



B-Lines

Resource Pack for Primary Schools



Design: Scarlett Weston, Laura Larkin and Elliott Stallion
Large Scabious Mining Bee © Will Hawkes, Pantaloon Bee © Will Hawkes, Hairy-footed Flower Bee © Will Hawkes.

www.buglife.org.uk | [@buzz_dont_tweet](https://twitter.com/buzz_dont_tweet)

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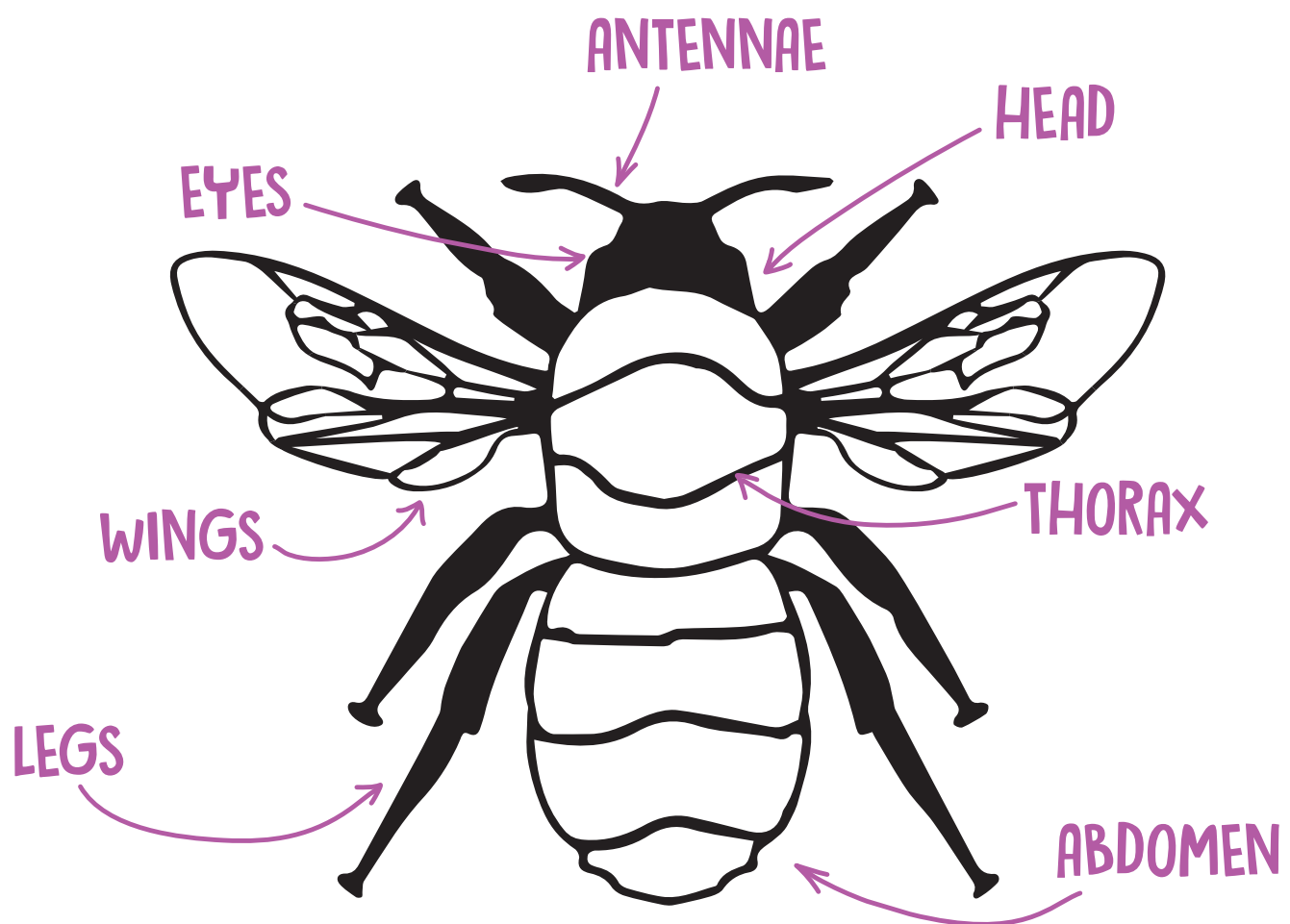
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See the Resource Pack for Primary Schools

All activity sheets and enlarged photos



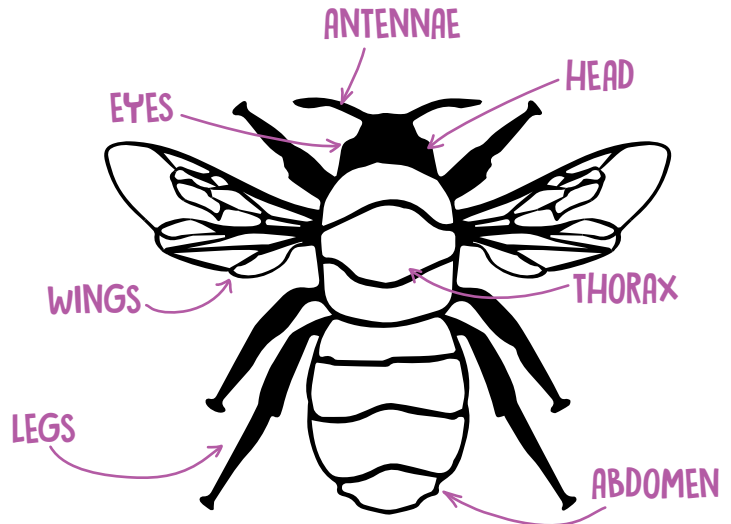
Biodiversity of Bees - Bee Body Parts



Be the first to build your bee.

Roll the dice:

1. Antenna (x2)
2. Eyes (x2)
3. Legs (x6)
4. Wings (x4)
5. Head (x1)
6. Thorax, Abdomen (x2)



Rules

Take it in turns to roll the dice.

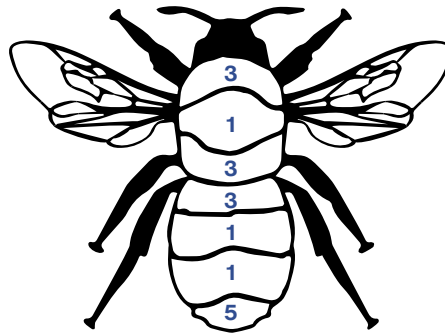
To start, you must roll a 6 - choose to draw the thorax or abdomen.

Then, draw the body part relating to the number you roll, as long as it is attached.

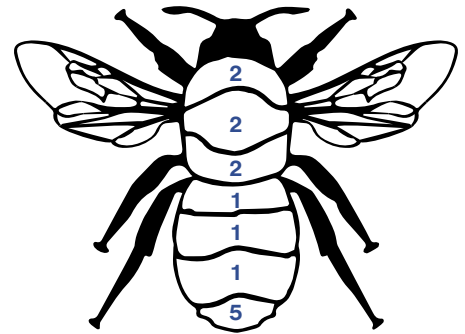
For example, even if you roll 'eyes', you cannot go unless you have the head.

**Colour the queen bees by number
and learn the species.**

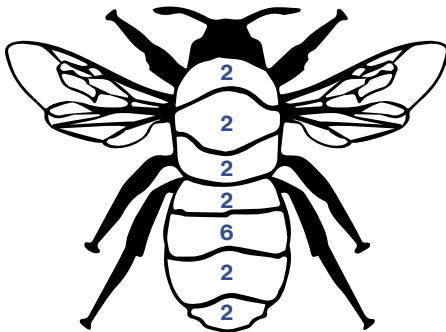
I'm a rare species
being helped
by B-lines.



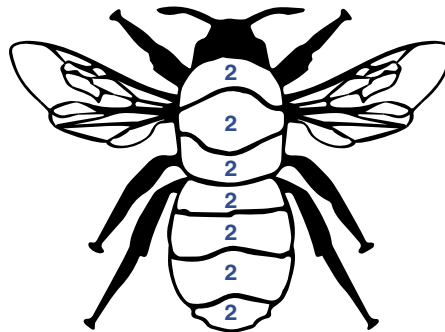
**GARDEN
BUMBLEBEE**



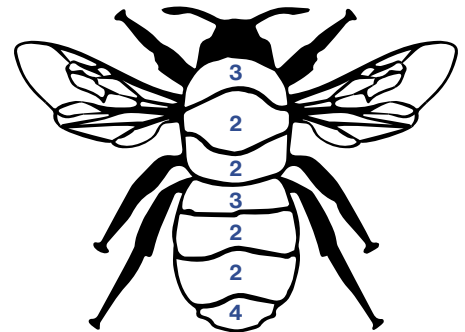
**TREE
BUMBLEBEE**



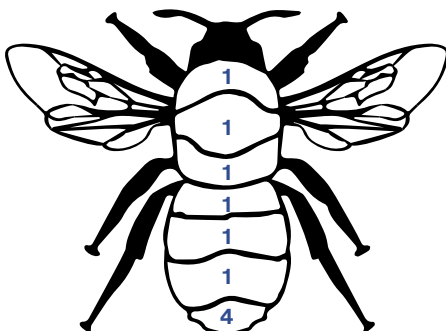
**BROWN-BANDED
BUMBLEBEE**



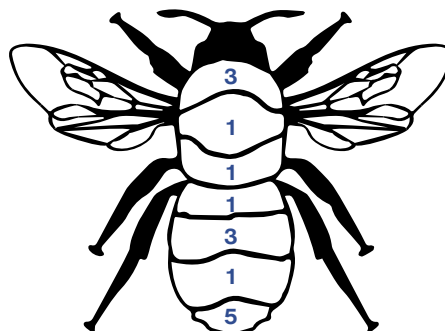
**COMMON
CARDER BEE**



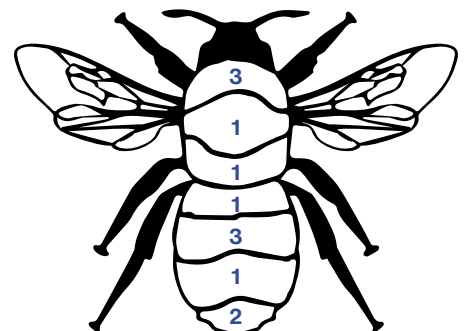
**EARLY
BUMBLEBEE**



**RED-TAILED
BUMBLEBEE**



**WHITE-TAILED
BUMBLEBEE**



**BUFF-TAILED
BUMBLEBEE**

Colour me in



Black

Orange

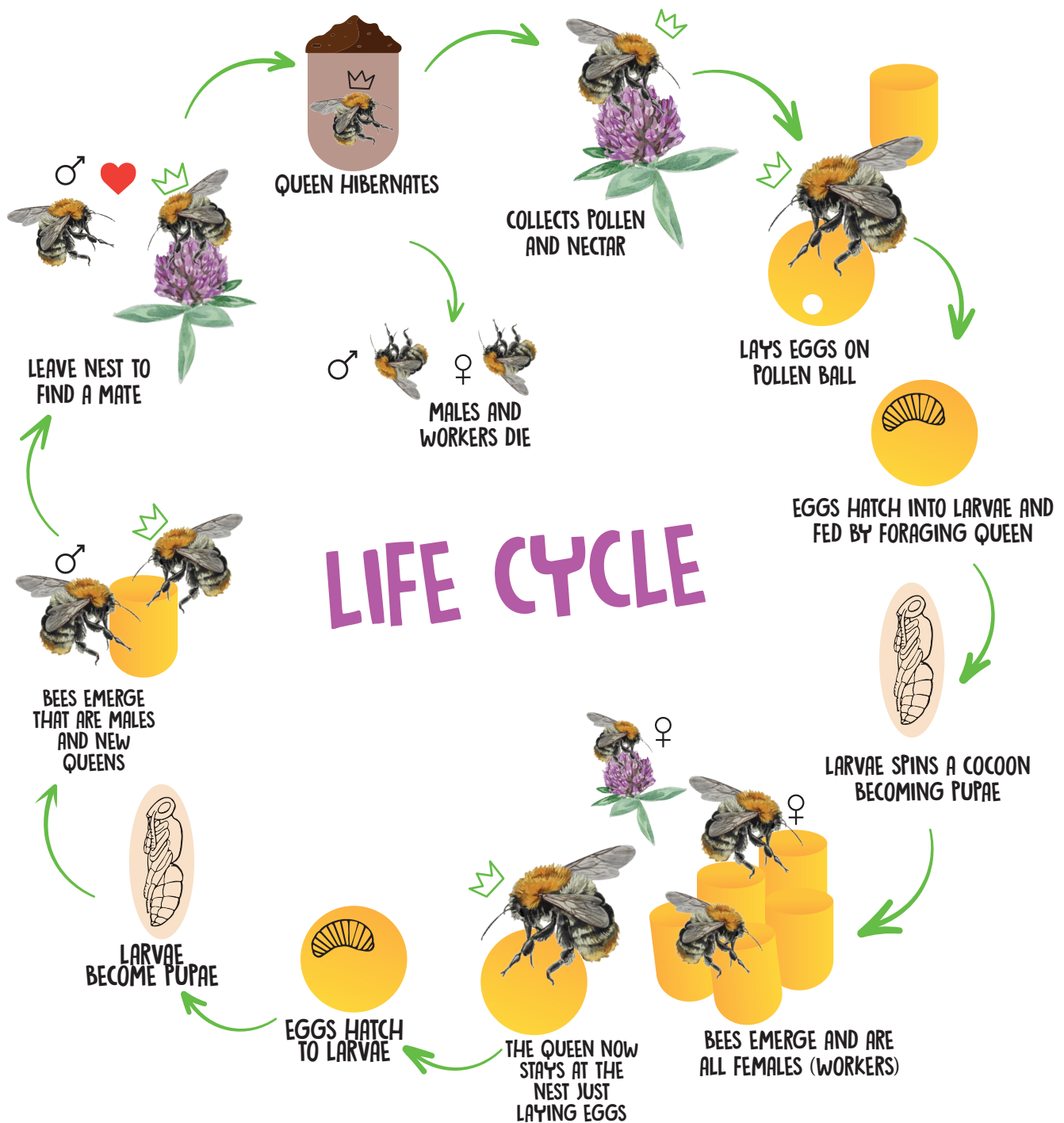
Yellow

Red

White

Brown

Bumblebee life cycle



Solitary bees



Female Buffish Mining Bee
(*Andrena nigroaenea*)
©Andrew Whitehouse



Common Carder Bee
(*Bombus pascuorum*)
©Steven Falk



Large Scabious Mining Bee
(*Andrena hattorfiana*)
©Will Hawkes



Ashy Mining Bee
(*Andrena cineraria*)
©Scarlett Weston



Wool Carder Bee
(*Anthidium manicatum*)
©Will Hawkes



Hairy-footed Flower Bee
(*Anthophora plumipes*)
©Will Hawkes



Tawny Mining Bee
(*Andrena fulva*)
©Will Hawkes



Willughby's Leafcutter Bee
(*Megachile willughbiella*)
©Nigel Jones



Pantaloone Bee
(*Dasypoda hirtipes*)
©Will Hawkes



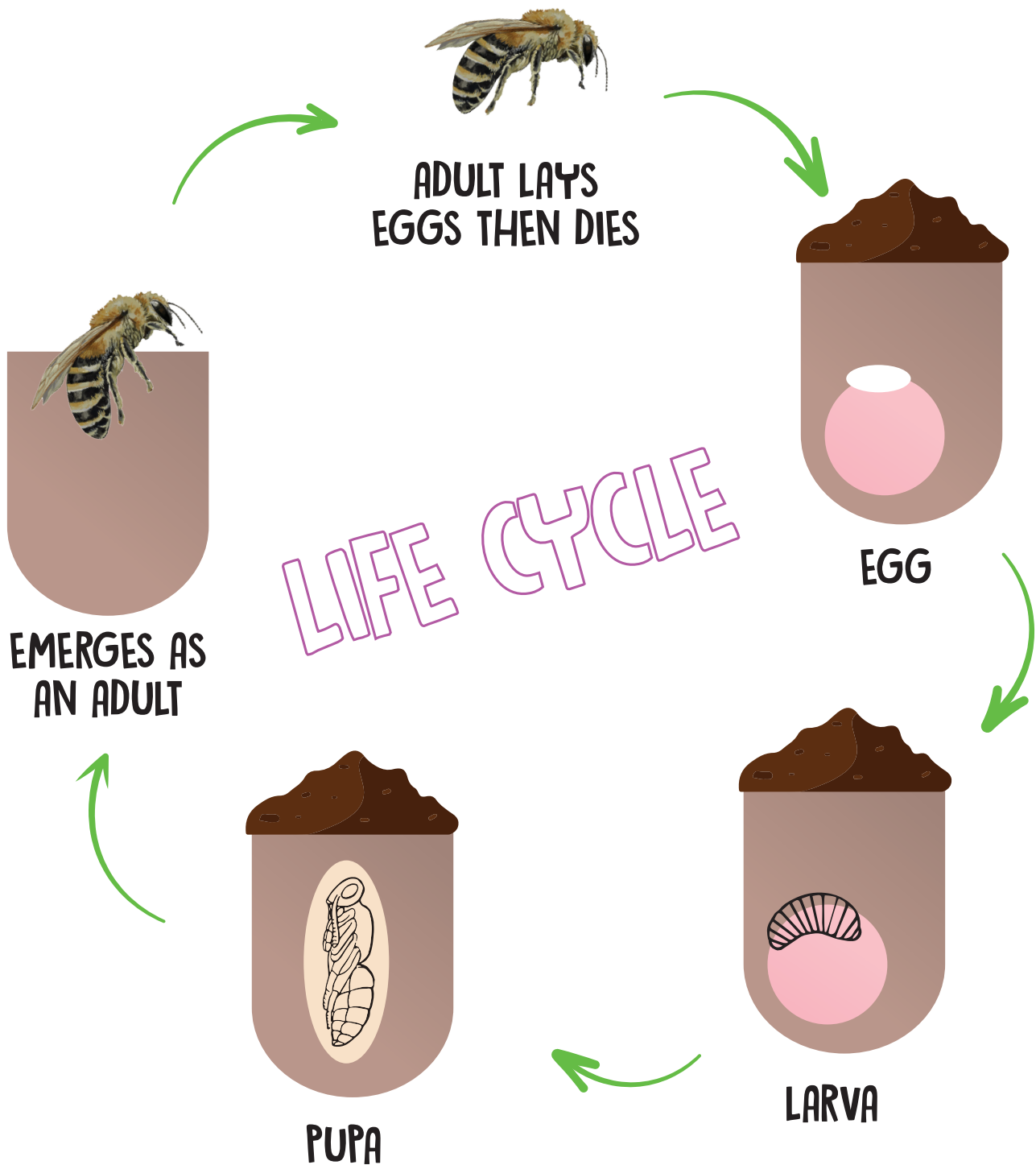
Gooden's Nomad Bee
(*Nomada goodeniana*)
©Scarlett Weston



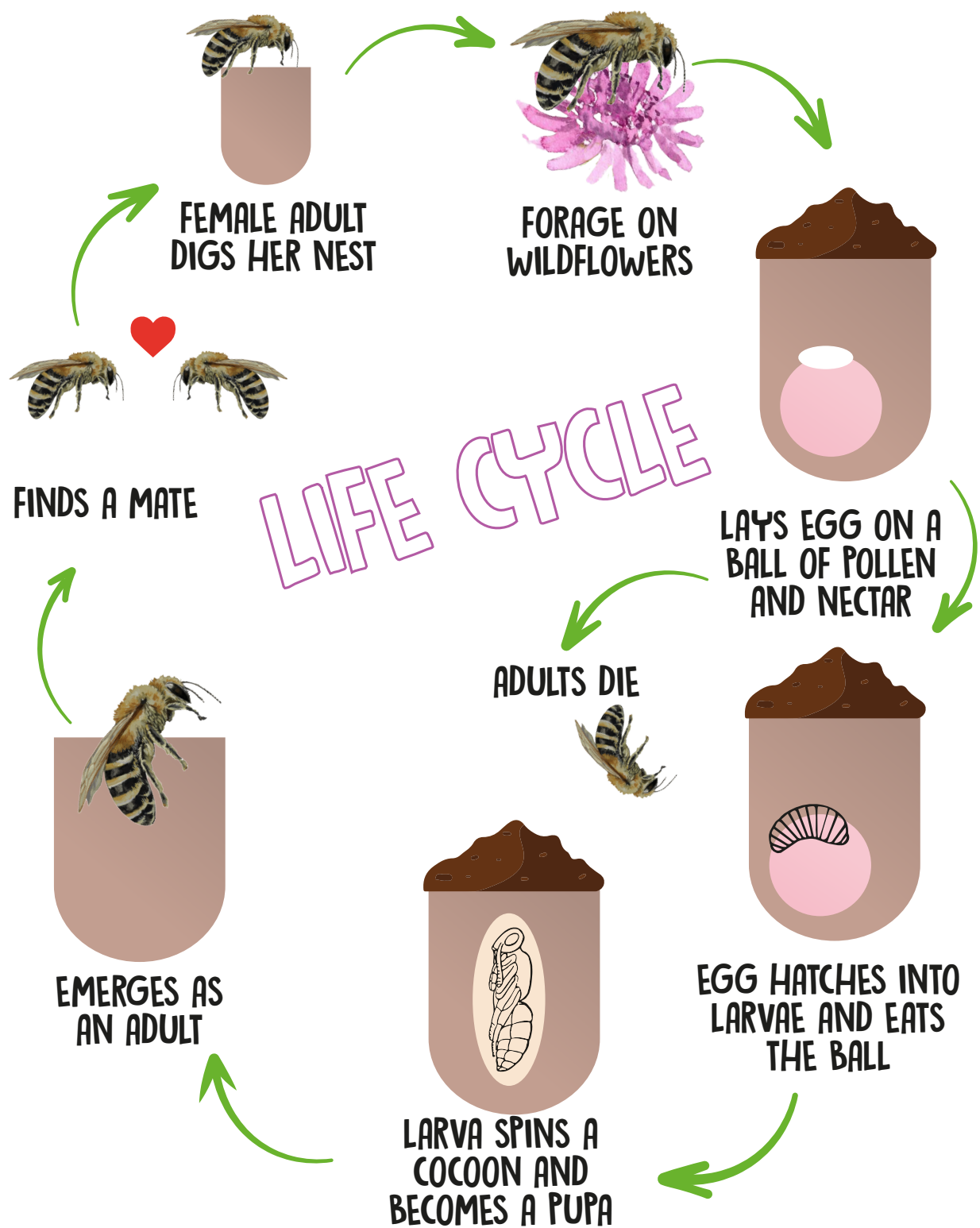
Gold-fringed Mason Bee
(*Osmia aurulenta*)
©Will Hawkes



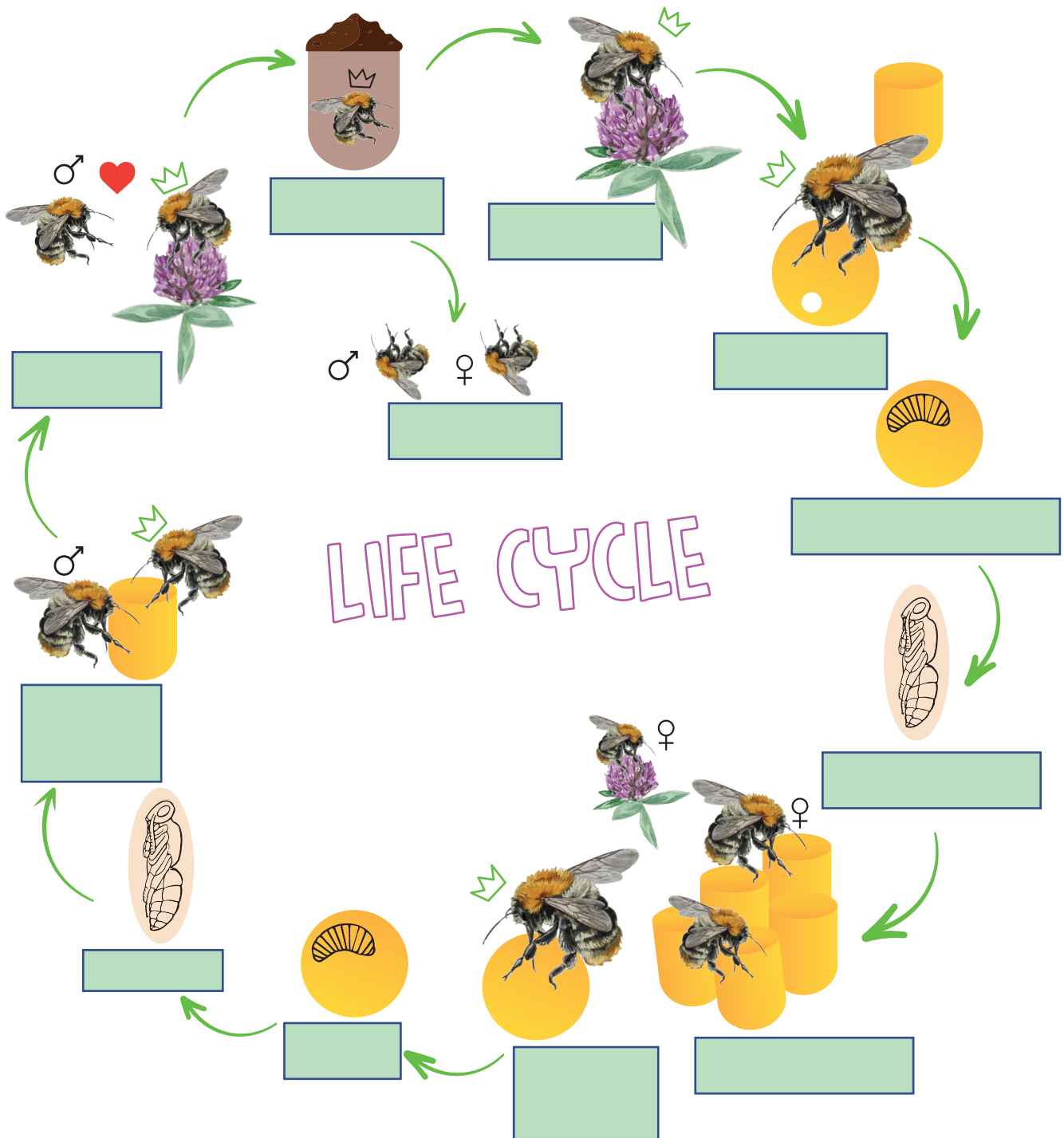
Life cycle of a solitary bee (KS1)



Life cycle of a solitary bee (KS2)

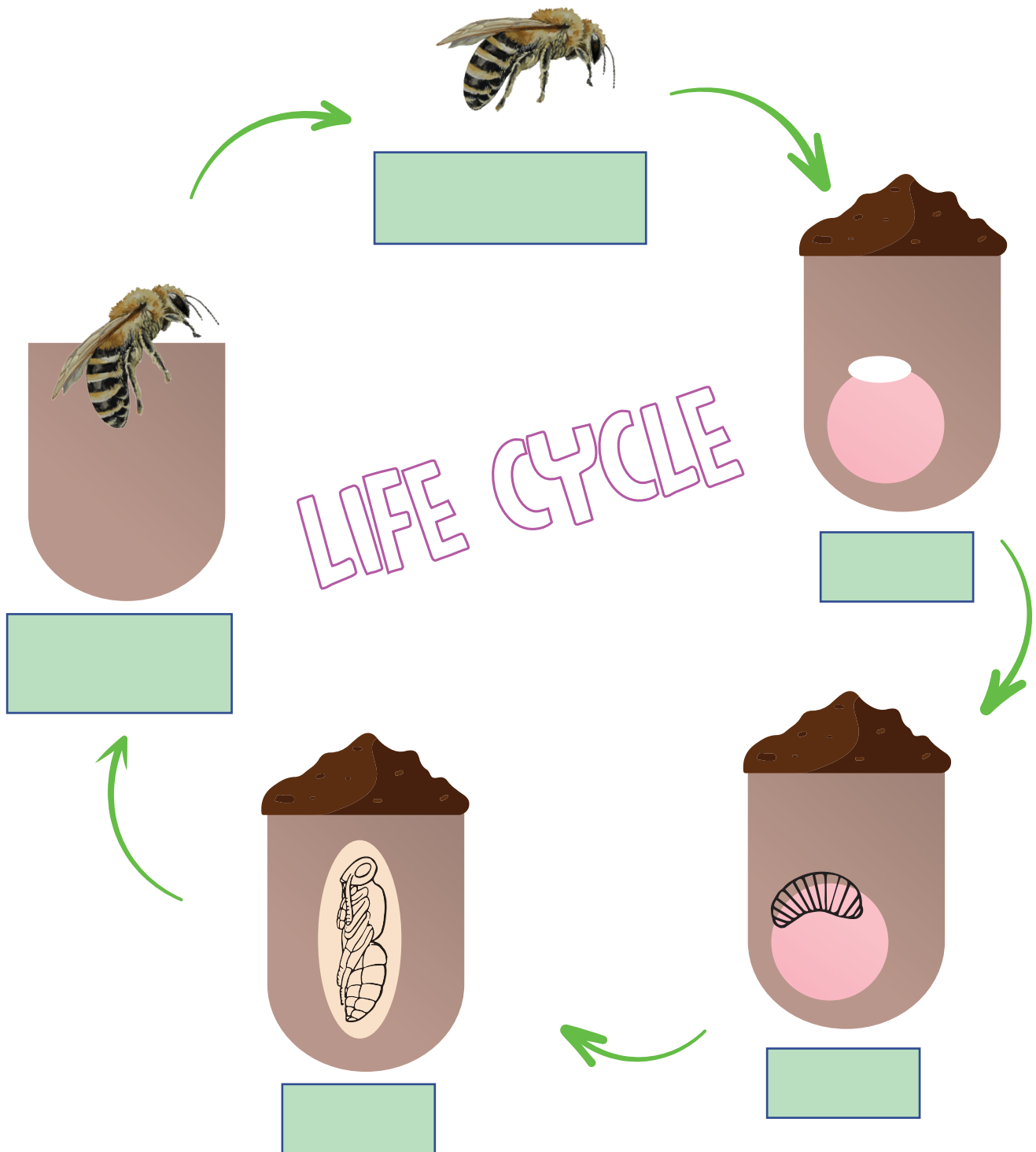


Fill in the blank boxes of the bumblebee's life cycle



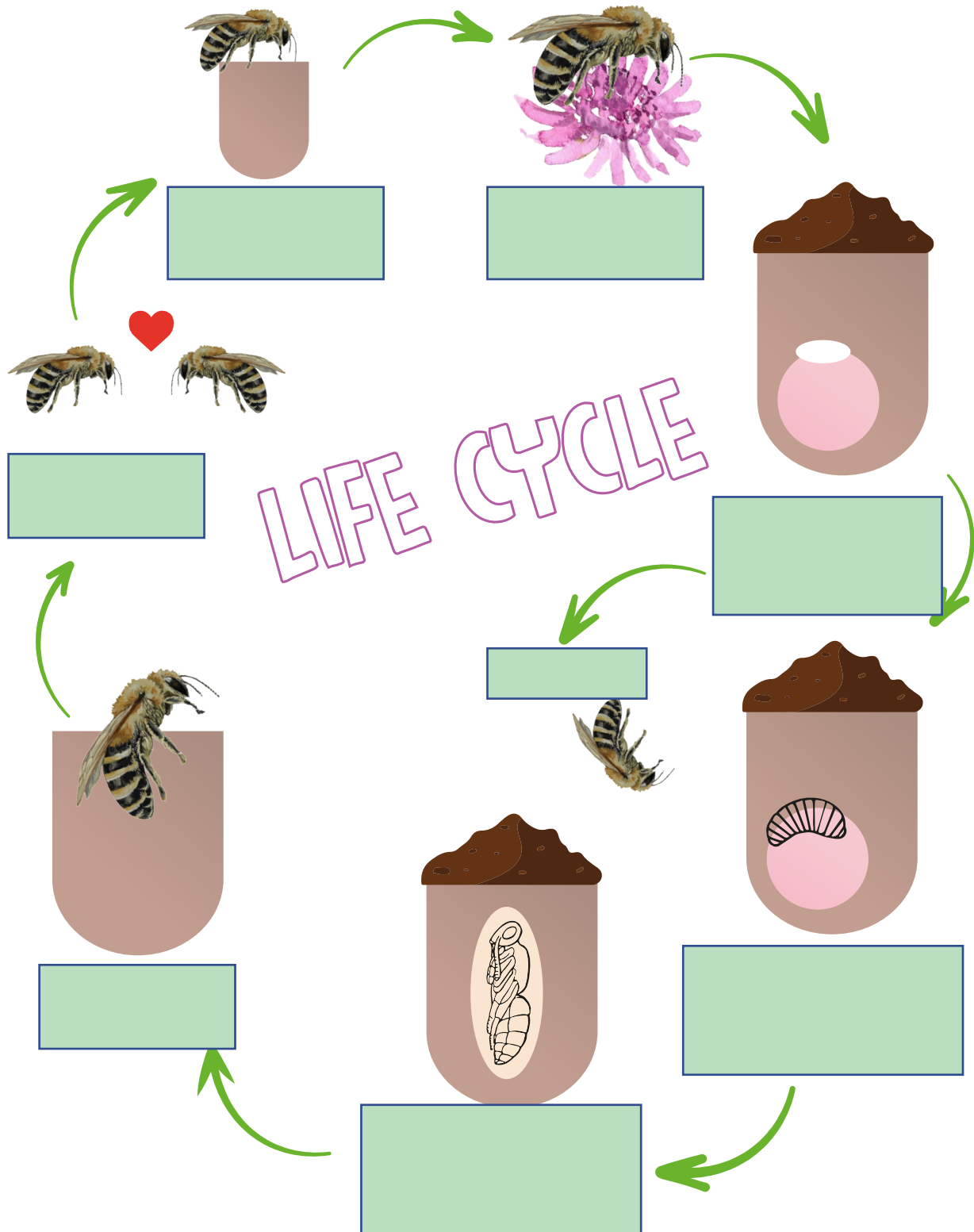
Life cycle of a solitary bee (KS1)

Fill in the blank boxes of the solitary bee's life cycle



Life cycle of a solitary bee (KS2)

Fill in the blank boxes of the solitary bee's life cycle.



Solitary bee nests



Ashy Mining Bee
(*Andrena cineraria*)
©Steven Falk



Pantaloen Bee
(*Dasypoda hirtipes*)
©Will Hawkes



A single, dispersed solitary bee nest
©Scarlett Weston



An aggregation of solitary bee nests
©Scarlett Weston



Willughby's Leafcutter Bee
(*Megachile willughbiella*)
©Nigel Jones

www.youtube.com/watch?v=n09xE5SGq9M

Solitary bee nests



Wool Carder Bee
(*Anthidium manicatum*)
©Will Hawkes

<https://vimeo.com/443854112>
www.youtube.com/watch?v=hPVRw04nvqk



Hairy-footed Flower Bee
(*Anthophora plumipes*)
©Steven Falk



Gold-fringed Mason Bee
(*Osmia aurulenta*)
©Scarlett Weston

www.youtube.com/watch?v=5tSvPcSKHMk



Host - Buffish Mining Bee
(*Andrena nigroaenea*)
© Andrew Whitehouse



Gooden's Nomad bee
(*Nomada goodeniana*)
© Scarlett Weston

Wonderful Wildflowers

Tongue Twister

Try saying this over and over again, getting faster each time:

BUSY BUZZING BUMBLE BEES BUZZED BUSILY

Fill in the blanks

Different species of bee have d_____t length tongues.

Some bees have sh__t tongues and some have l__g tongues.

B___ use their tongues to drink the sugary nectar from wildf____s.

Bees choose which flowers to d___k from based on their tongue length.

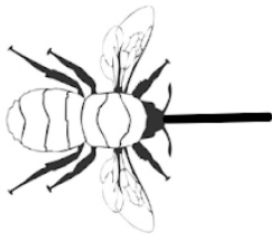
Some bees can drink from only one type of plant's flowers.

Matchmaker

MEASURE THE BEE'S TONGUES...



MATCH THE SAME FLOWER LENGTH



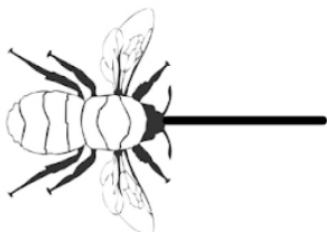
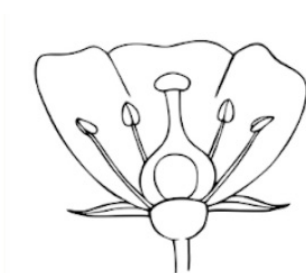
mm

mm



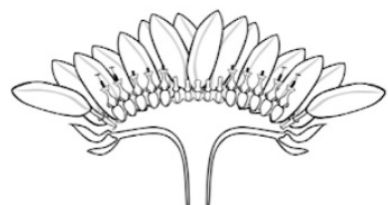
mm

mm



mm

mm



Why do bees need wildflowers?

Bees feed from the sugary **nectar** and powdery **pollen** of flowers. This gives them the **energy** they need to move and grow. If there were no wildflowers, bees would starve and die.

Different species of bees feed from different **flowers**. Large **Scabious** Mining Bees only feed from Field Scabious.

There used to be lots of wonderful wildflowers growing in our countryside but sadly much of this **habitat** has been lost.

Without enough scabious flowers, the Large Scabious Mining Bees do not have enough food. They are now really **rare**.



P	O	L	L	E	N	O	F	R
S	B	T	E	C	H	P	F	H
C	O	R	A	B	A	L	L	A
A	Y	A	F	U	B	H	O	B
B	B	R	O	R	I	R	W	I
I	E	E	R	O	I	A	E	T
O	E	N	E	R	G	Y	R	A
U	S	A	N	V	D	E	S	T
S	P	N	E	C	T	A	R	W

Wonderful wildflowers



Long Horned Bee
(*Eucera longicornis*)
©Will Hawkes



Wildflowers
©Laura Larkin

Over 97% of England's
wild-flowers have been
lost since 1940.



Field Scabious
©Will Hawkes



Bird's-foot Trefoil
©Scarlett Weston

Where have all the wildflowers gone?

London
©Matt Shardlow



Agricultural fields
©Annie Spratt



Penryn neat lawn
©Scarlett Weston



Save the bees



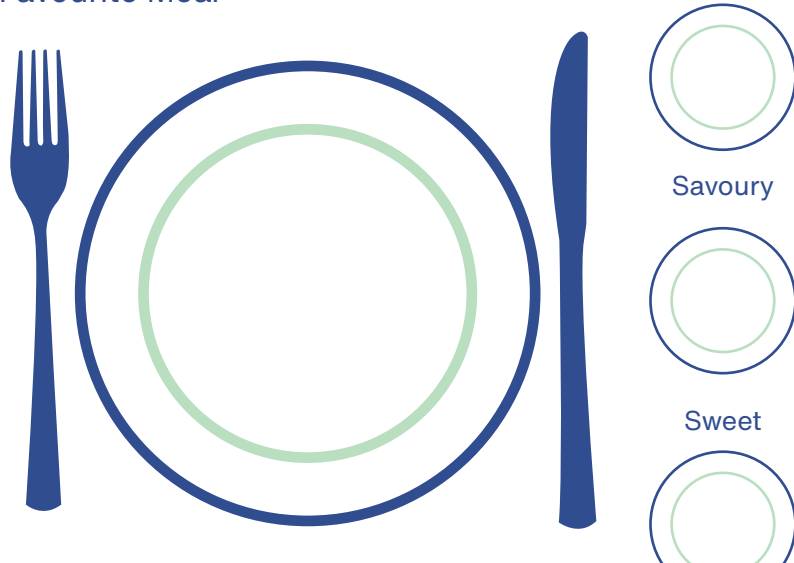
Why Pollination is the Bee's Knees

A Balanced Meal

Draw your favourite balanced meal with three snacks, one healthy, savoury and sweet. Write out your list of ingredients.

Then, cross off the ingredients which depend on pollinators and redraw your favourite meal without these.

Favourite Meal

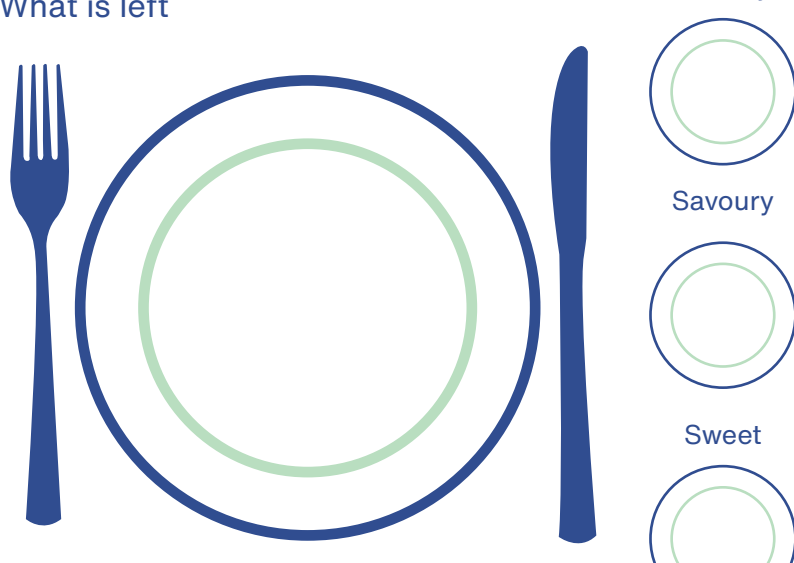


Healthy

Savoury

Sweet

What is left



Healthy

Savoury

Sweet

SHOPPING LIST

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____
- 7 _____
- 8 _____
- 9 _____
- 10 _____
- 11 _____
- 12 _____
- 13 _____
- 14 _____
- 15 _____
- 16 _____
- 17 _____
- 18 _____
- 19 _____
- 20 _____

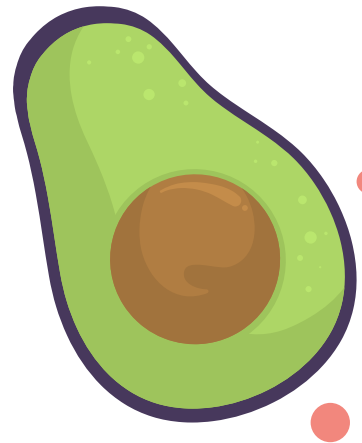
1 IN 3 MOUTHFULS OF
OUR FOOD DEPENDS ON
POLINATORS

Why Pollination is the Bee's Knees

Here's a list of common ingredients that are insect pollinated:

FRUITS

- Apples
- Apricots
- Avocado
- Bananas
- Blackberries
- Blueberries
- Cherries
- Cucumber
- Grapes
- Kiwis
- Mango
- Melon
- Olives
- Passionfruit
- Peaches
- Pears
- Plums
- Raspberries
- Tomatoes



VEGETABLES

- Broccoli
- Carrots
- Peas
- Potatoes
- Pumpkins
- Turnips



NUTS AND SEEDS

- Almonds
- Cashews
- Coconuts
- Macadamia nuts
- Peanuts
- Sesame Seeds
- Sunflower Seeds

OTHER

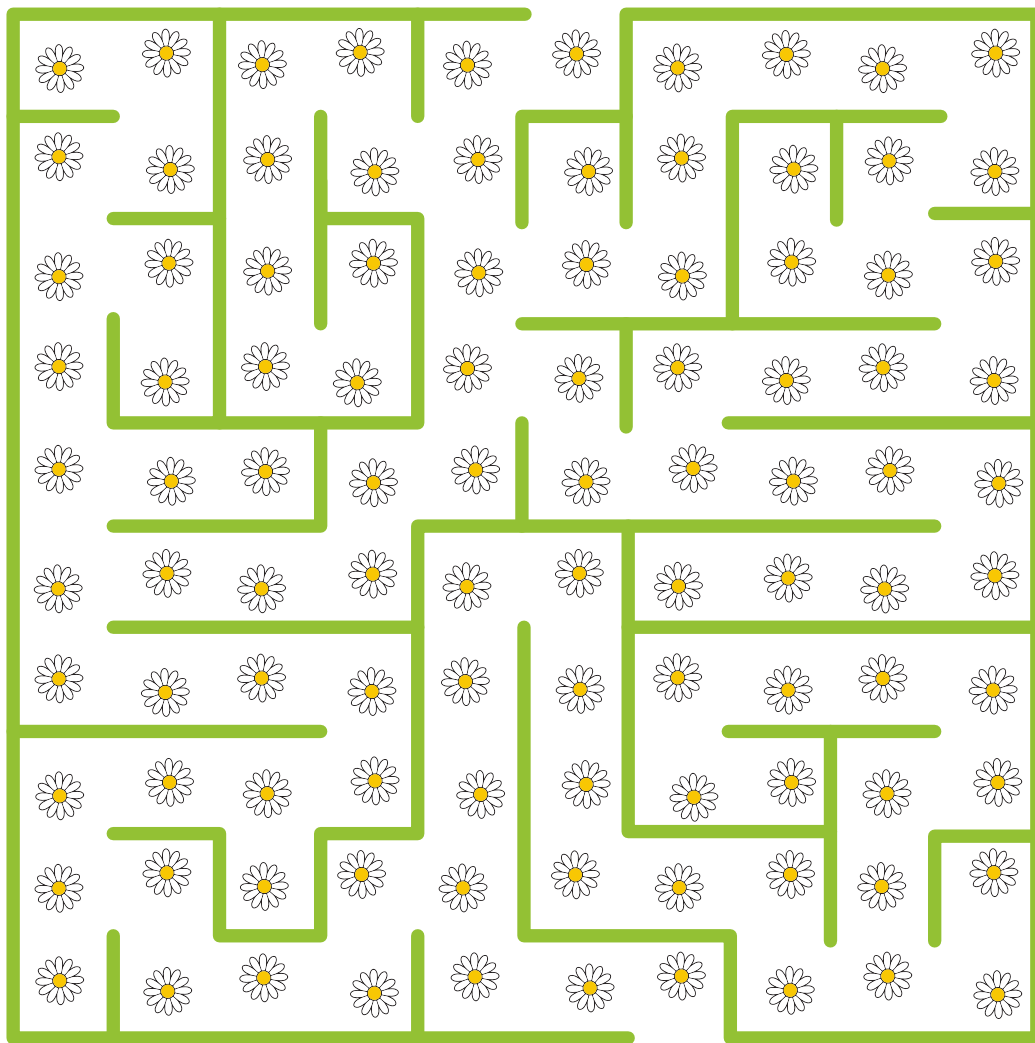
- Baked Beans
- Chocolate
- Soy Beans
- Sugar
- Vanilla



The Buzz about B-Lines

B-Lines

Help the bumblebee by colouring in the wildflowers that connect her habitat.



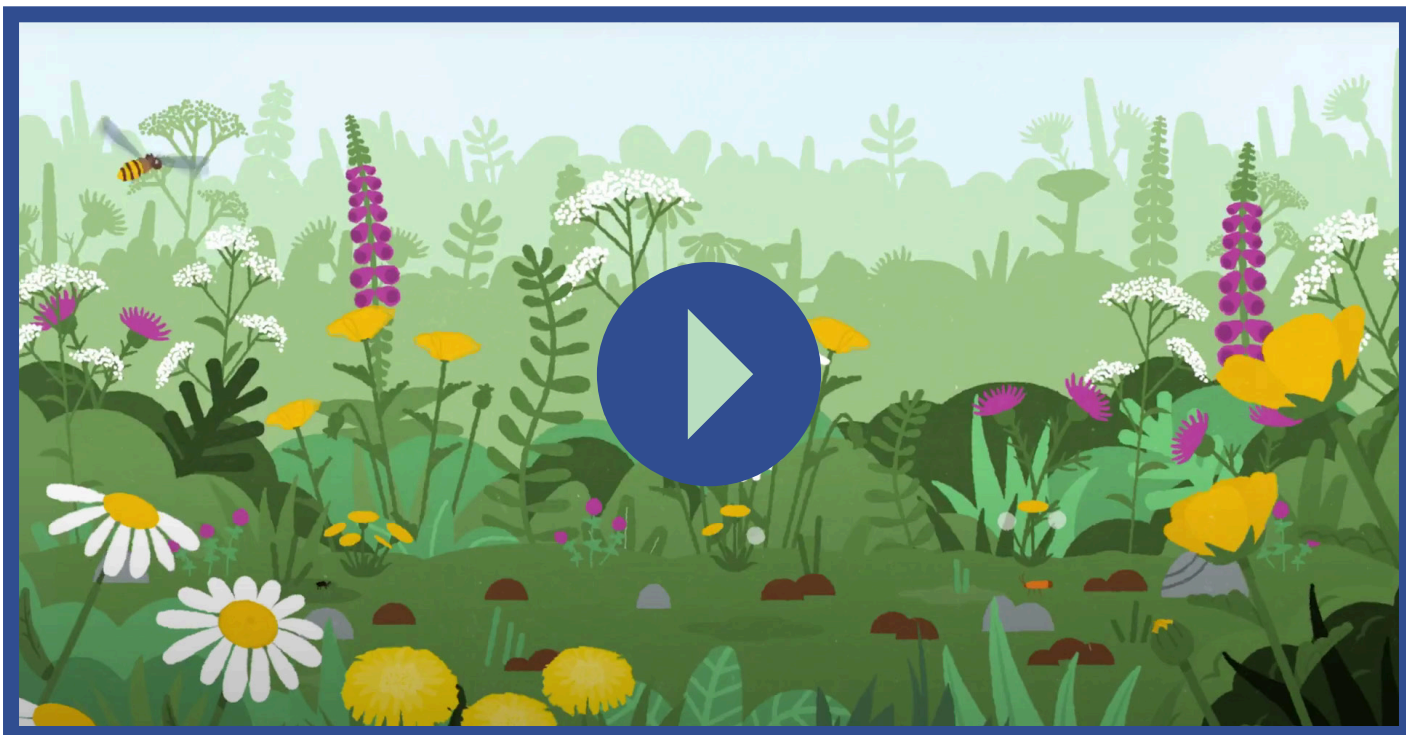
DID YOU KNOW? YOU CAN HELP SAVE THE BEES BY PLANTING WILDFLOWERS IN YOUR GARDEN.



Online Resources

B-Lines Animation

Watch online www.youtube.com/watch?v=OXUYZdfqq1Q&t=10s



B-Lines & The Silly Giants

Watch online <https://youtu.be/wqg4NDx4T44>



Get Outdoors

Go get it!

What colours, patterns, sounds, textures, smells or words do you associate with bees?

Choose 6 categories, then find as many other things as you can that would also fit into these categories.

Minibeasts - Identification Log Sheet

Time:	Season:
Location:	
Minibeast ID:	
Number of legs:	Do they have wings?
Description:	
Do they make a sound:	Alone or in a group?
Behaviour:	
Drawing:	

Sow a Mini Meadow



Choose a Spring or Autumn day during a period of warmer weather, when the soil is neither too wet nor too dry.

Wild flowers love sunny, sheltered spots so make sure your patch is not too shaded or exposed.

Lawn?

Mow the lawn very short, remove the cuttings and rake to expose 50% of the bare ground.

Flower bed?

Weed your flower bed and rake to loosen the soil, providing a level sowing surface.

Wild area?

Clear a patch, digging up the roots and weeds that would out-compete your wildflowers.

Container?

Bigger the better! Add drainage holes and stones along the bottom. Fill with peat-free compost.

Nettles, docks or thistles thriving? Your soil is likely too nutrient-rich for wild flowers. Remove the top layer 15cm.

Sprinkle your seeds evenly over the surface but don't bury as they need sunlight to grow.

Keep watering and watch your wildflowers bloom.

(For use in gardens, do not plant in wider countryside.)



B-Lines are a beautiful solution to the loss of pollinator habitat: a UK-wide network for wildflower-rich 'insect pathways'.

Please let us know once you have created your mini meadow by adding your area to our B-Lines map.

www.buglife.org.uk/our-work/b-lines

Get your garden buzzing

Take notice of your new garden visitors and be sure to tag us in any pictures

@ Buzz_dont_tweet

Wonderful Wildflowers



Choose bee-friendly flowers, such as Common Knapweed, Red Clover, Birds-foot Trefoils.



Use native, local provenance seeds so your flowers are perfect for UK pollinators.



Ensure your garden blooms from May-October to provide vital food across seasons.



For more ideas, visit: www.buglife.org.uk/get-involved/gardening-for-bugs



B-Lines

Thank you for being part of B-Lines

We would like to thank our funders for making this project possible:



For more information, and to find out about our other projects, visit: www.buglife.org.uk



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