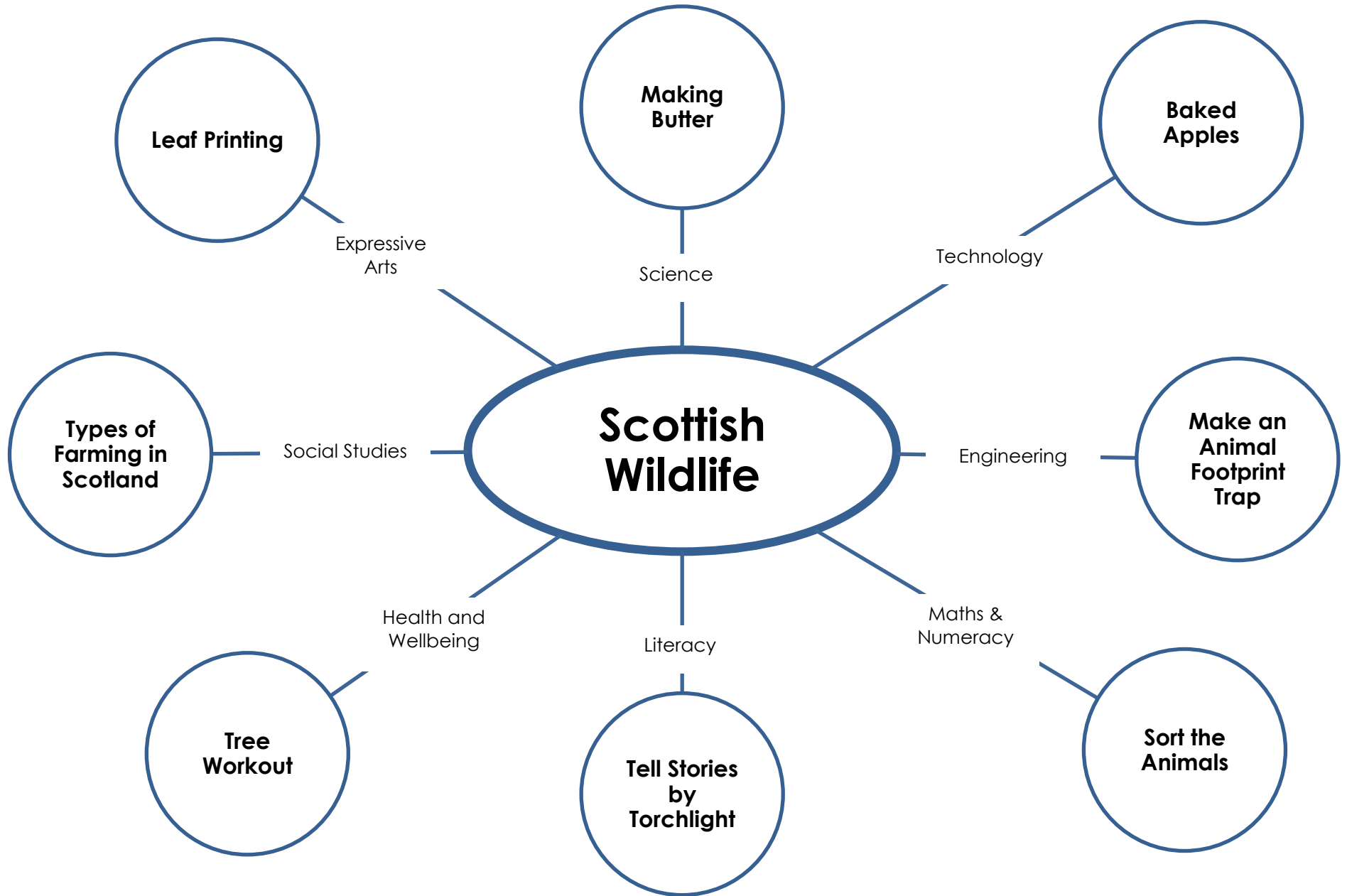


Learning from Home



Science Challenge



Making Butter

Cows are kept by farmers all over Scotland. One dairy product we can produce from a cow's milk is butter. Butter is used in lots of things including in sandwiches and on toast and it tastes great. Today we are going to make some of our own.

Note: We can also get milk from sheep and goats though this is used less often in Scotland.

You will need:

Cream (must be double or whipping cream)

Plastic or glass jar with a lid

Sieve

Bowl



Images from clipart-library.com

Method

1. Pour the cream into the jar, only filling it up to about half full.
2. Screw the lid tightly on the jar.
3. Shake the jar until you see a lump form. *This can take quite a while so you might need to take some breaks or ask somebody at home to take a turn at shaking the jar.*
4. When you can see a lump and some liquid, you can stop shaking the jar. The lump is the **butter**, and the liquid is **buttermilk**.
5. With the sieve placed over the bowl, open your jar, and pour the contents into the sieve.
6. Your butter will be left in the sieve.

The Science

The cream is made up of tiny particles (molecules) of fat along with water. When you shake the cream, the fat molecules start to clump (stick) together to form a solid lump. This then separates from the liquid.

Technology Challenge



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Baked Apples

Adult supervision and support required.

Apples are a favourite fruit in Scotland and many people even have apple trees in their gardens.

You will need: apple corer, bowl, baking dish and weighing scales or measuring spoons / cups,

Ingredients

- 6 eating apples (**grown-up helpers: please score around the circumference of each with a small, sharp knife**)
- Handful of sultanas
- 2 tbsp light muscovado sugar
- 1 tsp cinnamon
- Matchbox-size piece of butter
- 2 tsp demerara sugar



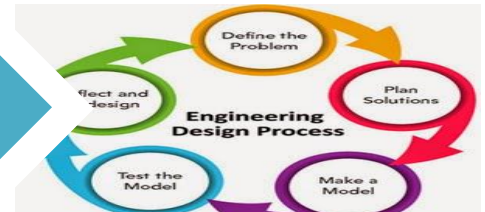
Method

1. Ask a grown-up to turn the oven on to 200C/180C fan/ gas 6. Sit each apple on the worktop and push the apple corer into the centre of each one (or ask a grown-up to do this for you).
2. Mix the sultanas, muscovado sugar and cinnamon together in a bowl.
3. Stand up the apples, side by side, in a baking dish. Using your fingers, push a little bit of the sultana mixture into each apple, using up all the mixture between them.
4. Add a blob of butter to the top of each and sprinkle over the demerara sugar. Ask a grown-up to put the dish in the oven for 20 mins or until the apples are cooked through.

These baked apples are super tasty served with vanilla ice cream

Recipe and image from [bbcgoodfood.com](https://www.bbcgoodfood.com)

Engineering Challenge



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Make an Animal Footprint Trap

Lots of animals might be using your garden without you even knowing it – they might be small and quick, in places you can't see, or coming out at night. To find out who's been visiting your garden, try a bit of detective work by making this simple footprint trap.

What you will need:

- An old baking tray or shallow plastic box
- Long ruler
- Fine grain sand
- Water
- A low sided dish
- Meat based cat or dog food
- Footprint ID guide (one option [here](#))



How to make your footprint trap:

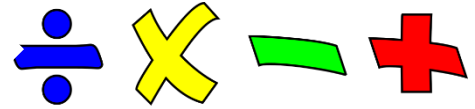
1. Fill the baking tray with sand and use the ruler to smooth the surface.
2. Check that the trap works by lightly pressing your finger into the sand – it should leave an indent. If it does, smooth over the sand again.
3. Place a dish with pet food in the middle of the tray and leave the tray in the garden overnight.

4. Check the tray in the morning for animal footprints.
5. Use the footprint ID guide to help identify who has been using your garden!



Activity and images from scottishwildlifetrust.org.uk/

Maths & Numeracy Challenge



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Sort the Animals

Sort the Scottish animals below according to how many feet they have.

2 feet	4 feet	No feet

hedgehog 	bat 	capercaillie 	badger 	adder 	grey seal 
robin 	barn owl 	red squirrel 	scottish wildcat 	mountain hare 	natterjack toad 

Can you think of any other ways to sort these animals? Birds / Not birds etc.? Have a go at making your own table to sort them into. Can someone at home work out how you have sorted them?

Literacy Challenge



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Tell Stories by Torchlight

Stories are always a fun camping activity – even if you're only camping out in your bedroom. To add to the atmosphere, wait until it gets dark and use a torch or the moonlight to read by. You could pick wildlife and nature stories, or just use your favourite books.

What you will need:

- Stories
- A safe camp space
- A torch or camping light
- Spare batteries – *just in case!*



How to tell your stories by torchlight:

1. Gather up all the stories that you would like to read.
2. Collect torches and make sure you have some batteries.
3. Read your stories out loud - ask an adult or brother or sister to join you.
4. You could add an element of performance, by acting out the scenes while another person reads.
5. You could try to say the different characters' words using different voices.
6. Add an extra challenge, which will take effort but is very rewarding, by memorising stories or poems before your camp out. Then take it in turns to perform these.

Some ideas for stories:

- **Hello Scottish Animals** by Kate McLelland,
- **One Snowy Night** by Nick Butterworth,
- **The Wide Awake Hedgehog** by Rosie Wellesley

Activity and image from [scottishwildlifetrust.org.uk/](https://www.scottishwildlifetrust.org.uk/)



Health & Wellbeing Challenge

Tree Workout



Exercise is important for keeping us fit, but it is also good fun. Have you ever seen horses running in a field or even cows and sheep jumping?

Today's exercises are done outdoors using trees or bushes. You might be lucky enough to have some in your own garden but if not then make pretend trees/bushes from other garden objects. *Or when you can leave your home ask grown up if they know where you could go to do the exercises.*

Preparation: Locate your trees. **Remember – do not leave the house without speaking to a grown up first!**

Activities:

1. Warm up with some arm swinging and brisk walking. If you are walking to where the trees are then you could do this on the way.
2. Find 2 trees or bushes – run between them, touching each one, 10 times.
3. Next hop on one leg from one tree to the other. Hop back using the other leg if you can.
4. Using the same 2 trees or bushes, jump with both feet together between the two. How many jumps did it take you?
5. Next, skip from one tree to the other and skip back.
5. Find a big tree and put your hands on it at about shoulder level. Do 5 press ups against the trunk, keeping your legs straight.
6. Face a tree, leaning your hands on it. Curl up one foot behind you while keeping the other leg straight. Repeat 5 times with each leg.
7. Now lift one leg in front of you, bending your knee. 10 times on each leg.
8. Jump as high as you can and touch the trunk - how high can you reach? Repeat 5 times.
9. Try to make up some of your own exercises.

Remember to wash your hands when you get home.

Activity adapted from www.ltl.org.uk/free-resources

Social Studies Challenge



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Types of Farming in Scotland













Farming is very important in Scotland. It brings money into the country and provides lots of the food we eat as well as materials we can use to make our clothes and shoes.

Just like there are different types of doctors who specialize in different areas, there are also different types of farmers.

Look at these products that are produced in Scotland. Sort them into **Arable** (crops / non - meat) **Dairy** (milk, cheese, butter, yoghurt) and **Livestock** (meat and meat products)

Arable	Dairy	Livestock

Can you think of any other products or animals that could be added to any of the columns?

 apples	 potatoes	 wool	 eggs
 Milk	 bacon	 carrots	 chicken
 raspberries	 barley	 pig (pork)	 yoghurt

Images from clipart-library.com

Expressive Arts Challenge



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Leaf Printing

Adult support may be needed to obtain leaves or small cuttings / branches.

Using paints to make prints is fun, but have you ever tried using natural materials to make your patterns? Nature is full of wonderful shapes and textures, and leaves are a perfect example of this. The leaves of different plants have different shapes and patterns. Many plants and trees will have lost their leaves, but you may still find some on the ground or an adult may help you take some leaf cuttings from plants in your garden.



What you will need:

- Leaves or small branches (picked from the ground or cut from your garden, or drawn on thick paper and carefully cut out)
- Paints
- Paintbrushes
- A paint tray (or old plastic container lids)
- Water
- Plain paper

What to do:

1. Choose the leaf or leaves you would like to use for your design.
2. Mix your paints to create the colours you would like to use.
3. Using the paint brush, cover one side of the leaf – it helps to coat the side on which the veins stick out.
4. Gently press the leaf onto the paper. Using your fingertips, press **lightly** along the length of the leaf.
5. Carefully and slowly, peel the leaf away from the paper.
6. Repeat the process using as many leaves, colours and designs as you would like.
7. Explore shapes and patterns. Can you make repeating patterns?
8. Do certain leaf features make better prints?

Activity and image from scottishwildlifetrust.org.uk/