



Family Home Learning Pack

GARDENING FOR NATURE

Notes for parents and carers:

These home learning packs have been compiled by Better Planet Education to support you whilst your children are at home during the Covid-19 lockdown.

Each week, we will include suggestions for activities you can do alongside your children, as well as those that they can do independently, whilst you are working from home.

We will attempt to suggest activities which require no special materials other than those you may find around the house. It may be possible to pick up some resources during your occasional shop for essentials but please do not aim to shop specifically for listed supplies! We will also attempt to minimise the need to print out any materials.

In your pack each week:

- * Open ended project ideas and research topics
- * Activities to explore independently or together
- * Games to play
- * Ideas for science experiments
- * Art and craft ideas
- * Links to other learning resources
- * A use each week for toilet roll tubes...



ACTIVITY IDEAS

The summer is a great time to see lots of the UK's wildflowers and to find out about the pollinators that feed from them. Without the bees and other insects that pollinate the plants, we would not have the fruits and berries that we love to eat. But much of the UK's wildlife is under threat. Climate change and the use of harmful pesticides, herbicides and artificial fertilisers all cause habitat loss. Sadly, bird, animal and insect numbers continue to fall each year.

If you are lucky enough to have access to a garden, there are lots of things that you can do to encourage wildlife. However, there are also things that you can do to help with no more space than a window box or some pots on a balcony. You can even help if you have no outdoor space at all, by using wild areas and communal gardens in your community. In this pack, we will give you some ideas so that you can garden for nature and help to encourage and protect wildlife.

Mow your lawn less often

Yes! Simply by sitting back and relaxing, instead of mowing the grass, you are helping wildlife! This is because longer grass gives creatures more space to live in and more food to eat. By just leaving more time between mowings and by adjusting your lawnmower blades so that you don't cut the grass so short, you can really help wildlife to thrive. You'll also be making your lawn more resistant to dying back in hot weather, so you'll need to water it less often, too!

Find more detailed information on having wildlife friendly lawns here:

<https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/lawns-for-wildlife/>



Go (harmful) chemical free

Chemical Free gardening means that you try to avoid weed killers and pesticides (such as slug pellets) which can damage the balance of the soil as well as killing wildlife. Many 'weeds' such as dandelions, provide an important food source for bees, especially during the early spring when there aren't many other flowers out.

There are ways that you can manage pests in your garden without using pesticides. Instead, try (P.T.O):

Companion Planting

Companion planting is a way of gardening where you grow plants that benefit each other close together. You might plant something with deep roots next to something with shallow roots, so that they can share different areas of soil. Or, you can grow plants that pests don't like, such as some herbs, to keep them away from plants that you do like. Nettles often attract ladybirds early in the growing season and ladybirds will eat aphids, that otherwise eat plants. You could also plant a row of lettuces along a border especially for slugs to eat, so that you can keep them away from other plants and spot when they are coming! Find more information on companion planting and how to do it here:

<https://www.wildlifetrusts.org/actions/how-do-companion-planting>

Make a slug-proof barrier

There are ways to avoid using slug pellets, such as crushing up egg shells and placing them round plants, so that slugs can't crawl over them. Coffee grounds can work in a similar way, as slugs don't like to travel over them. Lots of people also use copper, which might help deter slugs. You can stick special strips of copper, or wind copper wire around the tops of plant pots, or even put copper coins round the plants!



Dorothy Griffin

Encourage natural predators

One way to protect your plants naturally is to



encourage animals that eat slugs and snails into your garden. Building hedgehog houses and making tunnels for them to access your garden is a way to help reduce pests and it helps protect hedgehogs at the same time! Hedgehogs are losing a lot of their natural habitats and urgently need places to stay.

Follow these link for a way to build your own hedgehog house from wood:

<https://www.wildlifetrusts.org/actions/how-build-hedgehog-home>

Or watch this video to see how to make a simple version from old bricks (Youtube link, supervision recommended):

<https://www.youtube.com/watch?v=mNnbvPdVYRU>



Leave your leaves

Leaf litter is an important sanctuary for insects which in turn are essential food for birds and other wildlife, like frogs and toads. Try to leave your leaves to rot down in a corner of your garden. This provides a great hibernation spot for toads, newts and queen bumblebees, not to mention making great worm food and compost for the following year. If you don't have space, try to use a green garden waste bin rather than burning.

Grow a wide range of plants

The more different plants you have in your garden, the more resilient it becomes to different problems such as pests, dry spells or disease. If you are growing plants for food, it's also a good idea to rotate your planting (grow different things in different places each year) so that pests in the soil won't be able to eat the next year's crop.

Make a pond:

ALWAYS remember to consider the safety of young children when considering any water feature in a garden.

A pond is an excellent way to encourage many different forms of wild life to your garden and, if you set it up carefully and check it for fallen leaves and over growing plants, it should pretty much look after itself! If you have the space, you can make a large pond, but even a smaller tub, submerged into the ground, can work well. Don't forget to place a plank of wood or similar into the pond like a ramp so that hedgehogs and other mammals can find their way out if they fall in by accident.

Find top tips for creating a pond here:

<http://ypte.org.uk/factsheets/making-a-pond/introduction>

This pond (below) at The Garden in Bristol attracts many different types of wildlife, including lots of frogs which come to spawn every year





Pond in a bowl

You don't need a huge amount of space to have a home for water-loving creatures. Even a bowl or tub can be used if your space is limited. Add pond plants and some gravel and don't forget to keep topping up any water that evaporates away.

Save water

Try to use a watering can instead of a hosepipe to water your plants. Using a water butt in your garden means that you can gather rainwater to water your plants on dry days.

This prevents you needing to use clean drinking water to do the job, so it saves on the energy used to treat that water. If you water the plants early in the morning, this will stop the water evaporating straight off them again in the heat of the day. Not only does watering with a hose disturb more insects in the garden due to its high pressure, it also uses up a greater amount of clean water. The average hosepipe uses 170 litres of water for every 10 minutes that it is turned on.



Grow wild flowers

A wild flower area in your garden will attract many pollinators as well as looking beautiful. Here's a helpful video on making a wild flower area in your own garden (Youtube clip, supervision recommended) <https://youtu.be/jMHk4CB3eUU>

But you don't need a garden to create an area of wild flowers in your community. As long as you are planting native species, sowing a wildflower meadow can be a great project on patches of unused land, even in urban areas.



For more information, see:

<https://ypte.org.uk/downloads/home-learning-activity-making-a-wildflower-meadow>



Make seed bombs

There are lots of different ways to gather wild flower seeds. You can collect them from flowers that you have grown.

Wait until the flowers are about to turn brown, then place the flower head inside a brown bag. Cut the stem off and tie up the bag. Put the bag somewhere dry and wait a few days to collect the seeds.

You can also buy specially selected wild flower mixes from environmental groups.

This pack from Landlife Flowers is chosen to attract pollinating insects: <https://www.wildflower.co.uk/wildflower-seed-mixtures/cornfield-annuals.html>

There is a free pack available from Just Bee which will attract bees:

<https://www.justbeedrinks.co.uk/seeds/>



Simply take a small handful of wild flower seeds and mix them in with a handful of mud (clay based soils will form a better shape) and water. Shape the mixture into small balls, or use an ice cube tray to form small blocks.

You can then carry these with you on walks, looking for places to sow them.



You can also buy ready made seed bombs from places such as the Eden Project. These are designed to be thrown into abandoned spaces around your environment to make them more attractive - not just for people, but also to pollinating insects:

<https://www.edenproject.com/shop/wildflower-seeds/eden-project-wildflower-seedbomb-gift-set>

Pick up litter

One of the easiest things you can do to help wildlife is to make sure that you never drop litter.

As well as harming the environment in which animals live, the litter can be mistaken for food. Animals and birds die when they eat things that they think are pieces of food, but which are actually just piece of rubbish.

This hedgehog became trapped in the tube while it was trying to eat the last few crumbs in the bottom. Sadly, it was not able to escape, so it died.

Taking a bag with you on walks so that you can pick up pieces of litter (making sure to wear gloves, or use a litter picker) is a great way to protect nature.



Spiny Norman's Hedgehog Support



Wikimedia Commons

Avoid Plastic

When you are buying plants for your garden, try to avoid those in plastic pots. Plastic pollution is an enormous problem for the environment, and avoiding adding to this is a key part of caring for wildlife everywhere. Car boot sales and local plant sales are great places to pick up plants in recycled pots.

RESEARCH IDEAS

What would happen in a world without bees?



Why is it important to encourage bees into our gardens?

Did you know:

- * Bees pollinate 70 of the 100 main crop species that feed 90% of the world?
- * If we lost all the plants that bees pollinate, the animals that eat those plants would die?

Some questions to consider:

- * Why are bees at risk?
- * What is being done to protect bees across the world?

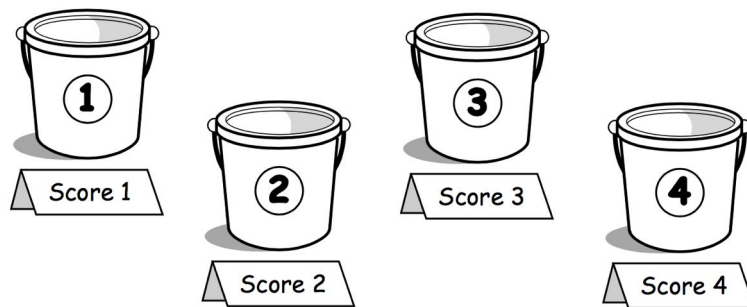
**Watch this video to find out what might happen if bees went extinct.
(Youtube clip, supervision recommended):**

<https://youtu.be/izGQketQzTc>

MATHS CHALLENGES

Seeds in the Flower Pots

Jada threw **3** seeds.
Each seed went in a flower pot.
More than one seed can go in a pot.



1. What is the highest score Jada can get?
2. Find three ways to score **6**.
3. Find three ways to score **9**.
4. What other scores can Jada get?



What's the cost?

This is what potted herbs cost at Frank's market stall:

1 rosemary and 1 basil cost £4.

2 rosemary and 2 dill cost £9.

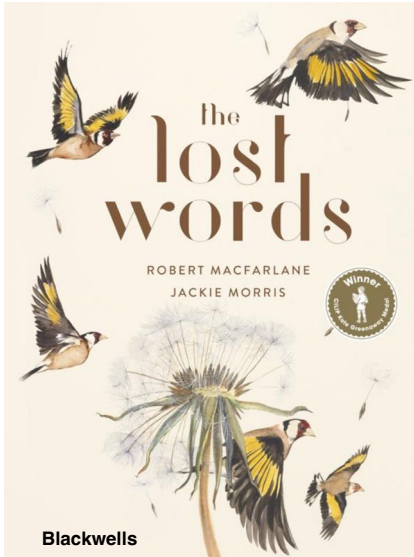
1 dill and 2 basil cost £2.

What do you have to pay in total for 1 rosemary, 1 dill and 1 basil?

What does each item cost on its own?

*Questions adapted from Mathematical Challenges for Able Pupils, DFE, 2000.
Solutions at end of the pack!*

WORD CHALLENGES



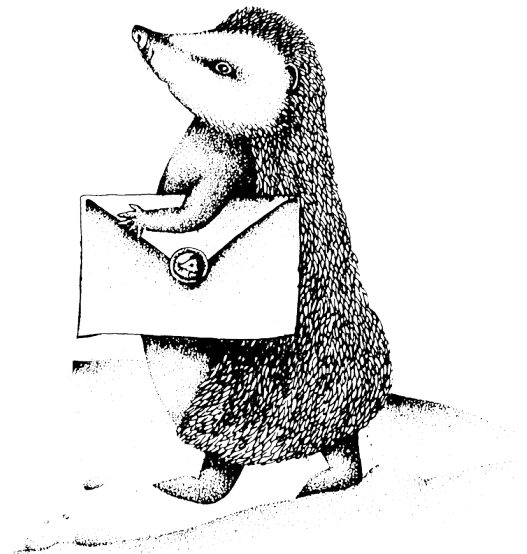
Remembering the Lost Words:

In 2017, Robert Macfarlane and Jackie Morris wrote a book of poems that they called 'spells' designed to help magic back into memory the names of many animal and plant species that are no longer commonly known.

Can you name all the different plants, trees and creatures that you see in your garden, or local area? Why not try making a scrap book of leaves or drawings and researching the lost words of any that you don't know?

Hedgehog help:

Hedgehogs often find it difficult to travel to a safe garden, because they can't find their way in from nearby paths and open spaces. If you have a garden that is linked to those of your neighbours, you could try writing a letter to persuade people to make a small tunnel or a gap in their fence, so that hedgehogs can move from place to place. They may not be able to do this if they have a dog, or other pet than might escape, but even two gardens joined together will give a hedgehog more room!



British Hedgehog Preservation Society



Save the bees:

Make a poster explaining why bees are so important, encouraging other people to plant bee friendly gardens.

Andre Chinn

ART AND CRAFT



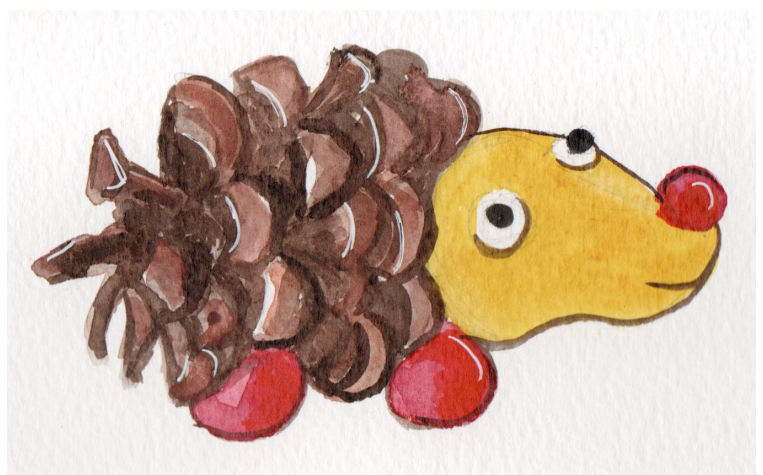
Make a pine cone hedgehog:

Use modelling clay to turn a pine cone into a friendly hedgehog!

You will need:

- Pine cones of different sizes.
- Modelling clay

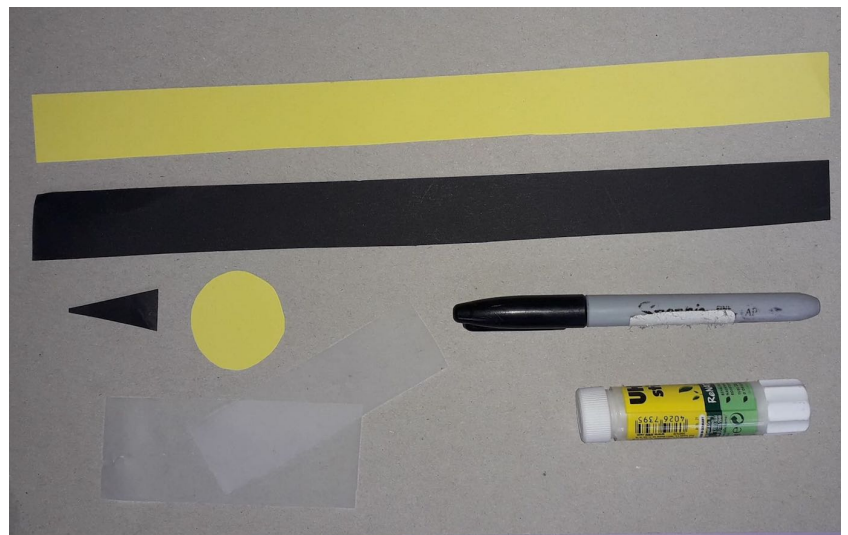
Take a lump of modelling clay and split it into one large piece and 4 smaller ones. Roll the 4 smaller pieces into little balls to be the feet. Shape the larger piece into a cone shape for the face. You could make eyes from beads, small stones, or just using a different colour of the modelling clay.

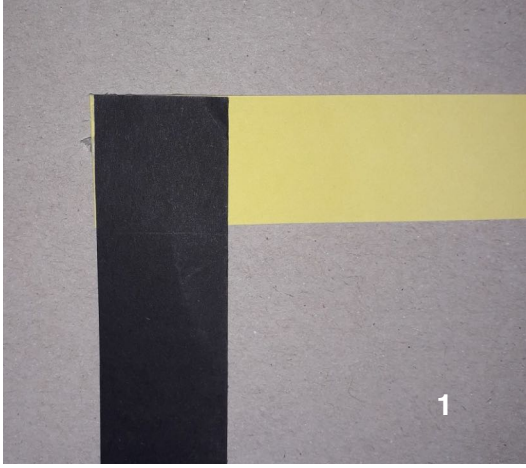


Make a zig zag folded bee:

You will need:

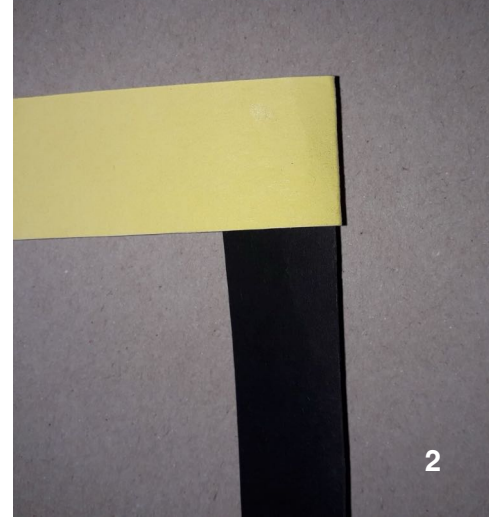
- Strips of coloured card in yellow and black/brown
- A yellow circle of card for the face
- A pen
- A black or brown triangle for the sting
- White paper or tissue for the wings
- Scissors
- Glue





1. First, glue the strips of card together at right angles, like this:

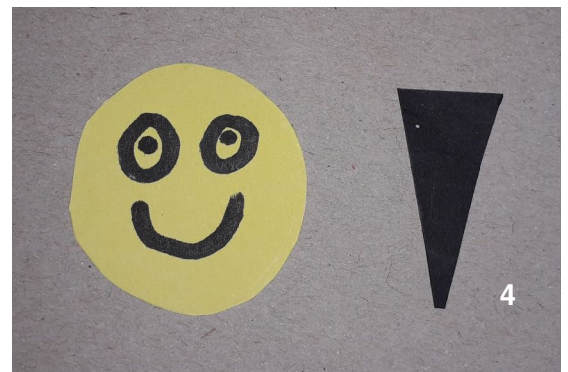
2. Next, fold the yellow card back over the black card.



3. Repeat this step, folding yellow over black, then black over yellow, until there is no more card left to fold. Trip the end and glue down the last piece.



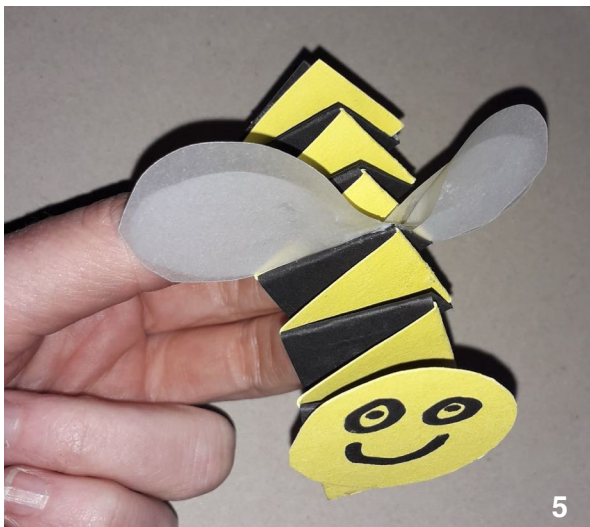
4. Draw a face on the circle and stick that to one end. Glue the 'sting' to the other end.



5. Cut the tissue paper into wing shapes and glue these to the middle of your bee!

For a video which shows this process, including the folding, follow this link (Youtube clip, supervision recommended):

<https://www.youtube.com/watch?v=RH89dRYuCPQ>



This week's use for a toilet roll tube:

Make an insect hotel:

Encourage lots of helpful pollinating insects into your garden by given them somewhere cosy to crawl into when they visit! Setting up insect hotels during the summer months means that they are well established by the time the cold winter time comes by and insects need somewhere to shelter.

You will need:

A flower pot
Some toilet roll tubes
Lengths of twigs
Grasses and straws
Moss and leaves
Small pebbles
Scissors to trim the stems



1. Take your flower pot and squeeze the ends of the toilet roll tubes so they fit inside. You may need to trim the tubes with scissors

2. Fill each of the tubes with a selection of twigs, grasses and plant stems. Try to find materials in a range of sizes so that the gaps are suitable for lots of different insects.

3. Poke little pieces of moss and small pebbles in between the tubes.



4. Place the flower pot on its side in a secluded corner of the garden or balcony, then leave it alone, so that insects can move in!

For a help sheet on how to make a bug hotel, visit:
<https://ypte.org.uk/downloads/home-learning-activity-make-a-bug-hotel>



GAMES

Bee tag:

In this game, you will need to identify a 'home base' to be the hive. Players are bees and they run around buzzing, trying to avoid the bee keeper who is coming to their hive to collect their honey. Each bee needs to pick up three items (such as small balls or piece of paper - anything you have to hand will work!) from the 'garden'. These represent their honey or pollen stores. The aim is to move all three items from the garden to the hive without getting tagged. Each time the bee keeper tags a bee, the bee must hand over one of its objects. Objects placed in the hive without the bee being tagged are safe. If all three have been collected by the bee keeper, that bee has to go and wait in the hive until the next game.

Seeds, stems and bees:

The children find a space to stand in and then start walking round the room or garden. If you (or another child) calls out 'SEED!' everyone has to curl up small on the floor. If the word called out is "STEM!" everyone stretches up as tall as they can, on their toes, arms in the air. For "BEES!" they all run around as fast as they can, making suitable buzzing noises. Keep inventing new words and actions until no one can remember then all any more!

Hunt the hedgehog:

A version of hide and seek where the child hiding is a hedgehog looking for a pile of leaves to hibernate in for the winter! Extend the game into den building by trying to create the cosiest space possible for the hedgehog to hide in.



Worm tunnels:

Create an obstacle course either indoors or outdoors, for children to wiggle through like worms. Include dead ends which, when reached, have to be reversed out of. To make it even more difficult, try wiggling with eyes closed and navigating the course by touch alone (as long as the course is safe to complete this way!)

LEARNING LINKS

There are a large number of resources available for online learning at this time. We'd always recommend that you support your child with this and only follow links from reputable names. **Any links provided here have been checked for suitability.**

If you'd like to get involved in campaigning for wildlife, **the Eden Project** has a wide range of activities, designed to assist with making a start as part of its **I Will 4 Nature** project at:

<https://www.edenprojectcommunities.com/resources-and-materials>

The Wildlife Trusts have another campaign for a **Wilder Future** with many more ideas for involvement here:

<https://www.wildlifetrusts.org/wilder-future>

Planting a wide range of flowering and fruiting trees, bushes and plants will help provide food for as many creatures as possible, year round. For tips on what types of plants and flowers to grow, visit these links:

The **RSPB** provides tips on encouraging lots of wild life, including birds:

<https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/>

Wild About Gardens is a joint project between the Wildlife Trusts and The Royal Horticultural Society to support people who want to encourage wildlife, particularly butterflies.

<https://www.wildaboutgardens.org.uk>

Friends of the Earth offer this useful list of plants to grow in order to attract bees to your garden.

<https://friendsoftheearth.uk/bees/beefriendly-plants-every-season>

Answers to Maths Challenges:

Seeds in the Flower Pots

1. The highest score is 12 (3 bags in 4).

2. Score 6 in three ways:

1 bag in 4 and 2 bags in 1, or

1 bag in 1, 1 bag in 2 and 1 bag in 3, or 3 bags in 2.

3. Score 9 in three ways:

1 bag in 1 and 2 bags in 4, or

1 bag in 2, 1 bag in 3, 1 bag in 4, or 3 bags in 3.

4. Besides 6, 9 and 12, other possible scores are:

3: 3 bags in 1

4: 2 bags in 1, 1 bag in 2

5: 2 bags in 1, 1 bag in 3, or 1 bag in 1, 2 bags in 2

7: 1 bag in 1, 2 bags in 3, or 2 bags in 2, 1 bag in 3, or

1 bag in 1, 1 bag in 2, 1 bag in 4

8: 2 bags in 2, 1 bag in 4, or 1 bag in 2, 2 bags in 3, or

1 bag in 1, 1 bag in 3, 1 bag in 4

10: 1 bag in 2, 2 bags in 4

Adapt this puzzle by using larger numbers.

What's the cost?

A rosemary costs £3.50, a dill costs £1 and a basil costs 50p.

So the total cost of a rosemary, a dill and a basil is £5.