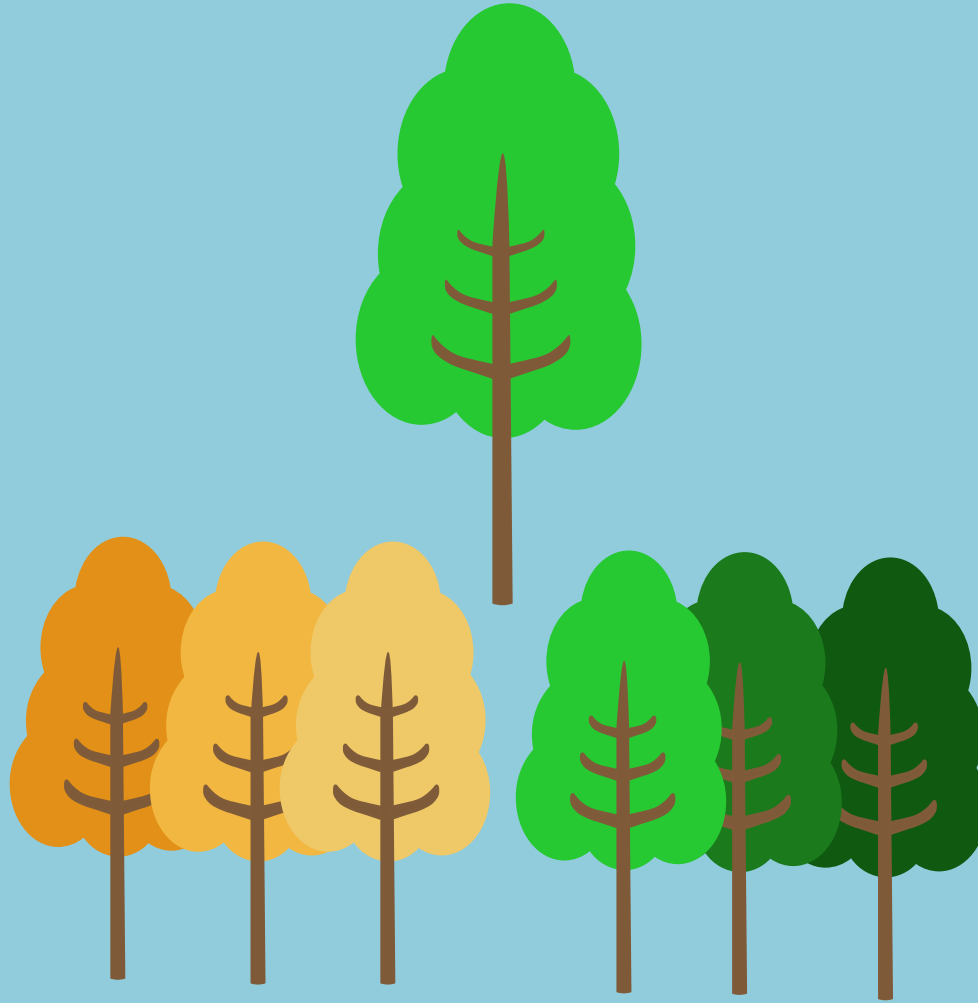
Logo Design Process

Assets

To make my designs more visually appealing to a younger audience, I wanted to create some more assets which could be associated with different seasons.

From left to right is how the asset design process progressed.
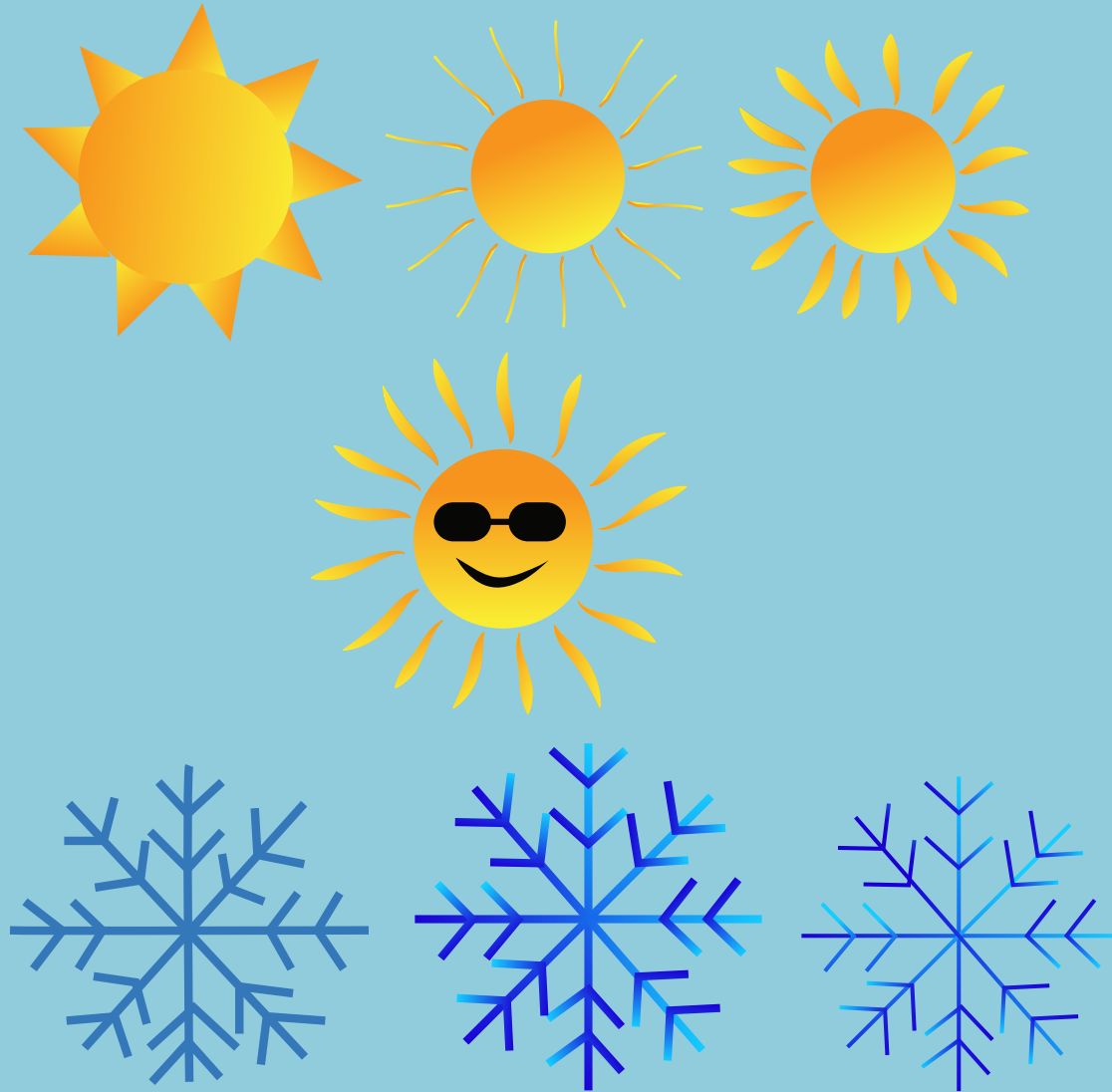
Logo Design Process

Logo Design

Now I had an element to represent different seasons, I put them together. I felt the logo was missing something. Something about it was not quite what I wanted it to be.

Logo Design Process

Logo Design

I thought it may of been the background of the pass, and went on to try a few different colours which I thought would work well with my design.

Logo Design Process

Logo Design

I am still not happy with the design and continue to experiment.

Logo Design Process

Logo Design

At this point I decided to mock up the intro screen to see how the logo looked on the design. This way I could see what worked and what did not. The blue/orange gradient did not work well on a blue background. As such I decided to use greens to yellows.

Logo Design Process

Logo Design

I thought I would see what adding the blue/orange gradient looked like on the text.

Logo Design Process

Logo Design

After getting feedback on my designs, it became apparent that the season pass idea was not translating through to the user. As such I took logo design back to basics and tried these simplified designs. I then went on to choose the orange one as it provides nice contrast with the blue background.

Asset Design Process

Asset design.

I need a number of assets to create my game designs. I began with watching a You Tube tutorial on how to draw a Sunflower and adapted it slightly to suite my style. I decided on a Sunflower because they will be most recognisable by a young audience. It will be quite easy to annotate the different part of a plant.

It took a few attempts to get the petals right. Then the rest was pretty straight forward to follow which taught me some new tricks on how to quickly create certain effects like the shadow on the pot etc.

https://www.youtube.com/watch?v=WiR7N-OTmDU

Asset Design Process

Asset design.

Next I created a range of assets for the various game/interactive screens.
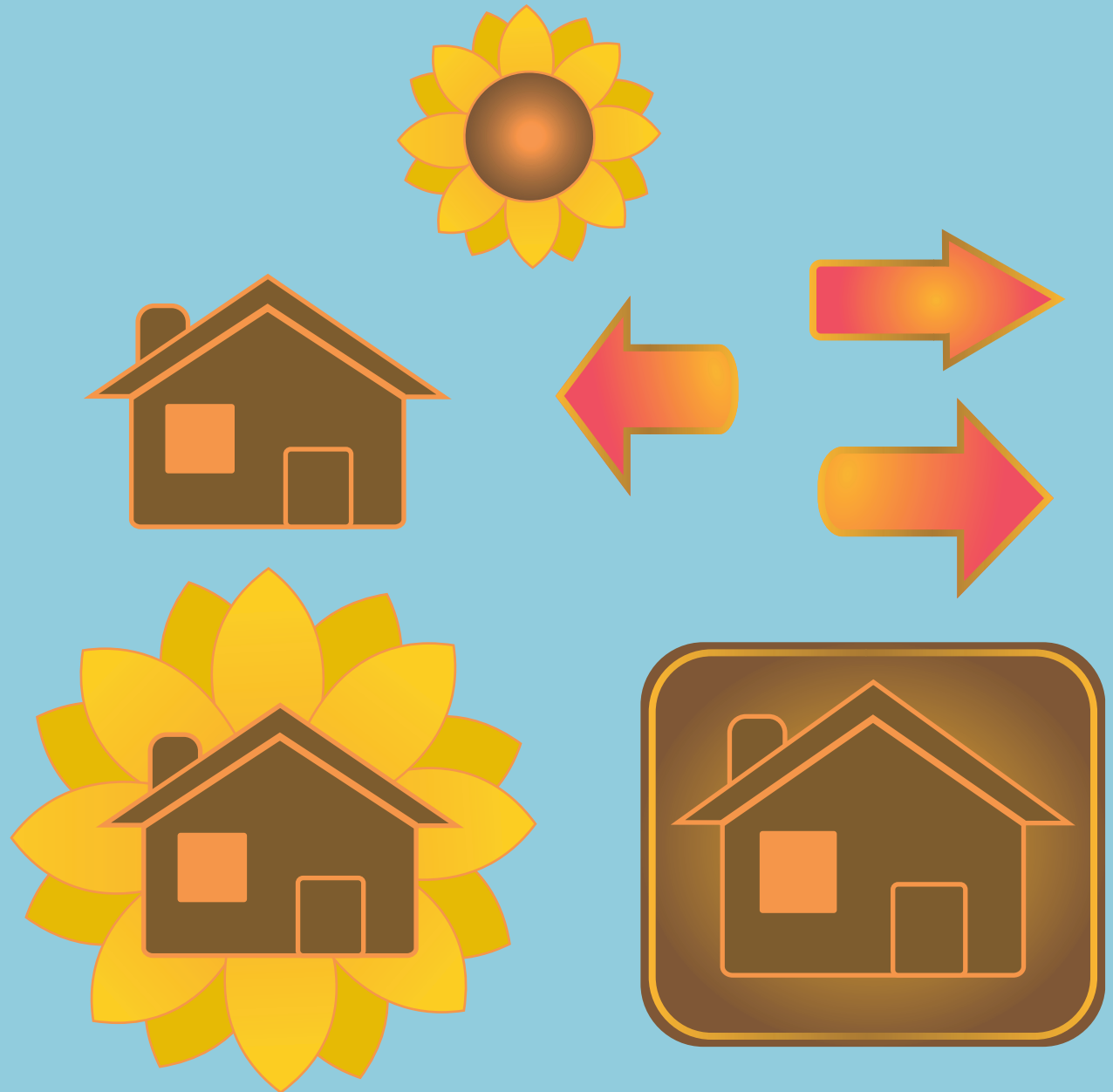
Asset Design Process

Asset design.

I experimented with a few different colours, so I had multiple choices when I began creating the interactive designs,
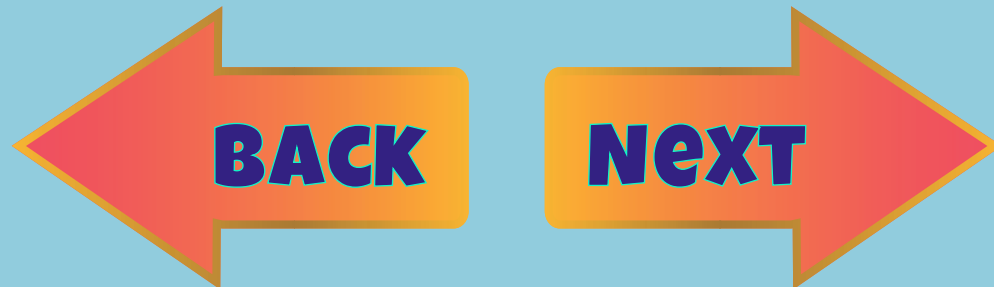
Asset Design Process

Asset design.

I experimented with a few different colours, so I had multiple choices when I began creating the interactive designs,
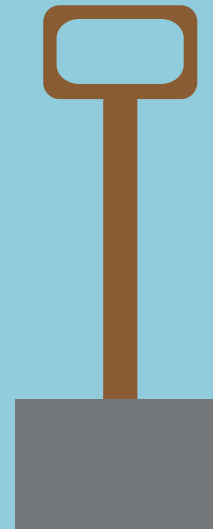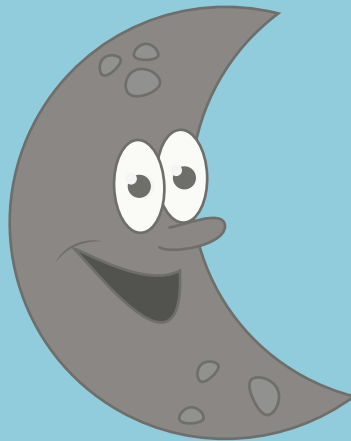
Asset Design Process

Asset design.

I looked to Google for inspiration when drawing some of my assets. Mainly to see how the shapes flowed and how shadows and other little details were added. I wanted my assets to be as visually stimulating as possible. I looked at the following links to give me an idea of how to draw my watering can and a seedling.

https://www.google.com/search?q=seedling+cartoon&sxsrf=APq-WBu4JifiPx5nvHGdCk8oQMoUtSbnfw:1646915232256&tbm=isch&source=iu&ictx=1&vet=1&fir=Hgw1RtpsTe29yM%252ChMOpd-8CB-knF_M%252C_%253BAx3NkqG54

https://www.google.com/search?q=watering+can+cartoon&tbm=isch&ved=2ahUKEwipkcqxxbv2AhU8_rsI-HWv4DEAQ2-cCegQIABAA&oq=watering+can+-cartoon&gs_lcp=CgNpbWcQAzIFCAAQgAQyBQgAEIAEMgUIABCABDIFCAAQgAQyBQgAEI-AEMgUIABCABDIFCAAQgAQyBQgAEIAEOgcII-xDvAxAnOgQIABBDOgYIABAHEB46BggAEAgQH-joLCAAQgAQQsQMQgwE6CAgAEIAEELEDOg-gIABCxAxCDAToHCAAQsQMQQ1C69jlYnpE6YL-6SOmgBcAB4AYABzwGIAdILkgEGMTkuMC4y-mAEAoAEBggELZ3dzLXdpei1pbWfAAQE&sclien-t=img&ei=re4pYumGLbz87_UP6_CzgAQ
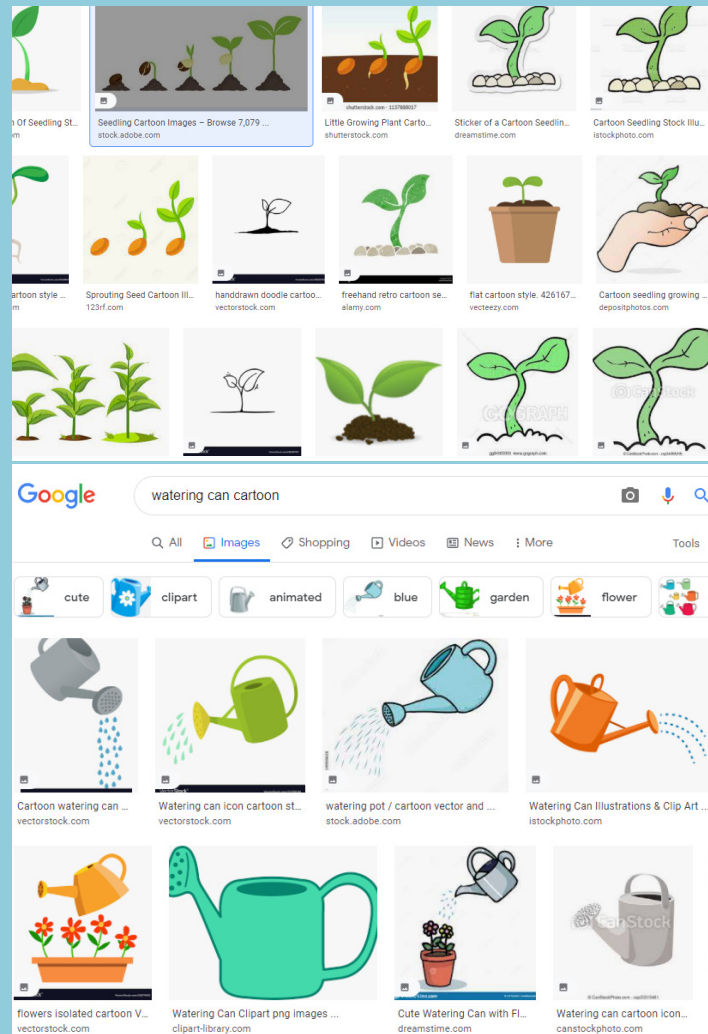
Asset Design Process

Asset design.

Taking inspiration from my daughters 'Sago Mini School App' I decided to make a couple of changes to my initial ideas. I am going to create four sections, which will be buttons which will take the user into the varies season section for some learning. I divided 1024 by 4 to get the width of each section.
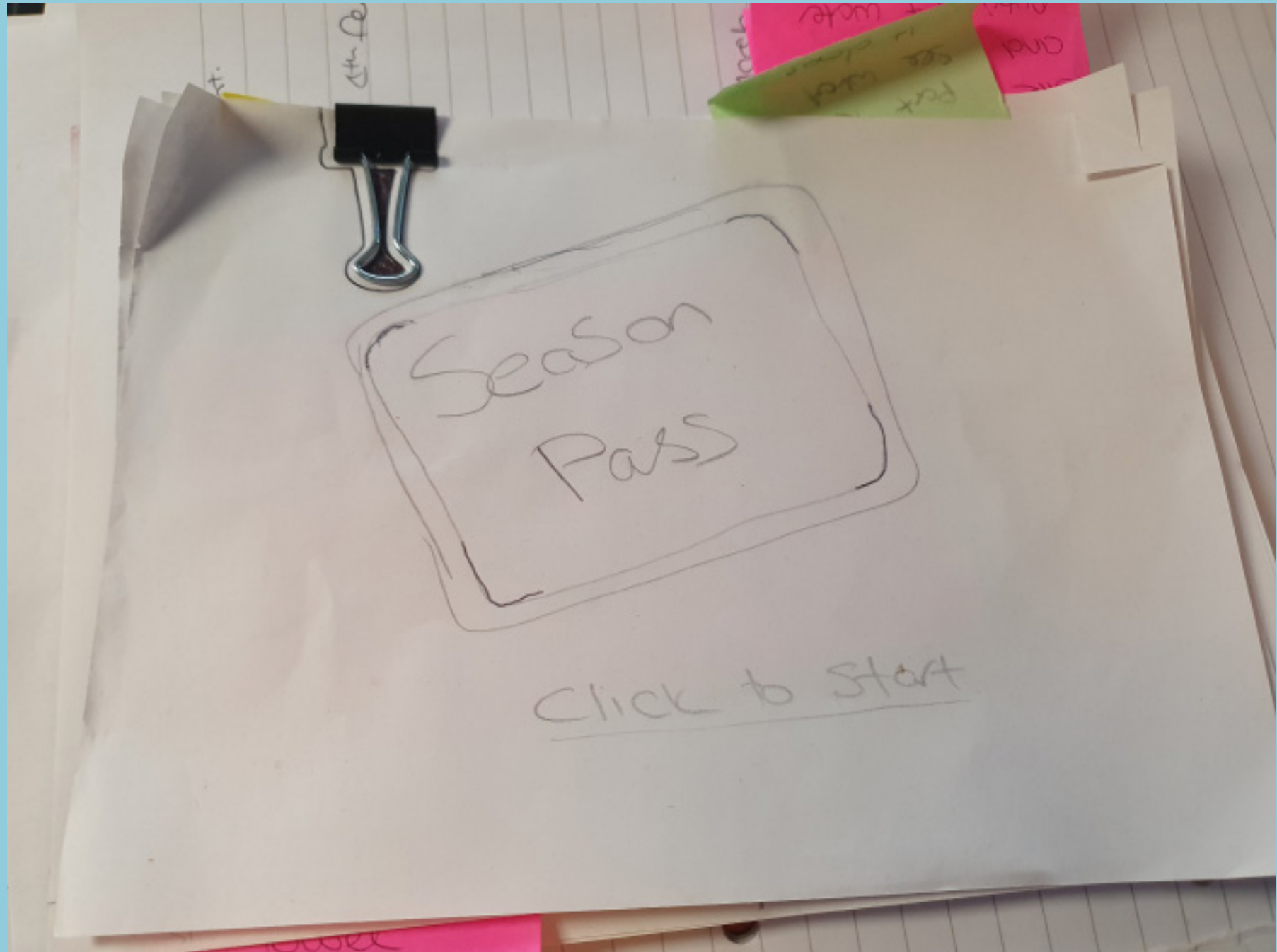
I used this image for inspiration:

https://www.google.com/search?q=cartoon+trees+in+each+season&tbm=isch&ved=2ahUKEwimxejTyrv2AhUhgv0HHeSLAacQ2-cCegQIABAA&oq=cartoon+trees+in+each+season&gs_

The top image is the Google image I used for inspiration and the bottom images are the ones I have created on illustrator.
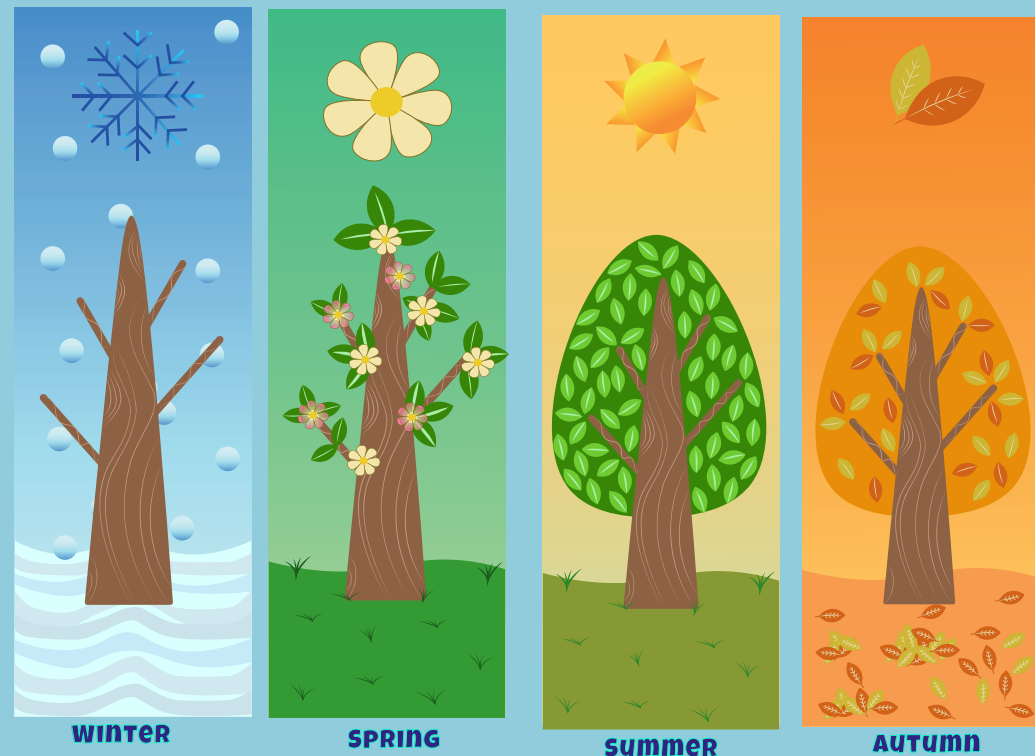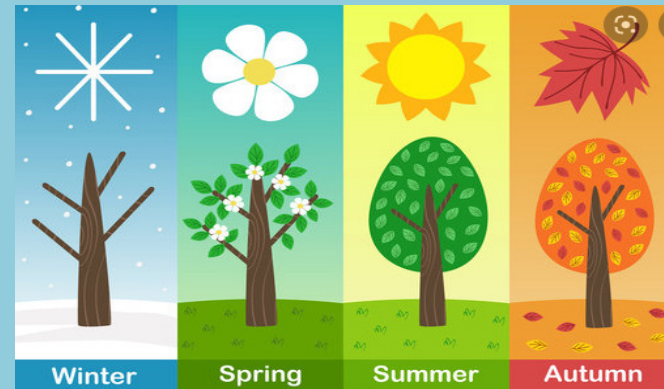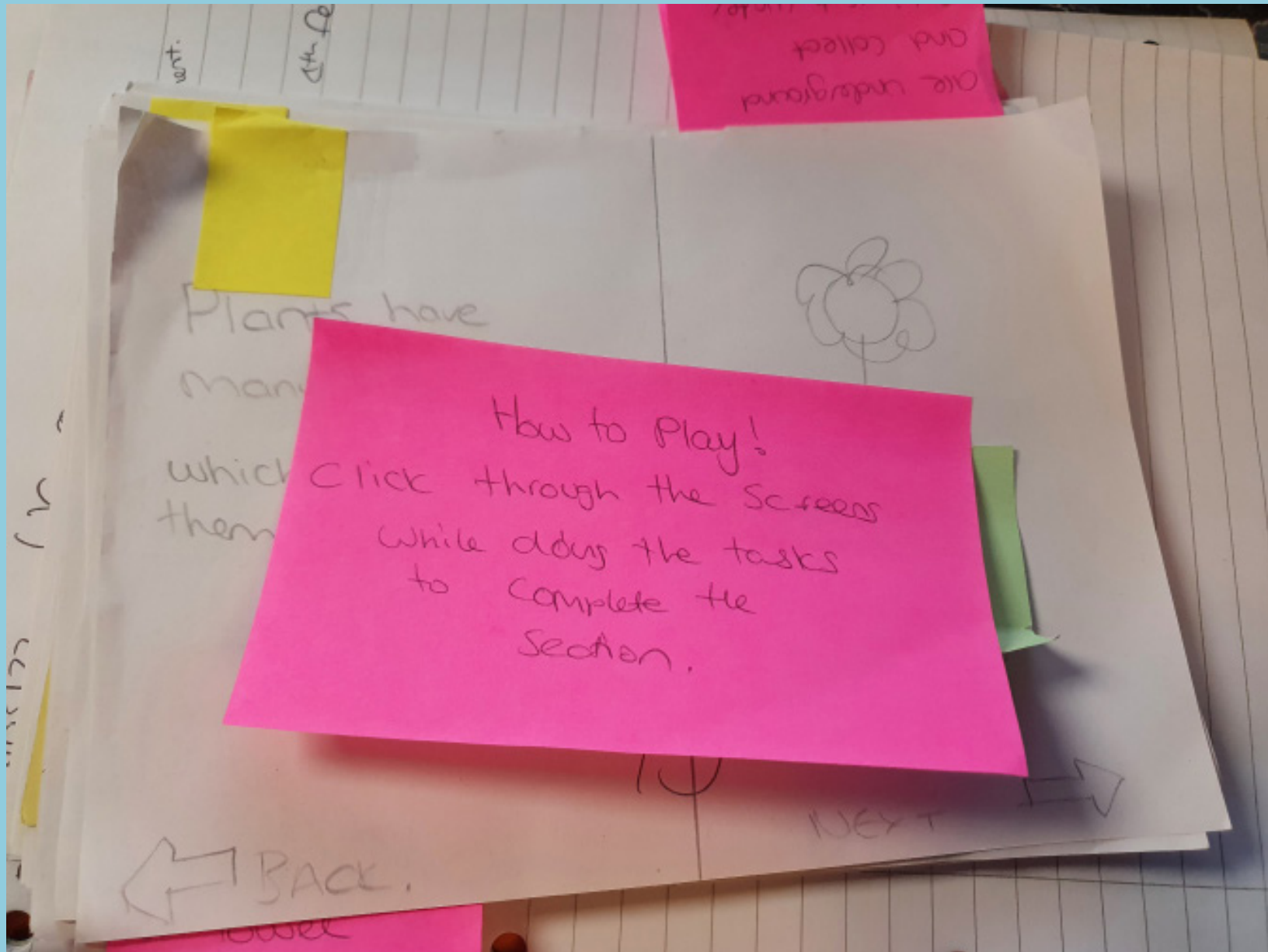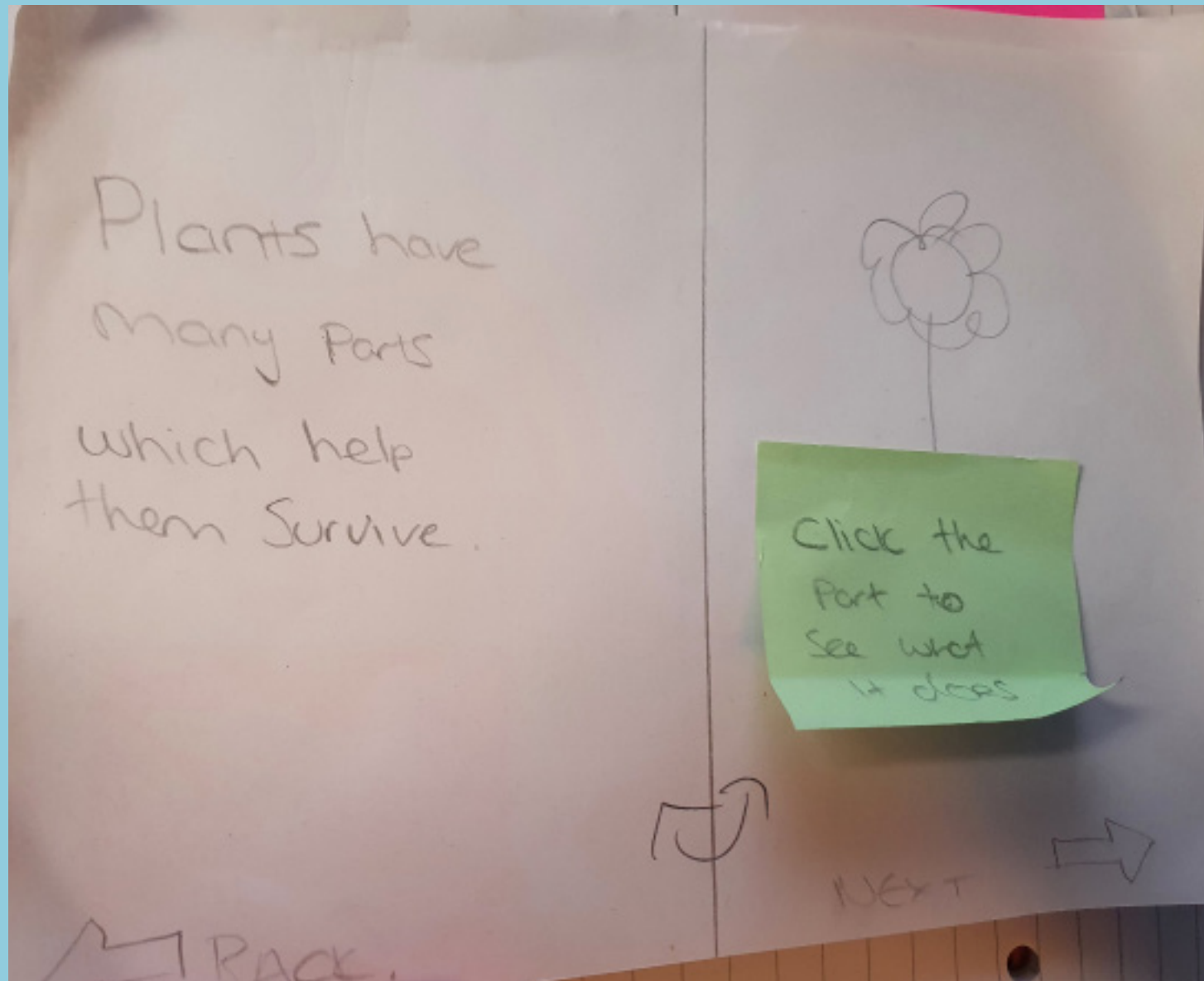

Winter Spring Summer Autumn

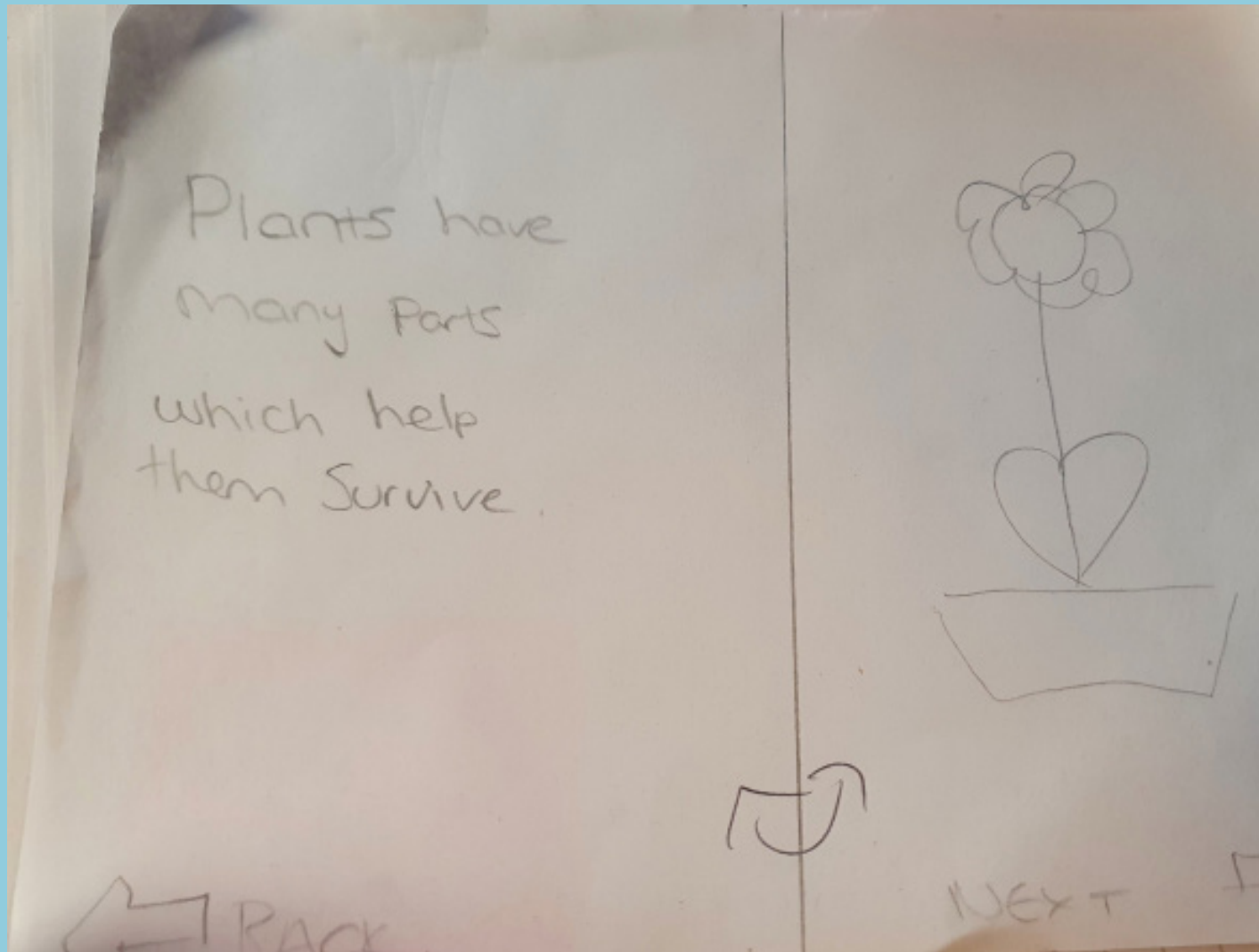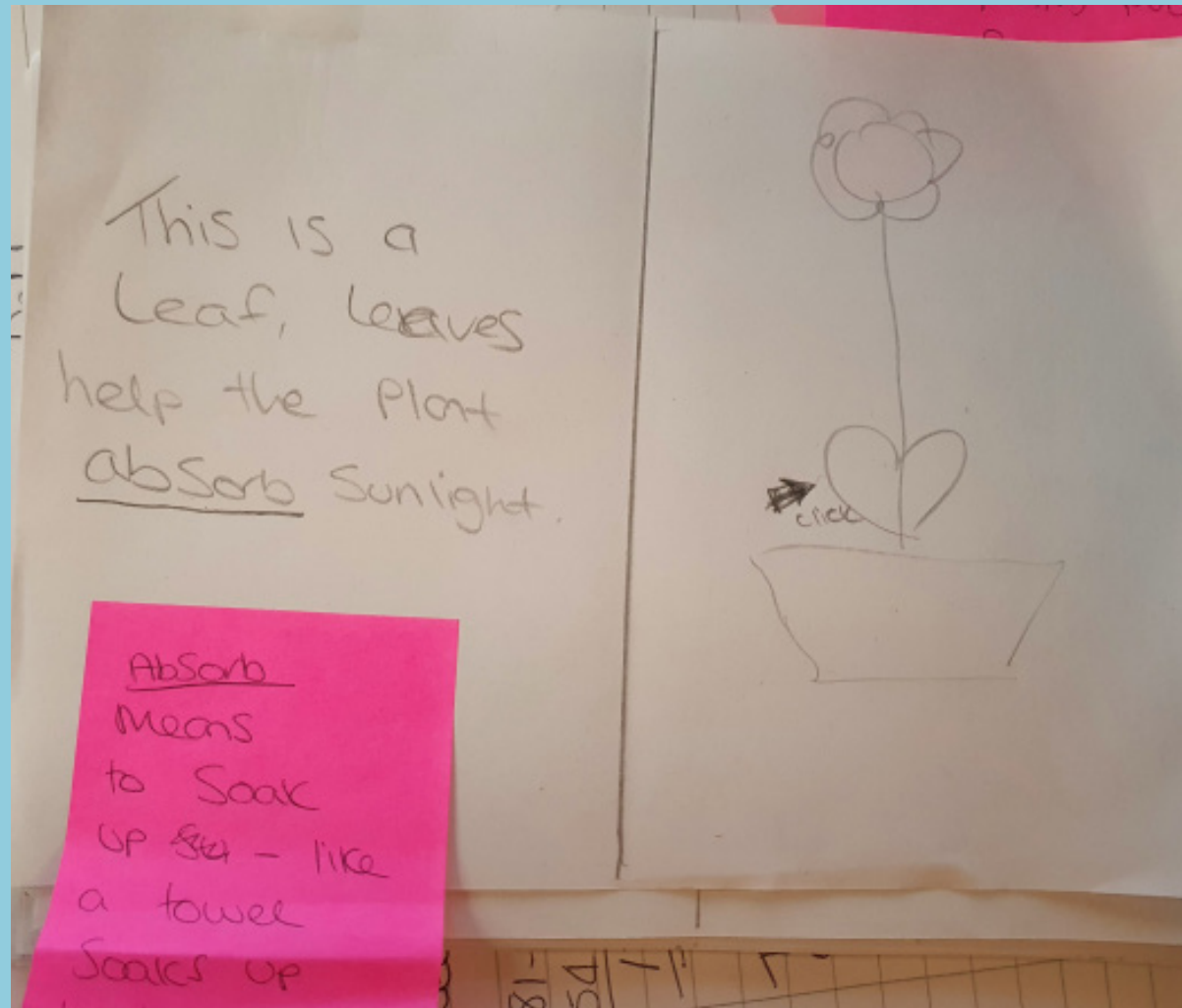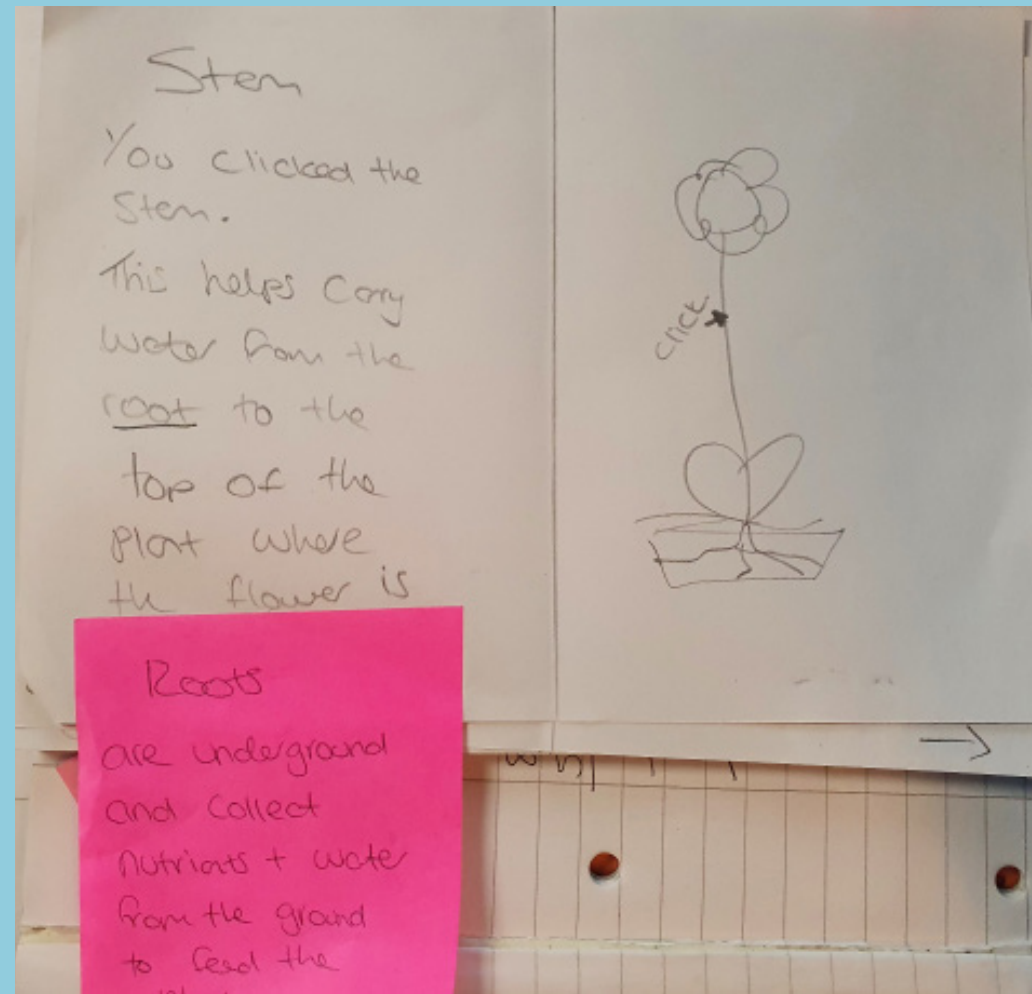WINTER SPRING SUMMER AUTUMN

Game Ideas & Paper Prototypes

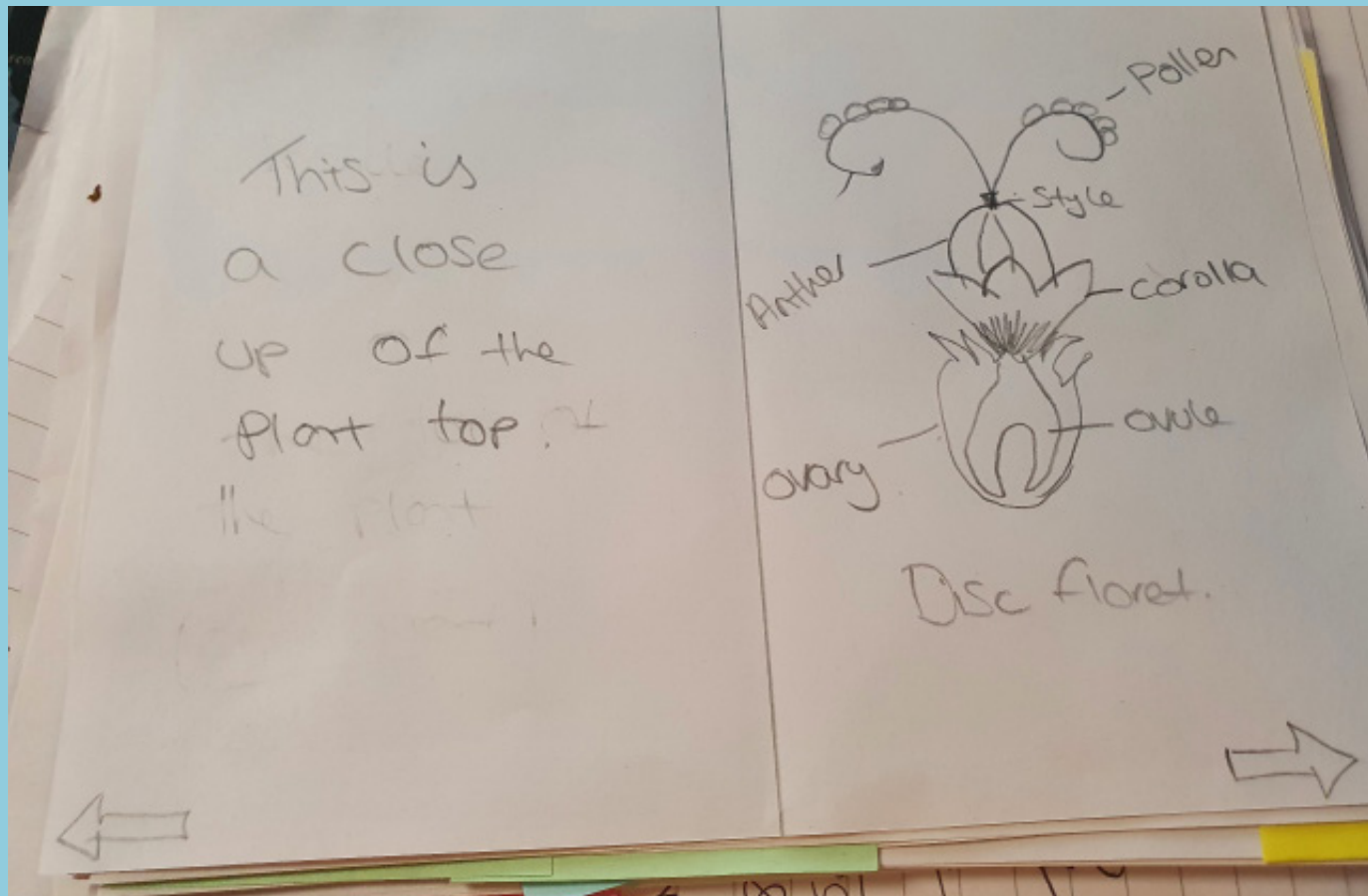# Game Ideas & Paper Prototypes

Game Ideas & Paper Prototypes

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Game Ideas & Paper Prototypes

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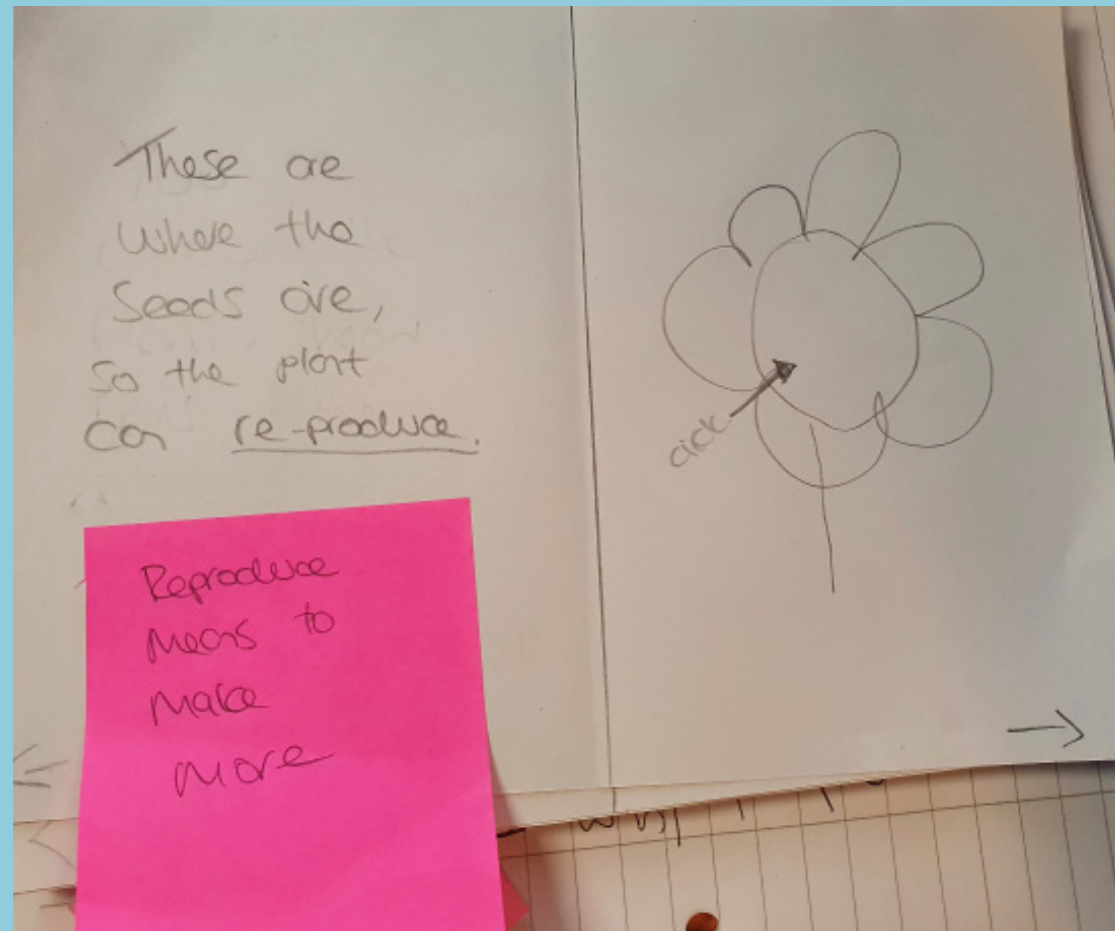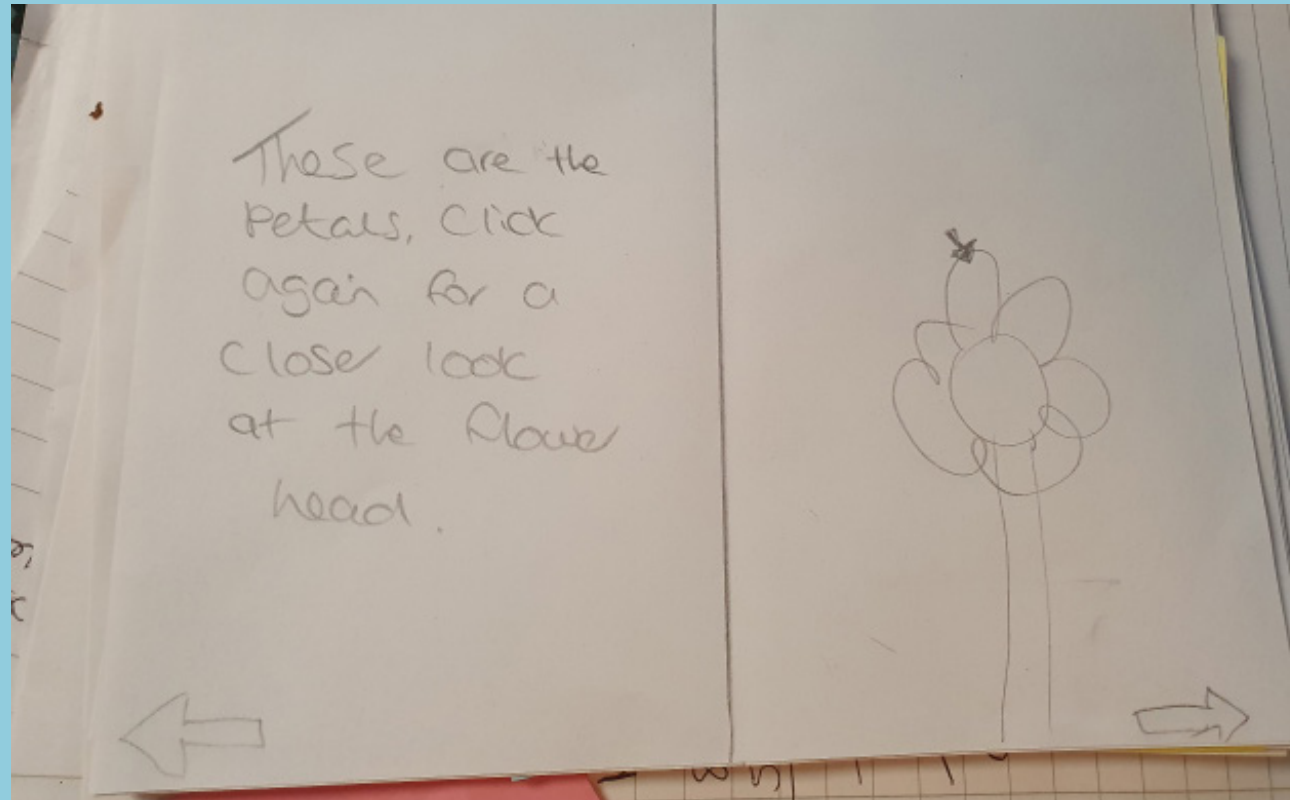# Game Ideas & Paper Prototypes

These are the petals, click again for a close look at the flower head.
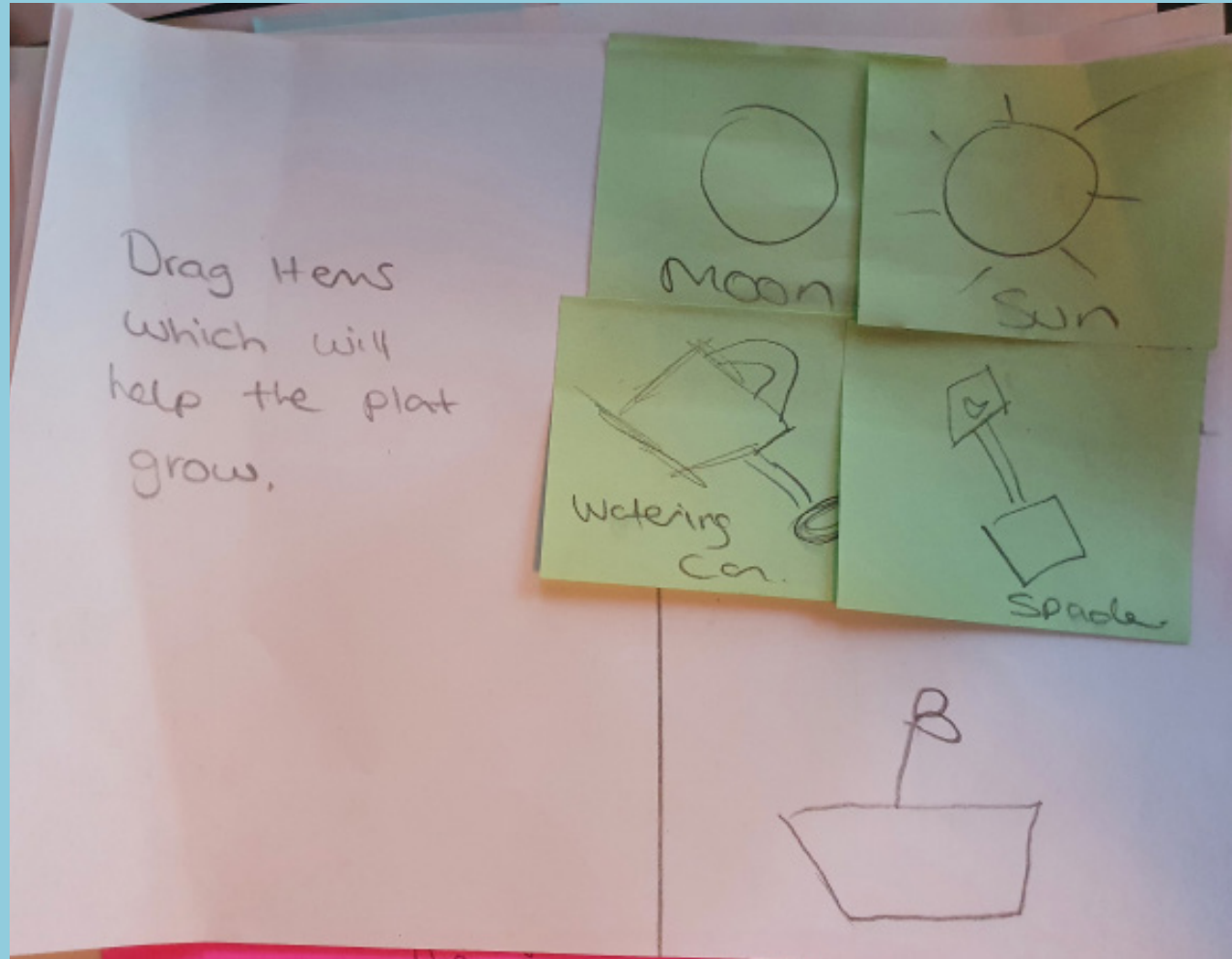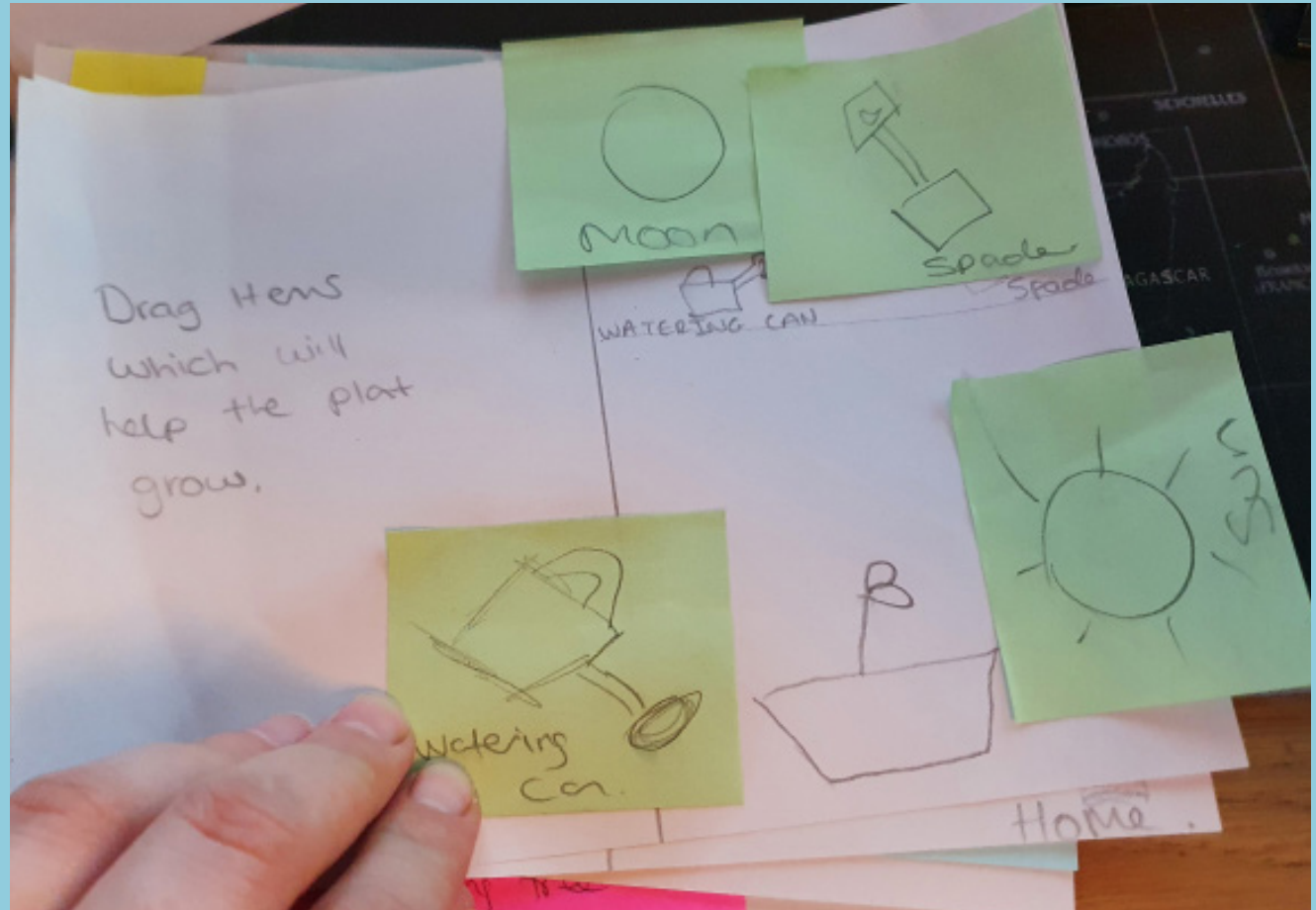
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I have not offered many choices, because the target audience is 4 to 7 year old children, the interactive needs to be simple. I am also thinking about Gestalt law with having the options in the same size container and close together, - experience, proximity, closure and similarity.
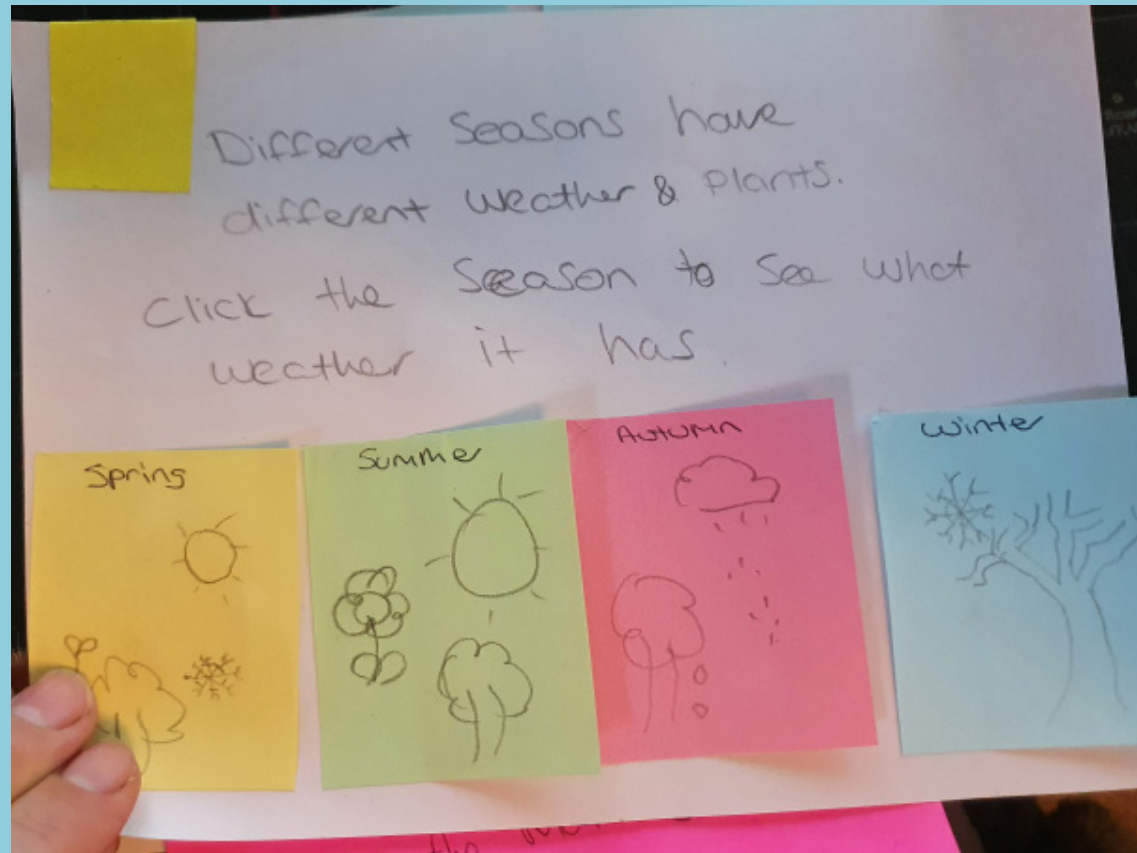
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Feedback will be given when the correct option is pressed in-line with Jakob's Heuristics.
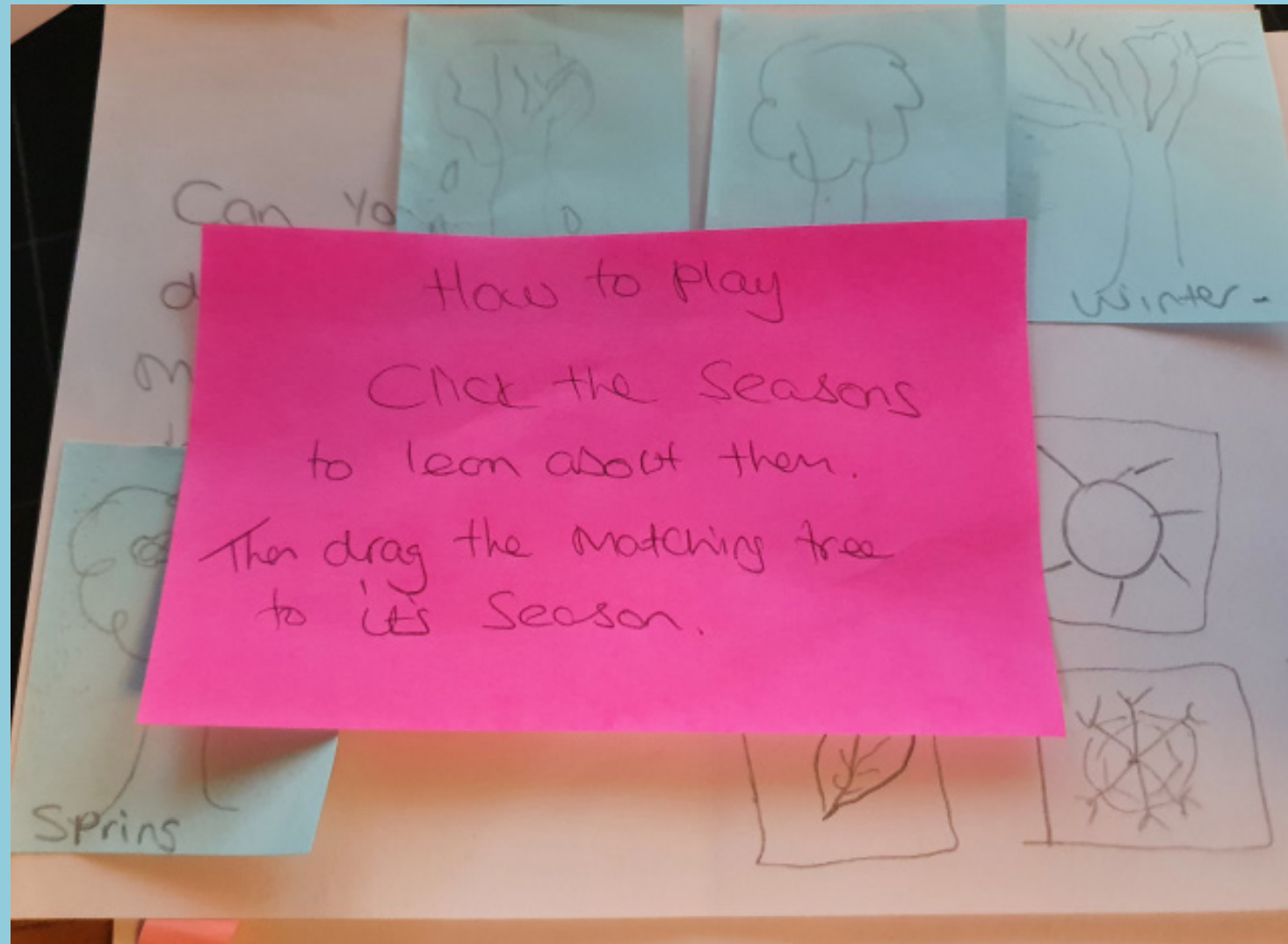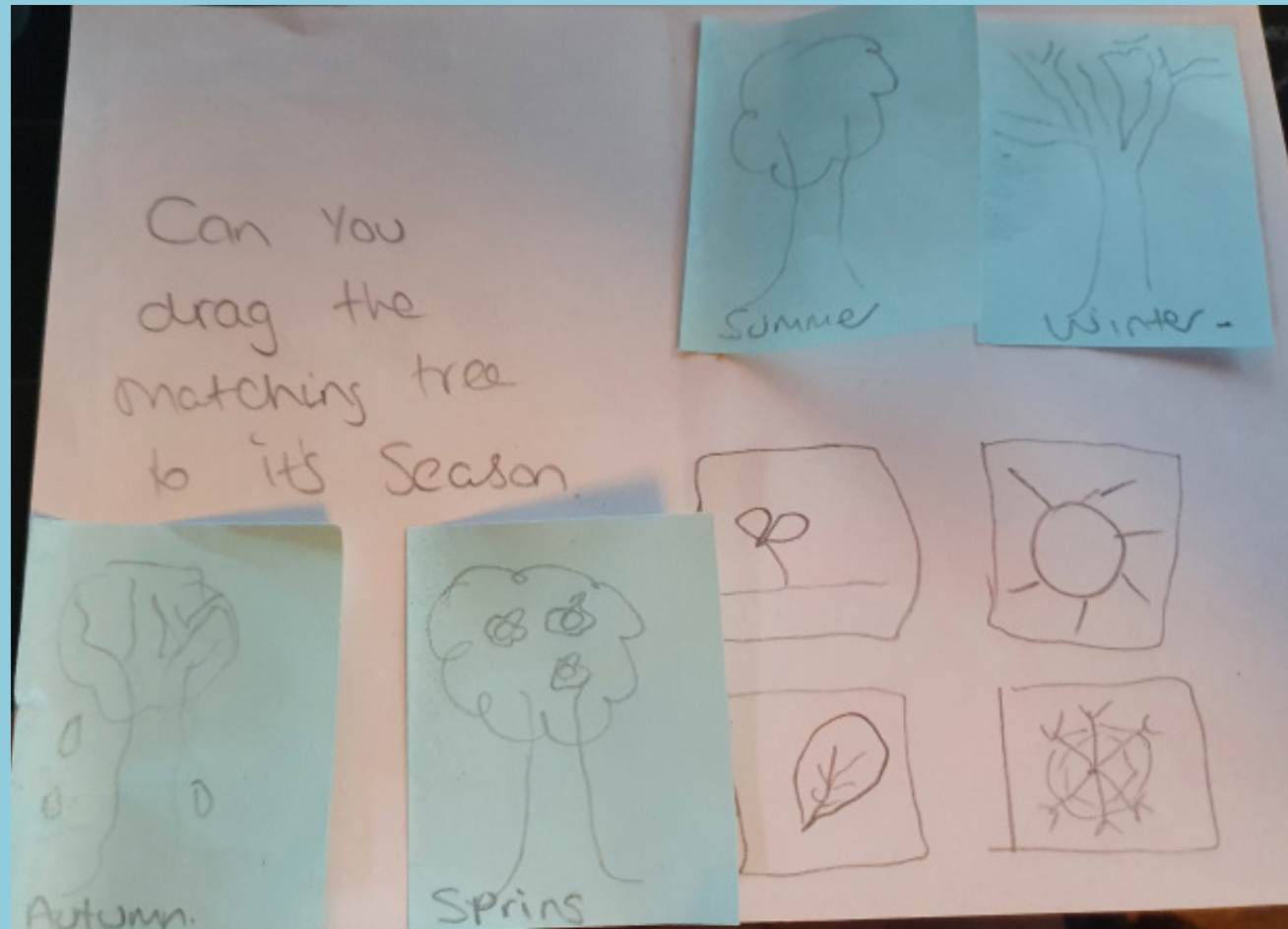
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This screen later got changed to a simpler design. Which I have mocked up below. The different seasons take up a quarter of the screen. There may be a pop up, instructing the user to click a section. Each section will open in to a bit of learning about each season.

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Proto-typing summary.

When my classmate tested my game ideas. He stated there were no major changes required. I decided to change the forward and back buttons when I saw how my daughter held her device. I have decided to take out the screen which explains in detail the parts of a plant, i.e. the corolla etc. I think that level of learning will be a little too advanced for my audience.

Persona's - Skyler Heatherington

Age: 6 Years old.
Location: West Yorkshire
Parents Occupation: Mother: Cafe Worker. Father: Unknown.
Siblings: Yes - Older sister
Context of use: To further science education.

Attitude to technology:
Spends most of her time playing on her tablet. Mostly playing games or watching streaming services such as Disney+.

Key goals & needs:
Skyler comes from a low income family and as such may not be able to pay for interactive software. She will want to have fun while using an interface and not want it to be too hard to use. Likes bright lights and colours with fun fonts.

Key drivers:
Fun way to learn science curriculum

Context of use:
Interface can be used at home on her tablet device. Skyler could become easily distracted at home by toys or her sibling.

Pain points:
Must be easily readable, simple to use and understandable. Simple language with fun fonts and bright colours to keep her interested in using the interface and not become distracted.

Reading level:
Basic

Persona's - Joshua Hill

Age: 5 Years old.
Location: London
Parents Occupation: Mother: Home-maker Father: Doctor
Siblings: No
Context of use: Educational Play

Attitude to technology:
Is only allowed screen time for minimal amounts of timer per day. Can be used for educational purposes and he enjoys using his device to further his education.

Key goals & needs:
Joshua comes from a well off background. As such, could pay for educational software. Reading level is below average and would require a lot of visual stimuli and guidance.

Key drivers:
Being able to spend more screen time if the application is educational.

Context of use:
Would use the interface as a revision tool

Pain points:
Must be easily readable, simple to use and understandable. Simple language with visual instructions as well as written.

Reading level:
Below average

Usability and Design Goals

Younger Target Audience

Due to the fact that my target audience are really young, with smaller hands and very basic, if any reading skills.

As such, my interactive needs to have minimal text and as much visual stimuli as possible. Learning needs to be achieved through pictographic representations of information such as seasons and plant parts.

The design needs to be extremely simple and minimal to not confuse a younger audience.

Interactive Designs

Home screen Design

This is my initial home screen design. I chose to put the button towards the bottom of the screen to make it easier to select. As per Fittz Law I made the button larger so younger users can easily locate and press the button. The button looks like a button (Perceived Affordance) to make it obvious to younger users.

I intend on making the clouds animate across the screen. The 'Season Pass' logo will slide down from the top and the red start button will slide up from the bottom.

I want my aesthetic to be fun, vibrant and extremely visually stimulating for the younger viewer.

I ended up coding the button through CSS rather than using an image. Mal (Umran Wood) helped me with the code.

Interactive Designs

This page will be the first page to learn about the seasons. The user can click in to each section to reveal information on that particular season.

The sections are nice big buttons which reduced the time to click and the risk of making an error. Which is Heuristics, Gestalt law and Fittz law.

WINTER

SPRING

SUMMER

AUTUMN

I am still not 100% sure if I am keeping the labels.
Or on the placement.

Interactive Designs

After the user has learned a little bit about each season. They will be asked to complete this simple drag and drop game.

I have placed the home button to the top left on the interactive design. My daughter holds her tablet at the top middle and would find it easy to navigate to this button, I did not make it so big that she accidentally presses it however.

I have made the boxes quite big, which should make it easy for the user to drag the tree to. I have placed the back and next buttons together as per Fittz law. The buttons are easily pressed as they are towards the bottom of the screen.

Drag the tree, to it's matching season.

SPRING

SUMMER

AUTUMN

WINTER

BACK   NEXT

I considered Don Normans design principles when choosing where to place and face the arrow buttons, which I concluded would be best placed in the bottom right. My original plan was to have a button at both bottom corners of the screen.