

- AIMS**
- To raise awareness about the sensory nature of learning
 - To help students understand their own learning preferences and their impact on learning
 - To provide advice and practical strategies to improve learning through all the senses

BACKGROUND Dr Vernon Magnesen of the University of Texas found in his research about memory that we remember:

- 20% of what we read
- 30% of what we hear
- 60% of what we do
- 90% of what we see, hear and do

The fact that learning needs to be rehearsed in three different sensory modalities seems like common sense and is the basis of all good lesson planning. Understanding that we all have different preferences in learning derives from the discipline of NLP (Neuro-linguistic programming). The way we make sense of the world around us is important in our own communication and learning preferences. As teachers we have learning preferences which affect the way we teach and how students respond to us. By ensuring we teach using VAK (visual, auditory and kinesthetic approaches) we will be more successful in engaging all the class in learning.

The explicit explanation of this theory to students allows them to discover their preferences but the purpose of this section is more to ensure that they expand their learning capabilities by developing a wider range of learning strategies. Students must not be tempted to categorise themselves simply as kinesthetic learners then expect teachers to adapt all lessons to become practical experiences. To become an independent learner for life students and teachers need to understand their preferences and then create flexibility in learning by working both within and outside their sensory preference. This will facilitate new connections. Understanding why a student finds it hard to listen may help in encouraging them to develop that skill.

1 Multi-sensory learning

THE BIG PICTURE By the end of this lesson you will understand how you use your senses for learning and you will have identified your own preferences.

PLAN The first part of the lesson focuses on the use of the senses in learning.

Students can make an initial assessment of their learning preference through ticking the boxes.

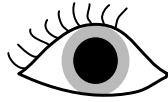
The questionnaire aims to find out if there is a strong tendency towards a visual, auditory or kinesthetic style of learning. It is important to emphasise that being balanced in all three styles is an excellent place to be because it means that a student can be a very flexible learner. In fact (according to anecdotal research), by the time they reach sixth form, the most successful students have learnt to be more 'equal' in their preferences.

REVIEW Each student can tell their neighbour their preference and what it means.

EXTENSION Try to be conscious of your learning over the next week and see the part the senses play.

Multi-sensory learning

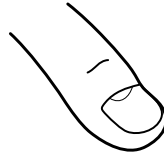
We all use our five senses for learning.



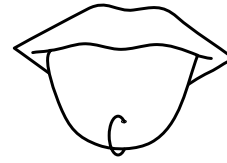
SEEING



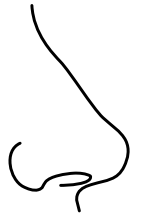
HEARING



TOUCHING



TASTING



SMELLING



DISCUSS THE FOLLOWING STATEMENTS.

What do they tell us?

- There was a time when you used your sense of taste to learn about the world.
- Dogs use their sense of smell to decide who they like and who is a threat.
- Blind people show a remarkable development in their other senses.
- Learning would be impossible without using our senses.

We have already discovered that our brains are just like our fingerprints - all different. Our multiple intelligences show how we all have different skills and strengths. This is because we all learn in different ways.

PREFERRED LEARNING STYLES

As adults we mainly use three senses for learning – but we tend to have a preference for learning using one of the three senses.

VISUAL : About 29% of us prefer to learn by seeing.

AUDITORY : About 34% of us prefer to learn by listening to sounds and patterns of sounds.

KINESTHETIC : About 37% of us prefer to learn by doing - experiencing it physically.

You need to know if YOU have a learning preference because it can affect your success if you depend too much on one way of learning.

Tick which of these apply to you:

VISUAL LEARNERS

- Have a neat and tidy workplace
- Good presentation skills
- Plan ahead
- Like to look good
- Enjoy pictures and maps
- Don't always listen well
- Daydream a lot
- Draw, scribble and doodle
- Say 'I see what you mean.'

AUDITORY LEARNERS

- Talk to themselves in the shower or loo
- Tell jokes
- Like speeches and singing out loud
- Prefer verbal instructions
- Are distracted by noise
- Listen well
- Enjoy rhyme/rhythm
- Discuss and argue well
- Say 'Sounds great to me'

KINESTHETIC LEARNERS

- Like physical activity
- Like to make things
- Use gestures
- Fidget and get distracted
- Need to do things to remember them
- Enjoy sport, drama, dance
- Like action and action words
- Say 'I'll handle that'

Now check out your sensory preference using this questionnaire. Tick which of the three alternatives applies most closely to your preference for learning.

I like:	VISUAL Seeing	HEARING Auditory	DOING Kinesthetic
to learn through:	<input type="checkbox"/> pictures /diagrams / video	<input type="checkbox"/> listening to teachers, tapes or people speaking	<input type="checkbox"/> practical activity
to spell by:	<input type="checkbox"/> seeing the word in my mind	<input type="checkbox"/> sounding out the letters	<input type="checkbox"/> writing the word out a number of times
to relax through:	<input type="checkbox"/> watching TV, sport or films	<input type="checkbox"/> listening to music or the radio	<input type="checkbox"/> playing games or sport
to learn a foreign language through:	<input type="checkbox"/> looking at cards, posters, videos and books	<input type="checkbox"/> listening to tapes and saying the words	<input type="checkbox"/> playing games and role-plays
to learn a new sport by:	<input type="checkbox"/> watching a demonstration	<input type="checkbox"/> listening to instructions and talking to a coach	<input type="checkbox"/> playing it
to learn in science by:	<input type="checkbox"/> looking at diagrams in books and teacher demonstrations	<input type="checkbox"/> listening to a teacher talking	<input type="checkbox"/> doing practical experiments
to remember events by:	<input type="checkbox"/> seeing images, scenes, faces and colours	<input type="checkbox"/> hearing sounds, words or music	<input type="checkbox"/> focusing on action and feelings about the event
to write:	<input type="checkbox"/> descriptive passages	<input type="checkbox"/> speech and dialogue	<input type="checkbox"/> action stories
to find out information by:	<input type="checkbox"/> looking in books	<input type="checkbox"/> asking an expert and listening to them	<input type="checkbox"/> surfing the world wide web
Which describes you best?	<input type="checkbox"/> I like to plan ahead and see the future	<input type="checkbox"/> I sometimes talk or sing to myself	<input type="checkbox"/> I get restless if I sit still for too long
TOTAL SCORES IN EACH COLUMN:	<input type="text"/>	<input type="text"/>	<input type="text"/>
	V	A	K

Are you an auditory, visual or kinesthetic learner?
We all use all of our senses so many of you will be balanced between two or all three categories.

2 Be a powerful visual learner

RESOURCES Coloured pens, pencils and large paper for drawing maps.

THE BIG PICTURE By the end of this lesson you will understand how to improve your visual learning by creating brainstorm learning maps that help you remember more.

PLAN The brainstorm learning maps are just topics grown in a spider diagram format. They should be colourful and contain both key words AND pictures in order to be brain-friendly. Apart from this there are no strict rules and students should be encouraged to develop their own style. They are most useful for revising topics or mapping what students already know.

Some (especially left-brainers) will find them hard and frustrating - this is because they are developing parts of their brain that they are not used to using - good! Some will say 'I can't draw', but this is not a work of art and the sillier and funnier it is, the better because it will be more memorable.

Starting with YOU for the first map means all students can achieve. Alternatively, if you are working through these materials sequentially, you could revise the work so far by producing a brainstorm learning map on the BRAIN.

The idea is to make a map using words THEN to create it using pictures. The pictures can be simple and symbolic (hence the picture exercise). The words are added to create the perfect brain-friendly learning map.

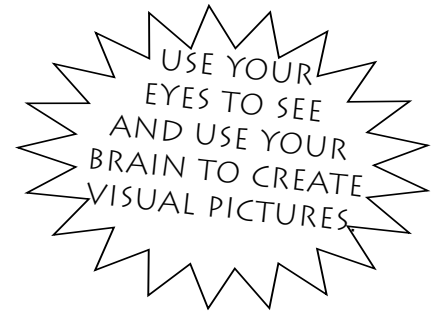
If there is time to try this with topics from other lessons this is most beneficial.

REVIEW Tell a neighbour how brainstorming memory maps can help you learn.

Be a powerful visual learner

You have discovered your learning preference. But remember – the best learners use ALL their senses to help them learn. Whatever your particular preference you need to develop each of your senses for learning.

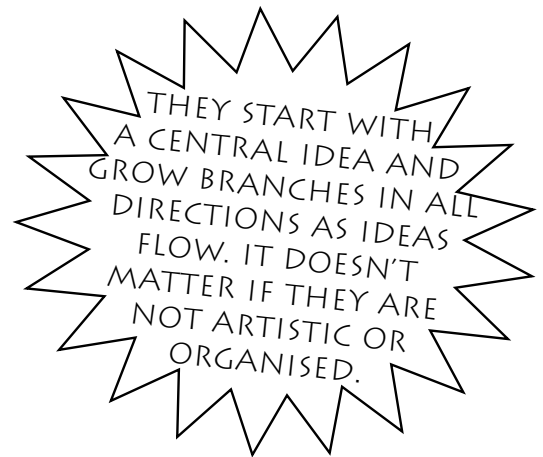
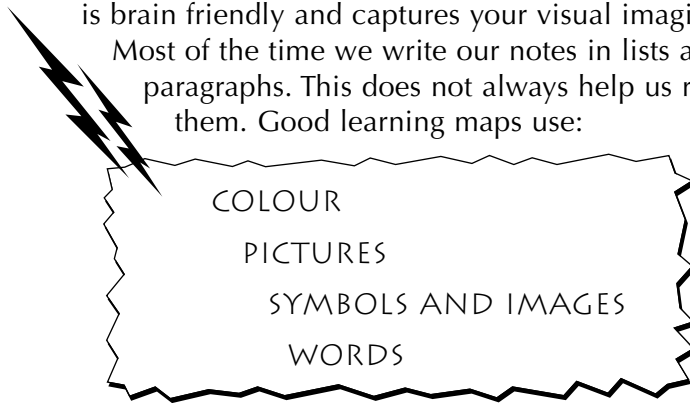
Here are two powerful learning tools to help you make the most of your visual learning




BRAINSTORM LEARNING MAPS

Brainstorming a learning map involves using all the important information you need to know but writing down in a way that is brain friendly and captures your visual imagination.

Most of the time we write our notes in lists and paragraphs. This does not always help us remember them. Good learning maps use:



These are all brain friendly and give us visual stimulation.

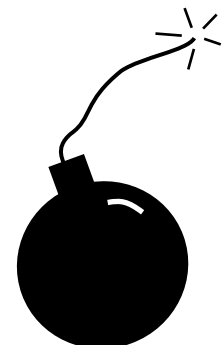
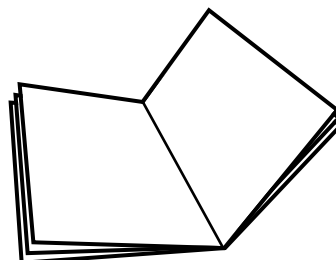
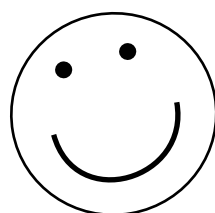


Start this brainstorm map on YOU - use words to grow your ideas from the central point. At the centre put a box marked ME then add where you live, what type of house, people in your family, pets, your personality, your hobbies and so on.

It doesn't matter if it is untidy - just get as much down as you can.

HERE ARE SOME SIMPLE DRAWINGS.

WHAT DOES EACH ONE MEAN TO YOU?



Pictures can be simple and easy to draw. You need to use simple pictures and images in your learning maps but you don't have to be an artist.



MAKE A PICTORIAL LEARNING MAP

Now on a larger piece of paper convert the brainstorm map of yourself into a map made entirely of colourful symbols pictures, cartoons, diagrams. They can be as simple and silly as you like.

Add the words from the first map after you have finished all the pictures.

Add a title – **now you have a brainstorm map with words and pictures that should be easy to learn from.**

Give it to a neighbour to study for five minutes – then test how much they have learnt about you.

Ask them how they remembered bits of the map – was it through the pictures or the words. Did they see the map inside their heads? If they did they were using their visual memory.



Now try creating a brainstorm learning map for a science topic or for a book you are studying. Don't forget to use lots of colour and pictures.

It is your learning map so it doesn't matter if it isn't neat or tidy as long as you understand it

FROM NOW ON:

- Ask your teachers if you can map your notes in your book if that helps you to learn. Visual, right brain learners learn better from these mind maps.
- Use brainstorm learning maps to revise for tests.
- Use brainstorm learning maps to plan and organise yourself.
- Try mapping on the computer by downloading software from www.mindjet.com.

3 Using your inner eye

RESOURCES Whiteboards and pens, relaxing music.

THE BIG PICTURE By the end of this lesson you will understand more about your visual memory and how to use it to make you a better learner.

PLAN Students are not used to being asked to see things in their head so expect a little unease at first. However, visual learning is most powerful and this lesson will help explain that to students.

After the first exercises give students some simple mental arithmetic and spelling problems so that they can understand how they process this information. For example, spell 'disappear' - did you see it, hear it, sound it out? What is 23 times 2? How are you accessing the answer? Are you seeing the sum in your head?

The task can be done using the white board with rewards for those that remember the most in 30 seconds.

The moving eye test is for fun but also focuses on how we access our visual memory by looking into certain areas of our brain. The questions are constructed to elicit a variety of created and remembered thoughts.

TIP *Students will find it interesting that some management companies use eye movements to detect if an applicant is lying about his CV!*

- Upward eye movements to left indicate REMEMBERED sights or scenes.
- Upward eye movements to right indicate CONSTRUCTED OR CREATED visual scenes.
- Level eye movements to the left indicate REMEMBERED sounds.
- Level eye movements to the right indicate CONSTRUCTED OR CREATED SOUNDS.

Use whiteboards to record eye movements in previously drawn eyes.

Students can create questions that may involve lies in order to check eye movement.

Warning: this is a fun task not to be taken too seriously as there are other factors that can change outcomes, including being left handed or a strongly auditory learner who has a tendency to steady, forward gaze.

The 'Create your own virtual reality' task is best done as a guided visualisation by the teacher first of all to show students how to do it. Put on the relaxing music, and get them to imagine a scene where there is a big sports or pop event. Build up the sights and sounds of the scene slowly and carefully, focusing on wonderful sunshine, happiness and excitement. Encourage them to see it as a cinema screen, big, colourful and noisy (use all the senses). Then, as the scene evolves, the star of the show is them, performing to everyone's acclaim.

Writing down an account of the story or representing it through pictures will reinforce the message.

We all mentally rehearse events, often in a negative way and this programmes our brain to fail. The purpose of this exercise is to show students how to make a powerful visual picture that can have a positive effect on performance. Just by practising visualisation, students will acquire the skill to use it again.

REVIEW Read the tips for visual learning and discuss with a partner how many of these things you do already.

Using your inner eye

Do you remember in words or pictures?

Developing your visual learning involves being able to create pictures in your mind and then using them to help you learn.

DID YOU KNOW THAT YOUR EYES MOVE WHEN YOU ARE VISUALISING SOMETHING IN YOUR HEAD?



- Imagine a cat sitting on the desk in front of you. Write down exactly what it looks like and what it is doing.
- Recall your last lesson. Describe what you can see in your mind - every detail.
- Now recall the best lesson/experience you ever had. Make the picture in your head bright and colourful and as big as a cinema screen. Describe it to each other in pairs. How does it make you feel to see it in your head?

These visual memories are very important in learning. Try some mental arithmetic - do you see it in your head? Spell out a word - do you see it first?



TASK

Close your eyes – visualise your classroom. Write down or say to your neighbour everything that is in it including wall displays and so on..

How did you remember the scene?

THE MOVING EYE TEST

Look straight at a partner and ask these questions. Fill in which direction the eyes move for each answer.

- What colour is your front door?
- Imagine a purple lion
- How many people and animals live at your house?
- What would I look like with blue hair?
- What would an elephant squeaking sound like?
- Think of your favourite song and listen to it in your head

Your eyes move to a different place when they look in your head for information or try to imagine something. Make up four more questions to test out eye movement.



CREATE YOUR OWN VIRTUAL REALITY

Give your visual imagination a workout every day by daydreaming a situation where you are the hero of a success story.

Try it now - put some soft music on and set the scene in your head. This works even better if you do the relaxation exercise first.

THEN either draw a picture or write an account of this story to remind yourself.

TIPS FOR VISUAL LEARNING

tips

Put posters, charts, key words and learning maps on your bedroom wall.

Use lots of colour, highlighter pens etc. in your notes, especially for key words.

Watch videos, read books – especially with pictures and use the internet to help you learn

Develop your listening skills and make sure you take part in the practical activities. Don't just sit and watch!

4 Auditory learning

RESOURCES Whiteboards or paper, music with lyrics, a short poem to read out.

THE BIG PICTURE By the end of this lesson you will understand how to be a better listener and improve your auditory learning skills.

PLAN Whiteboards or paper are good to jot down sounds heard in a single timed minute in the classroom.

Taking the level of listening further by making students listen to the inner body sounds intrigues them and they may come out with interesting suggestions.

The pair work involves paraphrasing and repeating back what has been told. This is important training in counselling work. The role-play tests this ability.

This could be extended to the teacher describing an imaginary crime with the students listening carefully to details. Then you can see how much they remember. An extension of this is to mime a crime see if it is more memorable through the visual experience.

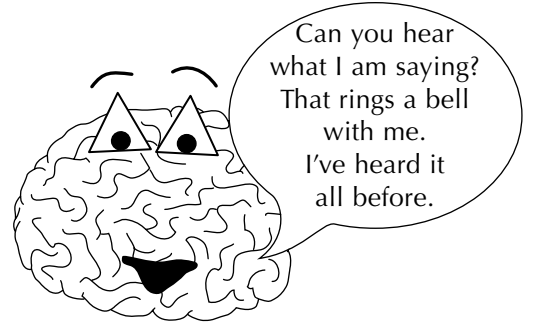
Discussing the inner voice/dialogue helps students become aware of how they can motivate themselves through self-talk.

REVIEW Read tips for auditory learners and discuss which would work well for you.


EXTENSION Teach your parents what you have learnt about multi-sensory learning.

Auditory learning


– learn with your ears




Some people learn well when they are listening. This is a very important skill to acquire as so much of what we have to learn requires good listening skills.



Listen to the sounds around you now - jot down everything you can hear.



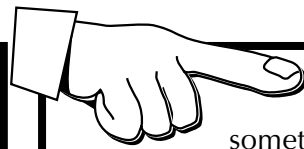
Now listen to your insides – what can you hear?



What do you think makes a good listener? List two qualities of a good listener.

1 _____

2 _____



How do you know you have heard something? What mental processes go on after you have heard something important?

In pairs, find out how good you are at listening. Here are some activities that will involve careful listening:

- Listen to a poem read out by the teacher - once. See how many words and phrases from the poem you can remember and jot down.
- Tell your partner some details of your last holiday - make them repeat back to you the main points.
- Play a piece of music or pop song and really listen to the words and music. Try singing it afterwards.

Listening skills are vital to learning and to life.



ROLE PLAY

In pairs. Imagine you are at a counselling session. One of you is the counsellor, one the client. Tell the counsellor some real (or imaginary) problems about school or home in three or four minutes. The counsellor then has to repeat back to you the summary of the problems and suggest some solutions.

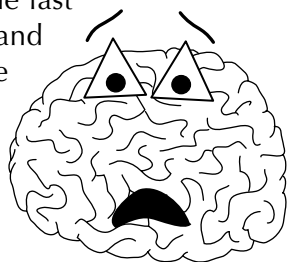
WE LISTEN IN OUR HEADS TOO!

Try listening to your internal voice - you know the voice that talks to you inside your head. It often gives you a running commentary on what you are doing and what you are going to do. What sort of voice is it? Is it your voice? Try to make it positive and encouraging. This can be very motivating.

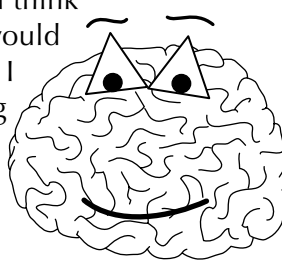
LOOK AT THIS EXAMPLE:

You are asked to do a bungee jump for charity. There are two thoughts that may come into your head.

1 Internal negative voice
says: 'I might die! People get injured. I might chicken out at the last minute and look like a fool'.



2 Internal positive voice
says: 'That could be exciting. I can do it and think how good it would make me feel. I will be making money for someone else'.



Which one would you think?

Now practise making your internal voice say something positive to you.



THINK OF THREE CHALLENGING SITUATIONS

Write down what your internal voice would normally say.

Write down what you would say to yourself in your head that would help you survive and win.

TIPS FOR AUDITORY LEARNING



- Read your notes out loud.
- Make a cassette tape of your notes..
- Make your notes into a rhyme or rap - even better sing them!
- Talk out loud to yourself when you are trying to understand something
- Listen to music while you are working.
- Spell out words by making the sounds out loud.
- Teach other people what you know.
- Listen to your inner voice. Teach it to say positive things about you and about what you are doing.

5 Kinesthetic Learning

RESOURCES Small blank cards and coloured pens.

THE BIG PICTURE By the end of this lesson you will have learnt ways to use kinesthetic learning to help you remember things.

PLAN It needs to be emphasised that those who are kinesthetic learners will tend to find traditional academic subjects more difficult. However, if they can expand their other sensory learning preferences they are likely to become more successful and flexible as learners. The 'doing' part of the learning experience is essential to reinforce learning so this lesson gives some experience of how practical activity can help learning.

The French role-play could actually be in any language. The focus is on fun and learning vocabulary in a practical way. It is important to test the outcome and see if the words and their meaning have been learnt effectively in this way.

Using cards or 'Post-its' for the next exercise is a way of making any factual learning kinesthetic by creating cards with key words that can be physically moved around. Add pictures and colour to the cards for added sensory impact.

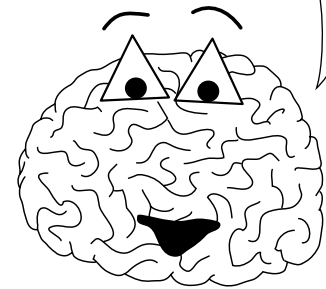
Students should check from the list of kinesthetic activities how many they do and how often.

REVIEW Read tips for kinesthetic learning and discuss which ones you will use in the next week.

The review of this multi-sensory learning section can be completed in this lesson and noted in students' books or on the sheet itself.

Kinesthetic learning

I can handle that! I just jump in and get on with it. Actions speak louder than words.



SOME PEOPLE LEARN BEST BY PRACTICAL ACTIVITY

They like to get on and do things rather than listen to instructions or watch the video. Kinesthetic learners find it hard to sit still but they need to learn through the other senses too.

If you are not naturally kinesthetic you still need to make sure you get involved in practical activity because this way your brain will keep developing. Practical exercises do help you learn something more thoroughly.



LEARN FRENCH THROUGH ROLEPLAY. Make up a play using as many of these twelve French words as possible. You can only speak French and the rest of the play must be mimed.

bonjour (hello)

mange (eat)

s'il vous plait (please)

bien (well/good)

maison (house)

jambon (ham)

chien (dog)

l'eau (water)

fromage (cheese)

chat (cat)

au revoir (goodbye)

jus d'orange (orange juice)

Now test your knowledge of the French vocabulary.

Role-play helps you learn by doing.



Use cards to help you learn

In any order, brainstorm key events and characters from a film or book you have recently seen. Write each one on a small cards or post-its. Organise on your desk the correct order for each card and move them into a pattern you like. Then talk through them to a neighbour.

Now try this with a partner:

Choose a science topic, for example the characteristics of living things. Make the key cards and arrange them in an order that makes sense to you. This way you will learn more effectively than just by reading your notes. Try it with a maths method or food recipe.

Try to do some of these kinesthetic activities every week:

- Dancing • Juggling • All sports, games and the gym •
- Arts and craft • Pottery • Cooking • Swimming • Cycling •
- Drama • Gardening • Walking •

TIPS FOR KINESTHETIC LEARNING

tips

- Make a model of the process.
- Role-play what you have learnt.
- Do regular brain boosters.
- Go on field trips and visits to enhance learning.
- Use 'post-it' notes to write and draw on.
- Use fingers to count on.
- Doodle while listening.
- Squeeze a stress ball.

SECTION 4: MULTISENSORY LEARNING

REVIEW

WRITE DOWN FIVE THINGS YOU CAN REMEMBER ABOUT THIS SECTION:

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____

WRITE DOWN THREE TARGETS FOR IMPROVING YOUR LEARNING USING ALL YOUR SENSES:

- 1 _____
- 2 _____
- 3 _____

SHARE THESE IDEAS WITH A PARTNER AND PUT THEM ON YOUR BEDROOM WALL.