

# Experiment

## Aim: To find out why bees go flowers?

### Bees in my Garden

Are there bees in your garden?

What do they do in your garden?

Which flower do they like best?

#### Why do bees go to flowers?

1. Is it food?
2. Is it colour?
3. Is it smell?
4. Is it patterns on the flower?

Let's set up some experiments to find out.

First, we need a standard control flower. So, we will make one. Then we know all our flowers are essentially the same EXCEPT for the single parameter (colour or smell, etc.,) that we wish to test.

#### Equipment: you will need

- 4 - Golf tees; these MUST all be the same colour and size.
- 4 - Paper patty papers; these MUST all be the same colour and size.
- 1 - table spoon of white refined sugar.
- 1 - table spoon of water.
- 1 - eye dropper.
- 1 - blue or black marking pen (permanent ink).
- 1 - Lavender oil (a few drops) OR a flower-scented oil or perfume (a few drops).



*What you need for this experiment.*

#### Getting it all together: Preparing our experiment

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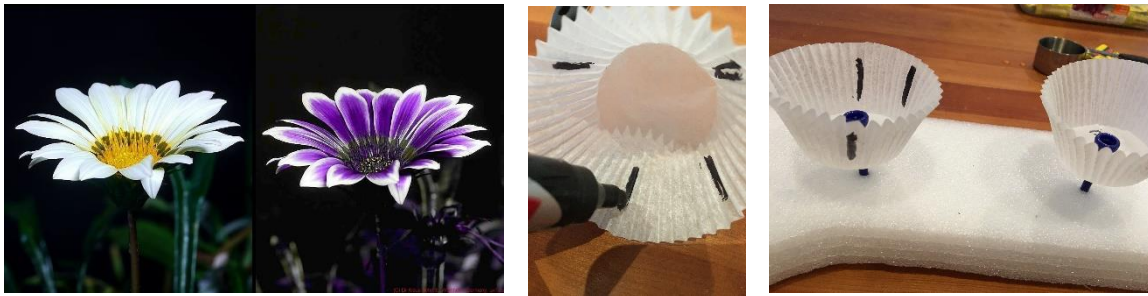
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**Make a Bee Flower**

- Press a golf tee into the centre of the paper patty pan. Presto! You have just made an artificial (human made) flower. Repeat until you have four (4) artificial flowers.



- You may have noticed some flowers seem to have “Bee landing guides”. On two of your flowers use the marking pen to make your own “Bee Landing Guide” marks.



*(left) This white flower to a Bees eye has purple landing guides for the bee. Yes, it is the same flower seen through Ultra violet light we can see it exactly as a bee sees it. (Right) Our Landing guide flower.*

- With the pen number your flowers in sequence, 1 to 4, **with numbers 2 and 4 being the “Bee Landing Guide” flowers.**

We should now have two flowers that are plain and two with landing guide marks.

**How to make Bee Food**

- Now we will make some bee food. Ask a responsible adult to boil some water and mix 1 table spoon of boiling water for you (*sometimes they try to take over but be firm and keep control*). Add one table spoon of white refined sugar. Get them to stir the mix until all the sugar is dissolved.
- Pour the sugar syrup into a small clean jar or cup and allow to cool.

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You have just made “BEE FOOD”. This what Bee keepers all over the world use to feed their bees in autumn before winter and in early spring.

**Flower Scent**

We know that many flowers have a sweet smell. So, ask an adult for some Lavender scent. (It is a popular perfume so there should be some in the house. Or you can try an aroma therapy oil.

**Setting up the experiment in your garden.**

In your garden choose a sunny spot. Place each flower about 200mm apart. Easily done by sticking the pointy golf tee end in the ground.

- Arrange them in order 1 to 4 in a row east to west.
- Using the dropper add two or three drops of Bee Food into the hollow of each golf tee. Rinse the dropper with fresh water when finished.
- Using the dropper add one drop of Lavender OR Lemongrass oil scent to ONLY Flowers numbered 1 and 2



The row should now be

Flower	1	2	3	4
Pattern	Plain	Landing Guide	Plain	Landing Guide
Scent	Lavender OR Lemongrass	Lavender OR Lemongrass	No Scent	No Scent

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Now we need to have a Bee watch for a day or two. Any time that is sunny from 10am to 5pm should be ok as this is when bees are most active. Watch for half an hour and count bee visitors. Record the time of day and when you saw them.

**Download My Results Sheet from [www.bee cafe.org](http://www.bee cafe.org)**

***Importantly Record what you see.***

- a) Time of Day
- b) Which of your special Flowers did they go to?
- c) How often?
- d) How many bees?
- e) Send your observations to: [bees@beecafe.org](mailto:bees@beecafe.org)
- f) To see all the experiment results: visit [www.bee cafe.org](http://www.bee cafe.org)

Tip: If you have a video device such as a baby monitor that is no longer in use. Ask your parents to set this up and you can watch your experiment while in the house.

Enjoy discovering the secret life of insects in your garden.

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**Experiment Aim:** To identify what attracts bees to flowers

**Method:**

1. Place your Four identical artificial flowers in the garden.
2. The flowers numbered 1 to 4.
3. Each flower centre was filled with a mixture of sugar syrup and water (1x1).
4. Flowers 1 & 2 were scented with a flower extract.
5. Flowers 2 and 4 marked with landing guides pointing to the centre of the flower with a black pen.
6. Observe your flowers each day at the same time for about 30 minutes each day and record what you see in the table below.
7. Please record your postcode on the table.

Your Postcode		Flower Colour		Flower Centre Colour	
		Number of Bees visiting the Flower			
Date	Time	Flower 1	Flower 2	Flower 3	Flower 4
<i>Example 3/9/22</i>	<i>3pm -3:30pm</i>	<i>0</i>	<i>3</i>	<i>0</i>	<i>1</i>
<b>Additional Observations</b>	<i>For example; Did you see any other insects visit your flower such as butterflies?</i>				

Email your results to: [bees@beecafe.org](mailto:bees@beecafe.org)

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