

Growing Flower

Activity Structure – 45min

Activity	Timing
Warm up Game	5 mins
Introduce Story and Project	10 mins
Main Activity	25 mins
Final test & debug	throughout
Share with group	5 mins

Overview

What does a flower need to grow? Children will code a cloud with rain and a shining sun to make a flower grow from a seed.

Learning Objectives

- To use several individual characters to make a 'character's' parts move separately
- To use Wait blocks with confidence

National Curriculum Links

Computing

- Children will understand that programs execute by following precise and unambiguous instructions

Speaking & Listening

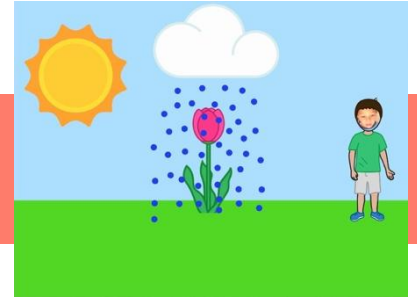
- To critique, evaluate and test their ideas and products and the work of others.

Warm up game: Lucky bag

Bring a lucky bag or box to class. Put all the flashcard blocks learnt so far in there as well as a couple of new ones (include the three speed blocks). Challenge the children to pick a card at random and guess what it does. So that none of the children feel put on the spot explain that they can ask a friend or adult to help them out if they're not sure and praise them for having a guess even if they don't know.

Introduction (discuss the project together, share ideas and create excitement)

- Today we are going to make a project all about plants and what they need to grow. *What do plants usually grow from?* A seed. Show children several seeds (or pictures of seeds), *do you know what plants they will grow into.* Broad beans, sunflower seeds, cress seeds are good examples.
- *What do plants need to grow?* Water, Light, Air, Soil, Nutrients from the soil.
- Show the children the project. *What Trigger blocks have been used in this project?*
- *How do we make the flower look like it is growing up?* Demonstrate how the stem/ flower is hidden behind the grass/ flower pot and as it goes up it appears to grow. Remind children the last character you touch will be in front.
- How have we made the effect of rain? Let's look at the code. Can we read the code together.



Growing Flower

Main Activity Key questions and teaching

1. Draw or choose an appropriate background from the library.
2. Choose a character from the library. *Will you choose a person or an animal? Will you add a picture of your face?* This Character will ask the question "What do flowers need to grow?" Will you give any other instructions for example "Tap on the sun and cloud to find out what flowers' need to grow" Record the question and instructions clearly. [Start on Green Flag, Record] **OR** use the 'Add text' icon? To add the instructions.
3. Draw or select a sun from the library. *How can you make the sun spin? What trigger block will you use? Why? Do you want the recording and the sun to happen at the same time?* [Start on Tap, Turn 1, Repeat forever] [Start on Tap, Recording] or [Start on tap, Say]
4. Draw the rain and cloud as 2 separate characters. *Why do they need to be separate characters?* Position the characters on the screen and "Hide" the rain.
Cloud – [Start on Tap, Left 6, Send Orange Message Block] [Start on Tap, Record]
Rain – [Start on Orange Message, Show (Grow, Shrink) Repeat 4, Send Red message block Hide.
5. Draw either a plant pot or a green square, matching the grass. Select a flower from the library. Position the flower behind the plant pot/ square.
6. Now let's code the flower, you will need to tinker with the how many times up the flower goes to look like it is growing. [Start on Red Message, Up 6]
7. Test and Debug

Teaching points

- Support the children when using the messaging blocks.
- Remind children the last character you touch will be in front.
- Testing and debugging as you go along is important for this project.
- Have code sheets available to help the children if they need it.

Possible Extensions

- Put a seed in the plant pot to start growing a flower. *What type of seed will you choose?*
- The stem and flower head are 2 separate characters. The Stem of the plant grows up and the flower head appears.
- Use multiple messaging blocks.

To Simplify

- All the characters start on Green Flag. With the sun spinning and the rain falling at the same time.
- A wait block is used for the flower to grow after the sun and rain have started.
- Help the children to position the characters.

Finishing up

Share projects. *How did you find today's project? What was the best bit? What was the trickiest bit?*

Resources

What a Plant Needs

air
light
water
nutrients
warmth

Why Does It Need Them?

If a seed is not **warm** enough, it will not germinate.

Germination is when the seed starts to sprout in to a plant.

If a plant does not have enough **light**, it will grow to be tall and flimsy as it searches for light. It will probably die.

If a plant is not **watered** enough, its stem will be fragile and have very dry leaves. It will eventually die.