

# SCIENCE APPRENTICE





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# Lesson: Taste

## [Suitable for Infants – 6th class]

Subject: **SCIENCE**  
Strand: Living Things  
Strand Unit: Myself (Jl - 2nd)  
Human life (3rd -6th)  
Integration: SPHE, SESE

### Introduction:

[for older classes, this can be a brief recap or quiz]

Begin by having the children work in pairs to answer the following questions

- What do you use your eyes for?
- What do you use your tongue for?
- What do you use your nose for?
- What do you use your ears for?
- What do you use your skin for?

Once the children have had a few minutes to answer the questions and discuss them in pairs, open the discussion to the whole group.

After the discussion remind the class that we use our eyes to see, our tongue to taste, our nose to smell, our ears to hear, and our skin to touch. Each of these are called the senses. Today you are going to focus on one particular sense: **TASTE**.

Junior Infants – 2nd class.

Read Aloud:

Can you name some tastes that you like? Can you name some tastes that you do not like? The tongue is the muscular organ. It is covered in tiny little bumps. Inside these little bumps we have our taste buds. Taste buds are what allow us to experience different tastes such as sweet, salty and sour. Can you name three things that taste sweet? three things that taste salty ? and three things that taste sour?

3rd – 6th class.

Read Aloud:

The tongue is a muscular organ. It is covered in tiny bumps called papillae [say puh-PILL-ee]. These papillae contain your taste buds. We have about 10,000 taste buds and they allow the tongue to recognise five basic tastes.

Can you name the different tastes?

[You may need to prompt the children to think of different foods such as a lemon, chocolate, crisps, grapefruit or meat.]

The five basic tastes are sweet, sour, bitter, salty and umami.

The children are unlikely to have heard of umami before. Umami is the savoury taste we associate with cooked meats or potatoes.



## Activity: Taste Test      Junior Infants - 2nd Class

### You will need:

- Lemon slices
- Small pieces of chocolate
- Salty crackers
- Sleep masks

It is important that you do not show the children the food before beginning the taste test.

1. Divide the children into pairs or groups of three.
2. **Read aloud:** Today we will be doing a fun taste test. Most of the time when we eat we see our food before we put it into our mouth. Today we are going to see if we can use just our taste buds to recognise what we are eating. Everyone will get a turn to guess what food they are tasting. I want you to tell me what taste you are experiencing. Is it sweet? Is it salty? Or is it sour?
3. Ask one child to volunteer to go first. Have them cover their eyes with a sleep mask or with their hands. Give their partner one of the food items. Ask their partner to hold the food up to the child's mouth, so that they can take a bite.
4. Ask the children to keep their eyes closed and guess what they are tasting. Ask them is it a sweet, sour or salty taste?
5. Repeat with each food item. You may want to add in other food items too such as popcorn, berries, etc.

**You will need:**

- Jellybeans of different flavours

1. **Read aloud:** Do you think there is a difference between taste and flavour?  
[pause to allow responses] Today we are going to see if there is. Each person is getting a jellybean to taste, but before you put it in your mouth I would like you to pinch your nose as tightly as possible. Do not release the pinch on your nose until I tell you to.
2. Give each child a jellybean. Ask them to hold it in their hand until you say so.
3. Tell all the children to pinch their nose tightly. They should pinch in about half way up the nose, and not at the very tip. This inhibits their sense of smell.
4. Once the children are pinching their noses allow them to eat the jellybean. Ask them to think about the taste of the jellybean, and whether it is a strong or weak taste.
5. After a few seconds tell the children to release their nose. Ask "What do you notice about the taste now?"

When the children release their nose they will start to experience the flavour of the jellybean. This is because flavour involves taste and smell.

Flavour also involves texture, which explains why we don't like stale crisps. It may surprise you but stale crisps have the exact same taste as fresh ones, but because they don't have the crunch they are not as appealing. You can repeat the taste vs flavour experiment with stale crisps to try this out.

**Conclusion:**      Taste only happens inside our mouths.  
                             Flavour involves taste, smell and texture!



# Lesson: Optical Illusions

## [Suitable for 3rd – 6th class]

Subject: **SCIENCE**  
Strand: Energy and Forces  
Strand Unit: Light  
Integration: Visual Arts

### Introduction:

Ask the children do they know what an optical illusion is. You may take this opportunity to display some optical illusions on the board. An image search on the internet for "optical illusions for children" will produce famous illusions such as the Old Woman Illusion, the Hermann Grid, the Müller-Lyer illusion and the Bent Lines illusion.

Explain to the children that:

An optical illusion is an image which tricks the brain into seeing something that is not there, or that is not as it appears.

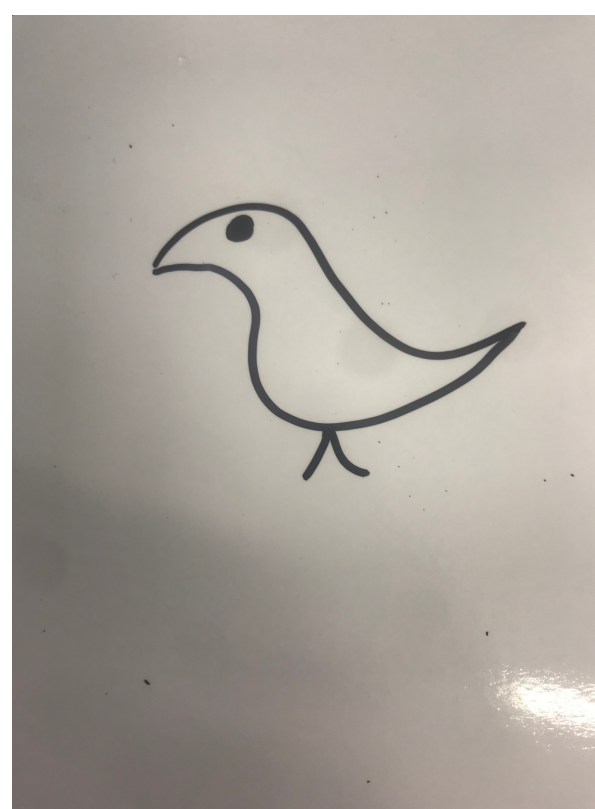
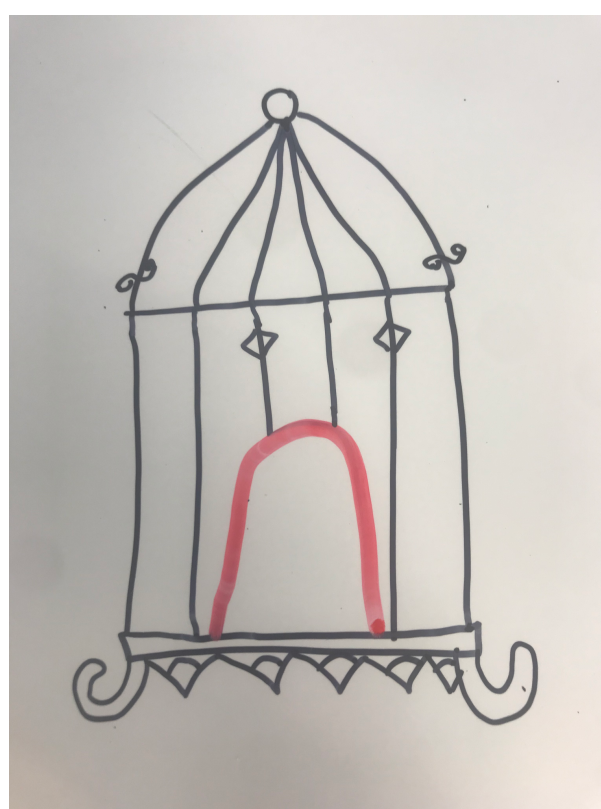
**Read Aloud:** Many people think that optical illusions trick our eyes. This is incorrect. Optical illusions use light, colour and patterns to trick our brains. Today we are going to create own optical illusions, and try and trick our brain into seeing something which isn't there.

## Activity 1: Bird in the Cage / Fish in the fishbowl

### You will need:

- Paper Card
- Colouring pencils or markers
- Scissors
- Sellotape / Pritt stick
- Straws/ unwanted pencils

1. Distribute paper card to each student. Ask them to cut the card into two squares of the same size (approximately 8cm x 8cm).
2. Ask the children to draw a simple bird cage (or fish bowl) in the centre of one piece of card. Below is a sample drawing for inspiration
3. Ask the children to draw a bird (or fish) smaller than the birdcage (or fishbowl) on the other piece of card.
4. Have the children stick these two pieces of card back to back, on the top of a straw or pencil.
5. When they have completed this, have the children roll the pencil as fast as possible in their hand, to flip the images back and forth.
6. An optical illusion should trick the brain into seeing the bird in the birdcage (or the fish in the fishbowl)



### Conclusion:

To conclude, ask the children to explain to their partner what an optical illusion is and demonstrate how it works using their bird in a bird cage. You may like them to bring the experiment home and teach their parents or siblings also.



# Extension Activities

**These activities can be given to individuals or groups of children who wish to explore more about Illusion!**

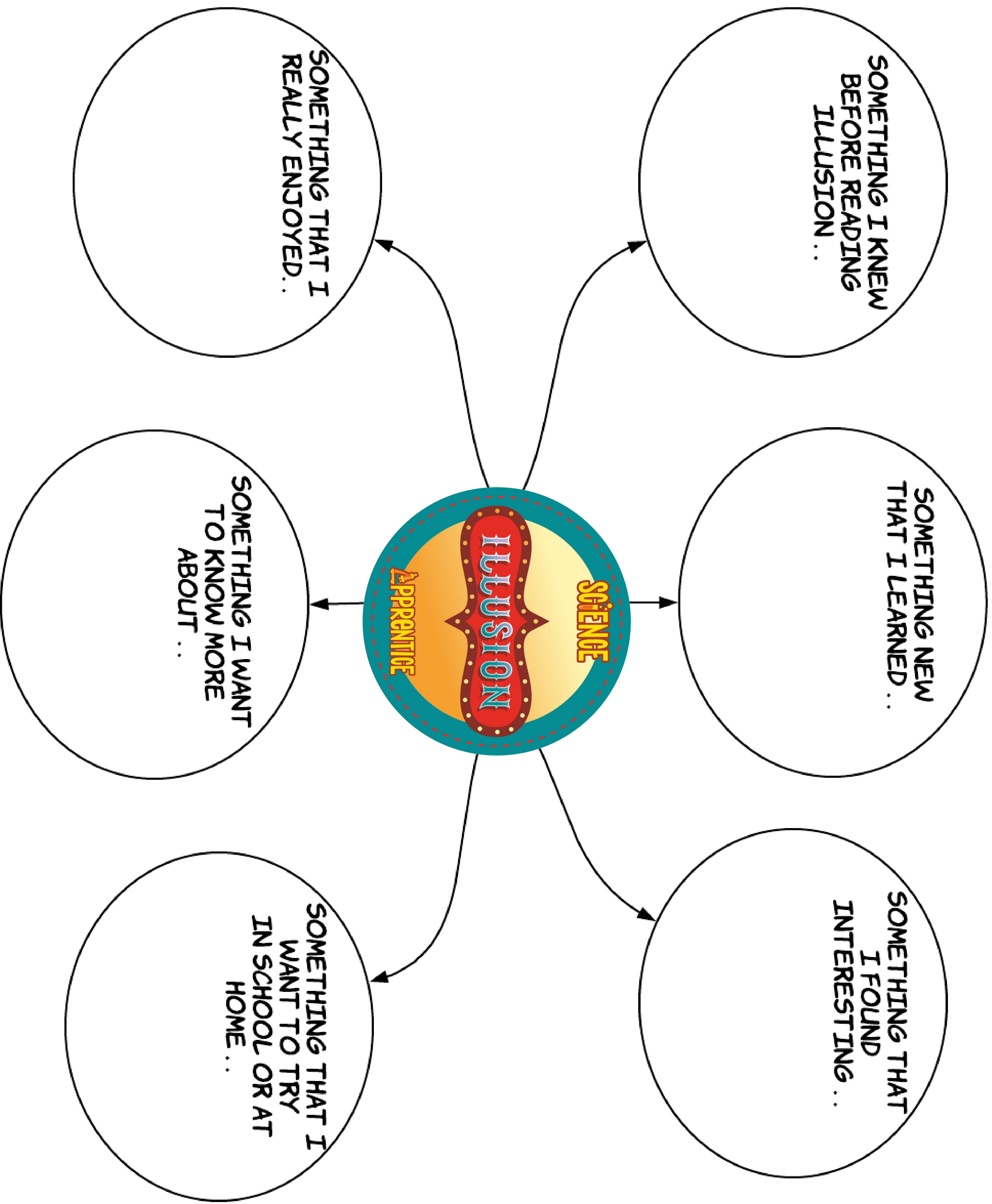
1. Now that you have completed the bird in the birdcage optical illusion, can you create more using different animals or people?
2. In the ILLUSION book Professor Fiona Newell showed us the Müller-Lyer illusion. Can you recreate this and try it out on your classmates?
3. In the ILLUSION book you can read about Virtual Reality and Augmented Reality. Can you remember what the main difference between VR and AR is? Write a short paragraph explaining the differences between them both to somebody who has never experienced either of them.
4. There are lots of very interesting people in the ILLUSION book. Which one of the researchers would you like to interview? Write a pretend interview with this person and act it out with your friend.
5. There are many famous ILLUSIONS. The most famous are the Old Woman Illusion and the Grid Illusion. Try and find some of these illusions in books or on the internet and create a poster or powerpoint presentation to show your classmates and test them out.

# Do more at home!!

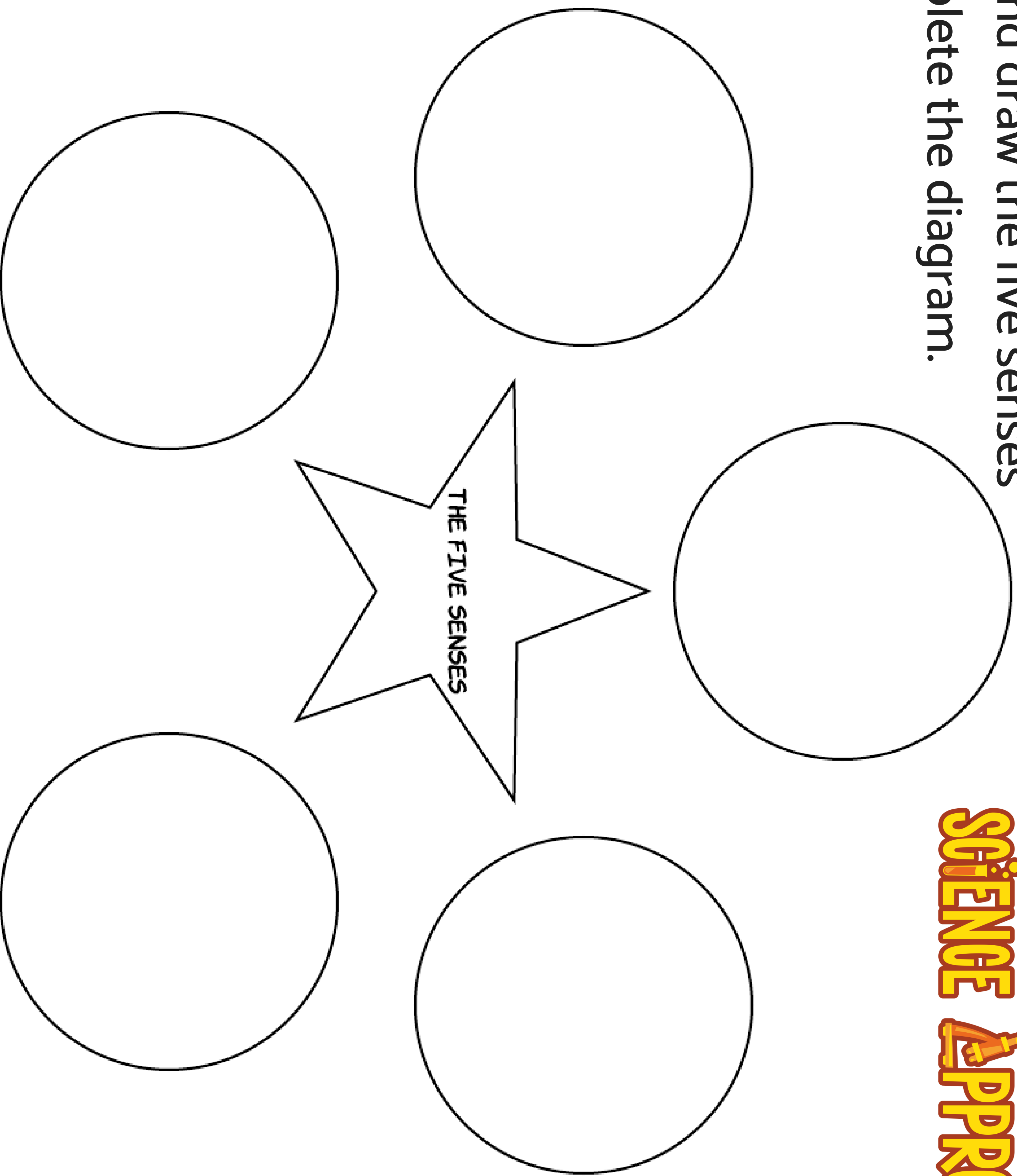
Only a small amount of a child's life is spent under their teacher's guidance. Therefore, it is really important that children's learning extends beyond the classroom door! Encourage your class to complete mini projects at home, and to figure out the answers to these questions!

1. Virtual Reality is becoming very popular in Universities for teaching student doctors and vets. Can you find out more about this? Present a small project to your teacher.
2. Augmented Reality works by adding things to what we see in front of us. Furniture companies now use AR so people can see what a sofa might look like in a room. Can you invent an app that uses AR? Try and think of something new!
3. Different parts of the tongue have taste buds that recognise different tastes. Draw a poster illustrating the different tastes we can experience and where on the tongue these taste buds are.
4. The colour of food can trick our sense of taste. Use food colouring to change lemon jelly into three different colours. Ask your friends if they think the jelly tastes different. Then amaze them by telling them its all lemon jelly!





Name and draw the five senses to complete the diagram.





# Design your own Virtual Reality Experience

Virtual Reality is used by people to learn new things,  
explore new places and play games.

Can you design your own VR game or application?  
Answer these questions to help get you started.

What does it do?



How do you use it?



Who is it for?



# TEACHER'S LEARNING CANVAS

Learning Canvas  
Created and Written by  
Sorcha Browne  
Illustrated by  
Martin Beckett



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