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# #ThinkSTEM

**Autism, ADHD and the Senses**



SCMA is working with



to #ThinkSTEM

Supporting childminders to embrace STEM-based learning to benefit children and young people.

# Welcome!

This Activity Pack is designed to accompany our latest e-Learning course **#ThinkSTEM: Autism, ADHD and the Senses** from Learn with SCMA - providing you with creative, fun, and innovative activity ideas to enjoy with **all** your minded children.

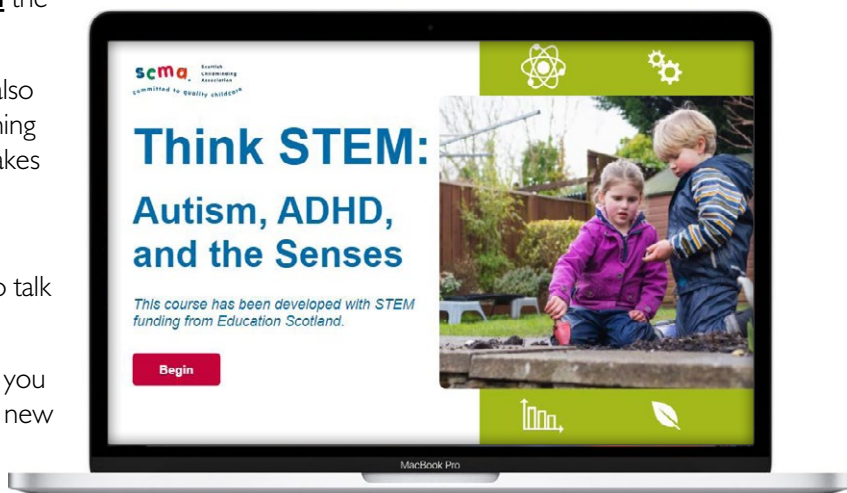
We hope you will find this pack a useful extension to the learning you've achieved from the course; building upon your current practice and provide some fresh ideas to add to your service. In addition – and whether you currently work with neurodiverse children or not – these activities ensure you can incorporate a STEM-based learning focus for **all** the children in your setting.

As well as being fun and exciting, STEM-based learning also promotes natural curiosity, inquiry and creativity, something we know that young children already possess, which makes it easier to encourage them from a young age.

Importantly, our #ThinkSTEM materials - including this Activity Pack - support you with the language required to talk about STEM in a way that the children will recognise.

Together with the e-Learning courses, this Pack will give you more confidence and knowledge, as well as some great new

ideas that will engage your children, aid their development, and extend their learning. Also, don't forget STEM learning and skills also fully support the Curriculum for Excellence, meeting a cross-section of the experiences and outcomes within the framework.



## #ThinkSTEM: Autism, ADHD and the Senses

*ThinkSTEM: Autism, ADHD and the Senses* is the latest e-Learning course from Learn with SCMA, launched in June 2023 as a further Continuing Professional Learning (CPL) opportunity.

Thanks to funding from Education Scotland, we were able to give all SCMA members free and exclusive access to the course. This is the fourth CPL course in our series of #ThinkSTEM learning for childminders – designed to develop your understanding of STEM within the context of Autism, ADHD, and the senses.

[ThinkSTEM: Autism, ADHD and the Senses](#) e-Learning course aims to help you develop an understanding of the vital role you play in supporting **all** children's learning through play opportunities.

We hope you will feel encouraged to reflect on what you currently do to support all children's learning and how it links to STEM and the Curriculum for Excellence and consider ways to further develop your practice in an inclusive setting.

“A great course that's informative and easy to follow”  
– SCMA member.

Completing the course is a great opportunity to gain further CPL, which is automatically added to your Learning Log once you have completed the course.

If you haven't already done so, simply login to your Membership Dashboard, and go to the 'Learning Zone' to access the course.

**Get started today HERE!**







## SIGHT

# Bubble Snakes

Bubble snakes are great because the children can see the snake forming and coming to life, as well as looking to see many colours forming within the bubbles.

### You'll need:

- an empty plastic bottle (remove the lid)
- a piece of cloth (or an old sock is great!)
- a piece of elastic (a rubber band or a hair tie will work)
- a few drops of liquid dish detergent
- a shallow container
- scissors



Alongside 'Sight' how many other senses are stimulated with this activity?

Can the children count and name all the senses they are using?

1. Using scissors, carefully cut off the bottom of the bottle.
2. Cover the bottom opening with some cloth or pull a sock over it.
3. Secure this in place with an elastic band or some hair ties.
4. Half fill your shallow tray with water and a few drops of liquid dish detergent, and mix.
5. Dip the bottom of the bubble snake blower (i.e., the cloth portion) into your soapy mixture.
6. Hold the bottle in front of your face and blow into the bottle opening.
7. A lot of bubbles will start forming on the outer side of the cloth, creating a long 'bubble snake'.
8. Keep blowing – the longer the snake, the more fun!



## SOUND

# Homemade Harmonicas

Creating sounds and noises with a harmonica can be a great way to stimulate our senses, whilst communicating in a non-verbal way.

### You'll need:

- |                                    |                 |                     |
|------------------------------------|-----------------|---------------------|
| • Wooden lolly sticks              | • Paintbrush    | • Greaseproof paper |
| • Wooden matchsticks or toothpicks | • Paint         | • Pencil and ruler  |
|                                    | • Elastic bands | • Scissors          |



Can you think of any other activities that involve making sounds? Try putting rice or beans in a yoghurt pot and shaking it; bang or swipe a stick across the bark of a tree, or even clap your hands.

1. Take two lolly sticks, let your children paint it on both sides, and allow them to dry.
2. Cut a section of the greaseproof paper corresponding to the same width and length of the lolly sticks.
3. Place the paper between the lolly sticks.
4. Take the matchsticks and cut them to about 2 cm in length.
5. Place one matchstick vertically between the sticks and greaseproof at one corner.
6. Using an elastic band wrap around the lolly sticks such that it goes around either side of the matchstick to secure in place.
7. Repeat the same steps at the other end of the lolly stick.
8. To play the harmonica, blow in between the small gaps of the lolly sticks.





## SMELL

# Cornflour Slime

Children with autism may be sensitive to smell – they may be overwhelmed or actively seek out and enjoy strong smells. So, it's important to listen to them, and adjust this activity accordingly.

### You'll need:

- 350 ml water
- 250g cornflour
- Bowl
- Spoon
- Smells (e.g., curry powder, herbs, flowers, essential oils, and perfume)

### Want to make your slime stretchy?

Mix 89ml of liquid dish soap, body wash, or shampoo, with 62.5g of cornflour. This will form slime, and this time it will be stretchy too! This is a great activity to stimulate the sense of touch, and you can ask your minded children to form shapes with the slime – how many shapes can you create?

1. To make this basic slime, mix the water and cornflour together in a bowl, with your chosen smells.
2. To make it smell interesting and stimulating, you can add things like curry powder, herbs or flowers from the garden, some essential oil, or a few squirts of perfume.
3. Thoroughly combine the mixture, until it forms slime.

### What other senses can slime stimulate?

Slime has a touch sensory function and provides an opportunity for messy play. Whether you are focussing on smell, sight and touch – there are lots of further ways to encourage children to think about exploring their senses and chat about how many you are using through this activity.



## TASTE

# Fruit Skewers

This activity uses a variety of senses, whilst children can be creative and explore different shapes, colours, tastes, and smells. A fun activity that also promotes healthy eating, as fruit is an important part of a balanced diet.

### You'll need:

- Wooden skewers
- A selection of fruit (cut into chunks)

1. Arrange your chopped pieces of fruit on the table.
2. Carefully thread the pieces of fruit onto the wooden skewer.
3. Alternate the different types of the fruit to make your kebab a colourful pattern.
4. Once your skewer is full, sit down together and enjoy eating your fruit kebab.
5. Enjoy!

Ask the children if they can name each type of fruit? Which fruit is your favourite? Do you know where they all come from? Do they grow on trees? There are lots of ways to extend this activity into an enhanced learning experience for children of all ages. Plus – ask what colour are the fruits, and what other senses are we using?







## TOUCH

# Discover Touch and Textures

Touch helps us to interpret the world around us. It tells us about pressure, texture, movement, vibration, temperature, and pain. This activity is completely immersive and incorporates lots of senses that can be explored and combined with outdoor play and learning.

### You'll need:

All you'll need for this activity is an outing to the local woodland, a forest, the park, or the beach – somewhere outdoors, where you can explore the sense of touch with different textures you find together.

1. Go for a walk to the woods, the beach, or a parkland to investigate the sense of touch.
2. Ask children to find objects that have a certain feel or texture.
3. Instead of using the specific object names, try saying 'can you find something cold, warm, wet, dry, rough, or smooth? This encourages children to focus their attention on the touch feeling.

Extend this activity by collecting some of nature's objects and taking them home with you. Make sure they have varying sizes and textures and put them in a box or a bag – so they can't be seen – and ask the children to close their eyes, feel their way around, find the objects, and identify what they are.

**Can you tell what they are without peeking?**

**Can you describe how they feel?**

Are they long, short, cold, warm, heavy, light, bumpy, smooth, jaggy, round, straight – help them to find the right word to describe the feeling, size and texture.



### Plus!

You can also further extend this activity and link it to the other senses, and parts of the Curriculum. For example, how many objects can you find? Can you sort them into size order? What colours match? Do they have a smell? Describe what they smell like?





# More?

## Are there any other senses?

The five senses that we've covered in the e-Learning course and in this Activity Pack are the most well-known and best understood; however, scientists and neurological specialists suggest there could be more than 20 senses in total, all overlapping and co-ordinating with each other.



### PROPRIOCEPTION

'Proprioception' is a sense that is lesser well-known, and is a term that refers to body awareness, and tells us where our bodies are and how our body parts are moving.

We get messages from our muscles, bones and joints telling our brain where we are. These messages regulate our movement, posture and the appropriate pressure for different tasks and movements, e.g., cracking an egg without crushing it.

Sometimes, children with autism may experience varying differences related to proprioception and can manifest as being oversensitive or under responsive.

**Close your eyes and touch your nose...**

Did you touch your nose correctly first time? That's proprioception in action!

### VESTIBULAR

Closely linked to proprioception, the 'vestibular' system is located in our inner ears and helps to regulate our sense of balance and body control. When it isn't working typically, autistic people can be seriously affected, and it can impede their understanding of what is happening to them and in the world around them – and they may display oversensitive or under responsive behaviours.





### Think!

All types of movement can help, and creating opportunities that involve physical activity will benefit all children in your childminding setting. Whether it be dancing, walking, climbing, moving around, doing the actions along with a song – or playing movement-based games.

All these activities will result in children moving and being active – but some children may need this movement to help them concentrate and focus.

This should be taken into account, and sometimes a 'wiggle' cushion or a small beanbag to sit on may help.



## COMPUTATIONAL

'Computational' thinking allows us to take a complex problem, understand what the problem is and develop possible solutions, i.e., problem-solving.

Routine is the foundations of computational thinking - when we code a computer, we enter instructions in the correct order or sequence, otherwise the instructions won't work. Similarly, when you get dressed in the morning, it's impossible to put your socks on properly, if you've already put your shoes on.

Throughout the day, you know that children learn through play, but have you thought about making the daily routine a learning experience in itself? Routines and setting out what is going to happen, is a great way to help autistic or ADHD children – as well as those with other forms of neurodiversity, including but not confined to dyslexia, ADD, dyscalculia, Tourette's, and OCD – prepare for what is to come and prevent anxiety or emotional outbursts when dealing with unexpected situations.

### Think!

Story sequencing is a great way to strengthen children's understanding of routine, patterns, and the concept of time, and it also encourages problem-solving. Create flashcards featuring pictures from the children's favourite story and ask the children to put them in the correct order.

Make a story sequencing game based around the daily routine – how about the process of hand-washing? What is the correct order to wash your hands? Do you dry your hands before putting the soap on?

You could extend this activity to think about the whole day, and what happens when they come to your setting. You may find that neurodiverse children appreciate the opportunity to think of things in an order which reduces the impact of 'scattered' thinking.





# HAVE YOU COMPLETED YOUR **FREE** STEM E-LEARNING COURSE YET?

It's waiting in your Membership Dashboard for you...

*ThinkSTEM: Autism, ADHD and the Senses* is a new course from Learn with SCMA, designed to develop your understanding of STEM, Autism, ADHD, and the senses. The course is fully funded by Education Scotland and is exclusively available at no cost for all SCMA members.

Completing the course is a great opportunity to gain further Continuous Professional Learning (CPL), which is automatically added to your Learning Log once you have completed the course.

*"An excellent course encouraging me to reflect on my service with great activity ideas and links to the Curriculum for Excellence, the Health and Social Care Standards, the UNCRC etc."*

No need to book a place – simply **login to your Membership Dashboard** and go to the 'Learning Zone' to get started today. Read more about the course at [childminding.org/learn-with-scma/courses/think-stem-autism-adhd-and-the-senses](https://childminding.org/learn-with-scma/courses/think-stem-autism-adhd-and-the-senses).



## VISIT OUR DEDICATED **#ThinkSTEM** WEBPAGE

SCMA members can access a range of #ThinkSTEM resources, tools, videos, activities, and information – all designed for you to use within your childminding practice and help boost STEM-based learning for children.

Visit [childminding.org/learn-with-scma/stem](https://childminding.org/learn-with-scma/stem) to read all about our #ThinkSTEM resources, including our case studies, useful links, and the range of learning opportunities available to SCMA members.

## Working in partnership to **#ThinkSTEM**

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**scma**  
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