

STEM from HOME



Christmas



Q. Why is it getting harder to buy Advent calendars?

A. Because their days are numbered!

Put your STEM skills to the test this Christmas with this festive edition of STEM from Home in partnership with [Royal Botanic Garden Edinburgh \(RBGE\)](#).

RBGE have a mission to explore, conserve and explain the world of plants for a better future. As part of this, they have teamed up with CGI's STEM from Home programme to bring you this Christmas themed pack. Test your skills with our Christmas coding challenges, make festive bunting, grow food from scraps, write festive poetry and take on our Christmas word search!

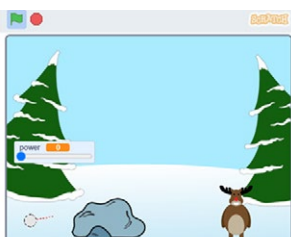


Christmas coding

Get creative with our Christmas coding challenges:

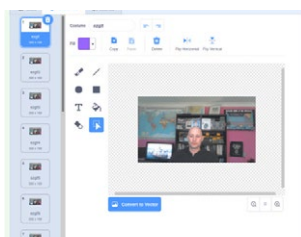
Snowball fight

Make a game with Scratch in which you have to throw snowballs at a target



An audio-visual e-card

Use Scratch to make an audio-visual e-card that you can send to friends and family



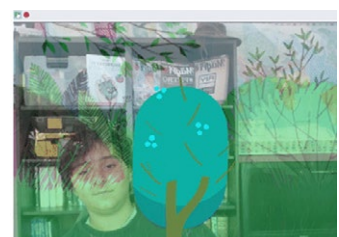
Animate a snow scene

Learn how to animate a car driving through a snow scene using Blender



Grow a tree

Use Scratch video sensing extension blocks to grow your own tree



Festive bunting

Colour in or paint your own Christmas themed bunting to decorate your home this Christmas.

Choose from six designs to mix and match. Colour in your designs, then cut them out and attach them in any order you like. Why not add a nature theme by adding twigs, leaves or holly? [Access the template for this activity.](#)

Q. What do snowmen have for breakfast?
A. Snowflakes!



Grow your own food this Christmas

The way that our food is grown affects the planet. If you look at the packaging on food, you can often learn where it was grown, whether it was grown organically, and what the packaging is made out of. If food is sprayed with fertilisers and pesticides, it can cause soil and water pollution. Plastic food packaging often goes straight to landfill.

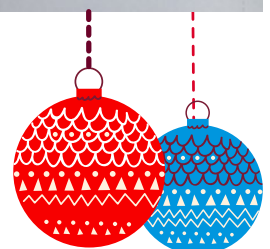
By growing your own food, we can save money, eat food produce from the earth, with no air miles, no chemical sprays and no plastic packaging. You can even re-use old packaging to help reduce landfill waste. Read our ideas below on how you can grow food from things you may already have in your kitchen:

Grow your own mint

Herbs such as mint add wonderful flavour to lots of food. Many people buy sprigs of mint in bags and use some, but the rest is often wasted. If you have any left-over sprigs of mint, cut the stem just below a pair of leaves and they can start to grow new roots. Pop the sprigs in a small jar of water, carefully removing any leaves that are below water level as they will just rot. Leave the jar in a bright place for a couple of weeks and you will soon be able to see roots growing in the water. Once the roots are at least 2cm long, you can plant the mint sprigs into pots of peat-free compost where they will continue to grow. You may never need to buy a bag of mint again!



Q. What do you get if you eat Christmas decorations?
A. Tinsillitis!



Buy one, get lots more for free!

Some people buy herbs in pots of compost from supermarkets to grow on a bright windowsill. If you buy a plant such as basil or chives, which have lots of different stems growing out of the compost, you can split the plant up into several smaller plants to grow your own herbs.

First, tip the whole plant out of the pot carefully, so that you can see all the roots in the compost. It's best to do this outside, or over a piece of newspaper so you don't get compost everywhere in your kitchen. Using your fingers, begin by dividing the whole plant in half, making sure you divide the roots and the compost too. You now have two plants with roots and compost. You can split each new plant in half again, so that you have four plants. You can continue, depending on how big your original plant is. Each of the small plants can be put into a new pot and the pots can be filled up with fresh compost, so that each new plant will have the space and nutrients to grow. Water each plant and put them in a bright spot.



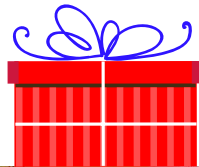
Q. Why does Santa go down the chimney?

A. Because it soots him!

How many different seeds can you find in your kitchen cupboards?

A great place to find seeds is in spice jars - coriander seeds, fennel seeds, mustard seeds and many more. Find an old pot such as a yogurt pot or margarine tub, make some holes in the bottom and sit it on a plate or saucer. Fill the pot with peat-free compost and scatter some spice seeds on the surface. Cover them with a thin layer of compost and water gently.

Leave the pot in a warm, bright place and water lightly whenever the compost feels dry. You will soon see little green shoots growing, this is called germination. Wait until there are several small leaves. Young leaves can be snipped off and added to salads and sandwiches, or used to flavour curries and stews.



Q. What athlete is warmest in winter?

A. A long jumper!

Festive poetry

Your challenge is to write a Christmas-themed poem using as many of the words below as possible. As an additional challenge, can you make all of the words that you include rhyme?

Snow	Sleigh	Joy
Elves	Tree	Pine
Reindeer	Holly	Food
Chocolate	Decorate	Love

Give your poem a name and write or type it out, it could even make a great Christmas present!



Christmas word search

Can you spot all of the Christmas related words in the word search? There are 20 words to find in total, how quickly can you spot them all?

Elf	Reindeer	Noel	Present	Decorations
Nativity	Eggnog	Tree	Bells	Ivy
Angel	Sleigh	Yule	Candle	Turkey
Lights	Carol	Joy	Snowman	Holly

Q. What do you get if you cross Santa with a detective?
A. Santa Clues!

W	Q	F	Y	E	K	R	U	T	P	V	O	P	C	Y	R	W	I	P	E
X	S	R	K	O	W	A	X	R	C	M	E	B	I	O	C	T	V	E	Y
I	H	I	J	N	A	T	I	V	I	T	Y	H	R	J	V	Q	R	J	O
S	M	B	R	O	G	J	M	B	T	B	I	A	E	Q	H	T	O	N	L
N	X	Q	H	B	R	Y	L	L	O	H	A	X	I	C	L	Q	K	H	D
O	G	S	F	Y	A	G	Z	A	R	L	G	U	N	M	D	X	G	Y	G
I	F	N	L	H	K	F	L	I	D	T	L	A	D	T	H	K	O	I	H
T	Z	O	S	L	A	V	X	O	S	P	T	G	E	K	F	P	N	Y	G
A	H	W	F	J	E	N	E	O	R	S	D	P	E	C	X	U	G	J	N
R	Z	M	R	W	B	B	X	Z	D	A	E	Q	R	D	J	F	G	C	P
O	I	A	B	M	G	M	A	E	T	S	C	O	A	Y	B	N	E	P	S
C	N	N	M	Q	T	D	E	L	F	G	A	O	N	C	J	K	J	G	T
E	F	S	F	A	L	E	W	T	Y	Q	E	L	O	L	E	O	N	I	H
D	L	I	S	K	P	T	R	M	X	C	L	D	C	N	P	H	V	L	G
Q	N	I	M	C	N	U	E	R	U	D	U	E	W	T	E	Y	U	O	I
R	Y	W	E	E	V	N	V	F	S	K	Y	K	T	L	J	M	B	W	L
Z	B	F	S	D	D	W	C	L	B	U	U	K	D	A	K	U	J	Z	V
M	Q	E	U	D	S	L	E	I	G	H	I	N	G	V	L	E	H	Y	Z
G	R	F	H	E	K	I	M	B	L	Z	A	J	E	U	Z	Y	O	V	P
P	N	V	C	X	Z	E	S	W	J	C	Y	L	E	G	N	A	L	I	N



Check out [Marley's School of Garden Magic](#) for more exciting STEM activities.

Ask your parent/guardian to upload pictures of your STEM creations to [Twitter](#), [LinkedIn](#) or [Facebook](#) using **#STEMfromHome** and **#ExperienceCGI**, remember to tag us!

For more information or additional support with STEM activities when working remotely, contact enquiry.uk@cgi.com