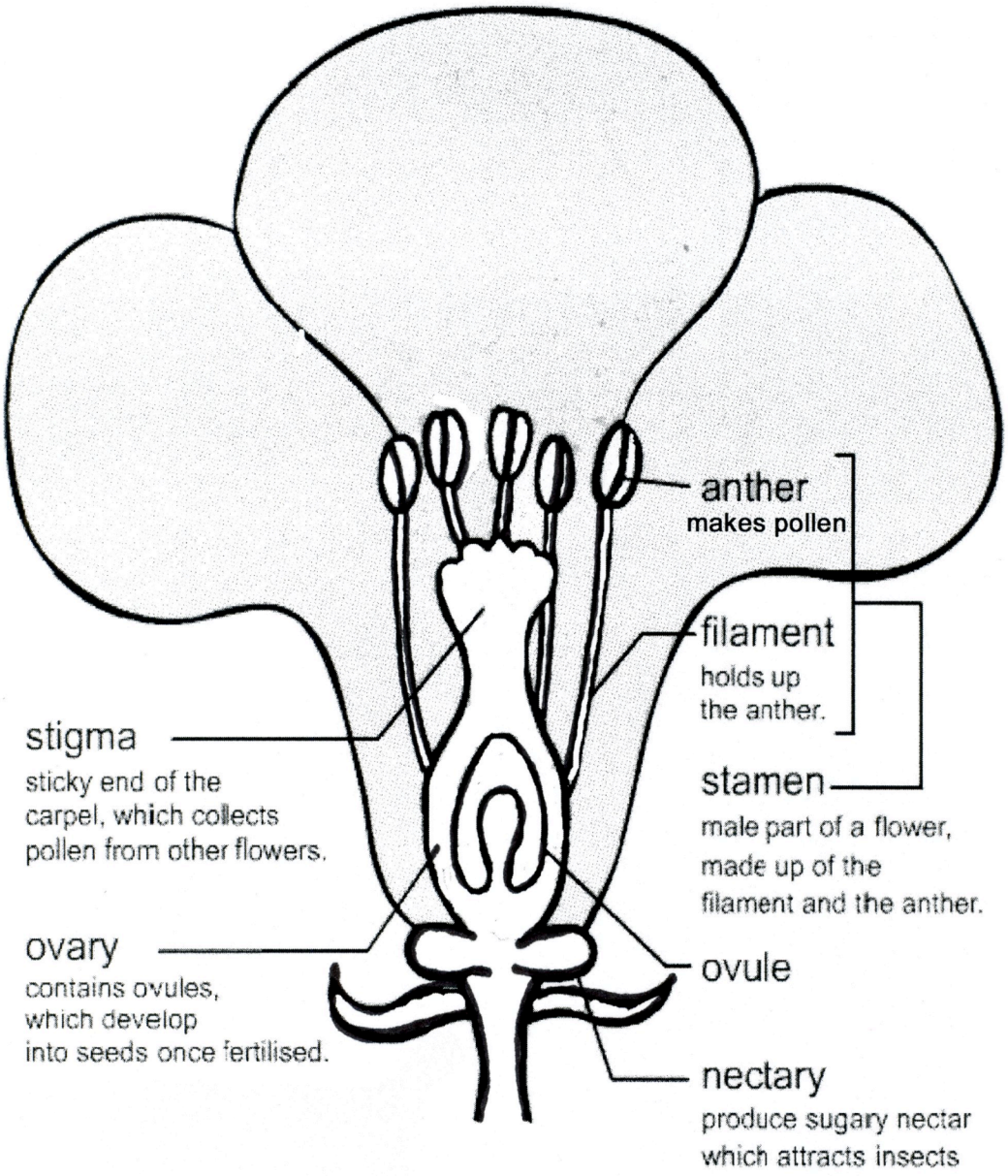
University of Illinois

Pollinator

Buzzy Activity Book

Flower Parts
Coloring Page



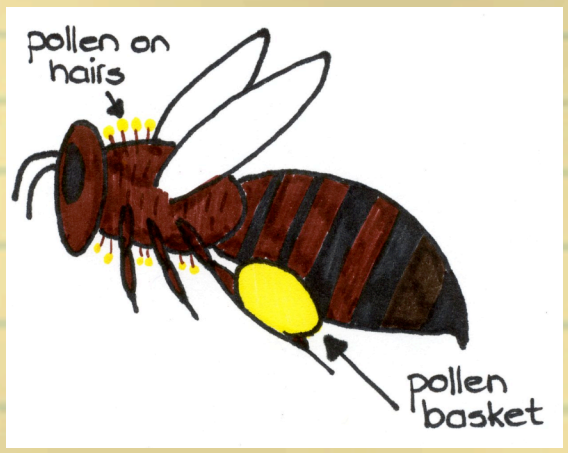
What is Pollination?

- If no pollination occurs, then plants will not be able to grow seeds, and no other plants will be made
- Flower pollen is produced and released from an anther.
- Pollen is moved to another flower by the wind or animals.
- Pollination takes place when pollen lands on the stigma of a plant.
- The pollen travels down to the ovary and fertilizes ovules. Seeds will be formed.
- Mostly, plants rely on insects, such as bees, to take the pollen from the anthers of one flower to the stigma of another flower.

Pollination by Honey Bees

Honey bees are very important insect pollinators. Most of the time, both the bees, and plants they visit, are benefited. The honey bee gets some food and the plant gets pollinated.

When a honey bee is collecting pollen from the anthers of a flower, it puts the pollen in a special pollen basket on its hind legs. All that pollen will be taken back to the hive. The honey bee is a messy gatherer of food, and some pollen gets stuck on the hairs of its body.



When the bee visits the next flower, some of the pollen brushes off onto the flower and if it sticks to the stigma of the flower, pollination will take place. The bee does not make any effort to put the pollen in the right place.

Coloring Page

Drawing by Nils Cordes

Pollination Song

To the tune of: "This Land Is Your Land"

What does a plant need
To make a new seed?
Three things give flowers
Reproductive powers—
the sticky pollen,
the slender stamen,
and pistils make the flower whole.

What gets the pollen going
To keep new plants growing?
Different kinds of birds do,
Or the wind that's blowing.
Butterflies and bees,
Carry pollen they need
That's what makes pollination work.

If a flower's not scented,
Or brightly colored,
And the flowers are smaller
In clusters tighter
With stamens longer
the signs are stronger
This plant spreads pollen on the wind.

When bright colored flowers
Have a sweet perfume
And a sugary nectar
Then chances are good
That birds and insects active
Find the plants attractive
And they'll spread the pollen as they go.

Insect Pollinator
Word Search

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

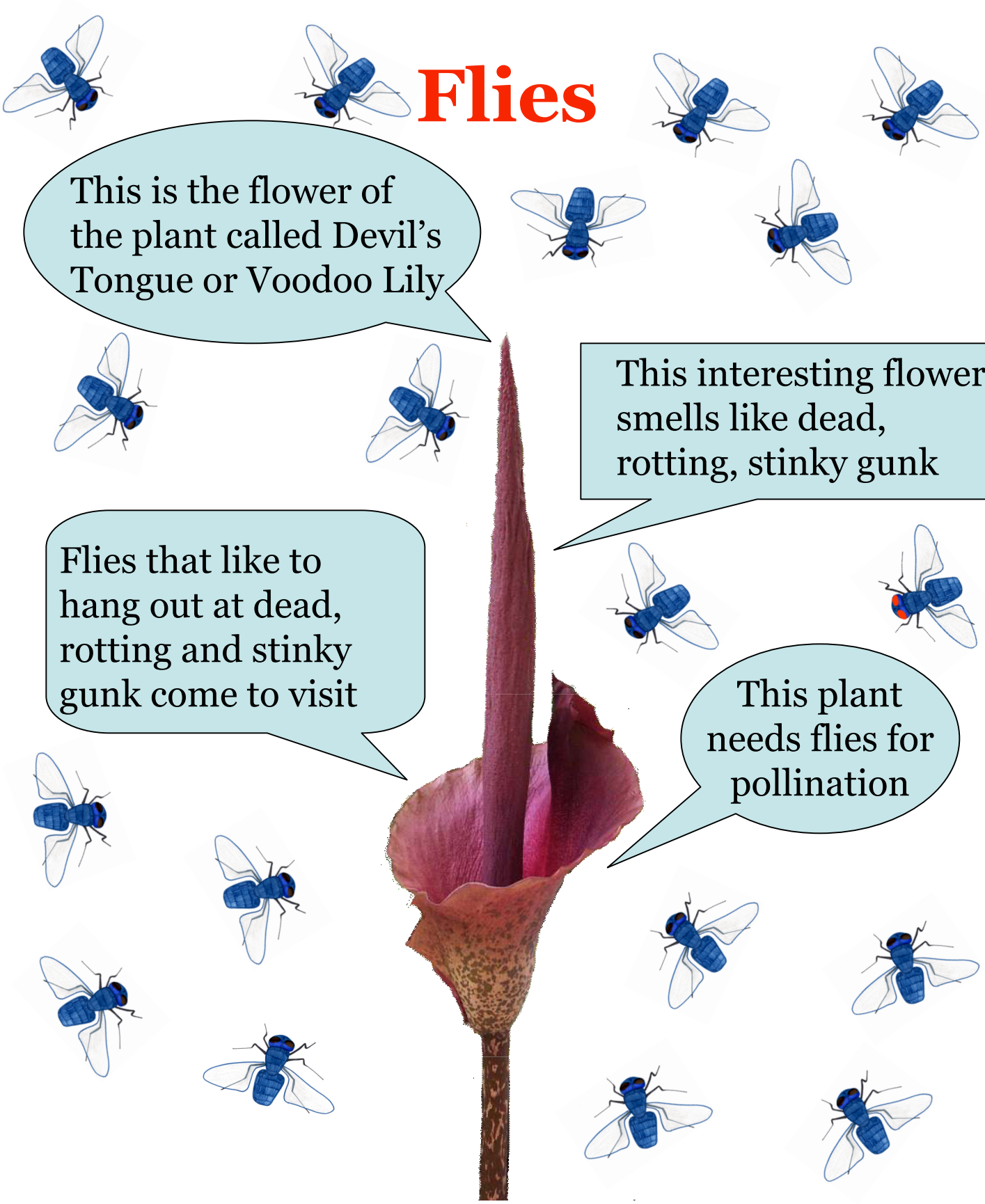
ANT
BAT
BEETLE
BUMBLEBEE
BUTTERFLY
FLY
HONEYBEE
HUMMINGBIRD
MOTH
THRIPS
WASP

Two of these animals are actually not insects.

Do you know which ones?

Answer: Bat and Hummingbird

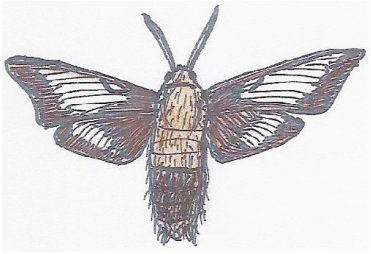
Flies

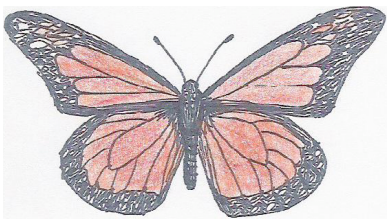


How many flies are attracted to this stinky flower?
Can you find the one fly that is different from the others?

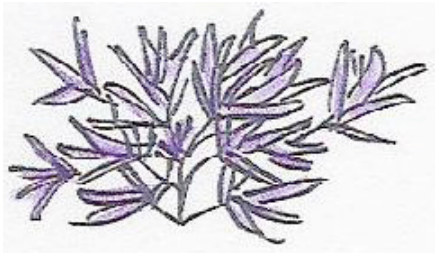
Moths and Butterflies

If you look closely you will notice that moths and butterflies look different from each other and have different behaviors. The flowers they pollinated are also different





Moth	**Butterfly**
Antennae feathery or thin	Antennae have small clubs at their ends
Plump, fuzzy body	Slender, smooth body
Usually duller in color	Usually have some bright colors
Have a good sense of smell	Not such a good sense of smell
Cannot see very well	Have good vision
Feed on plant nectar while hovering	Like to perch on something while feeding



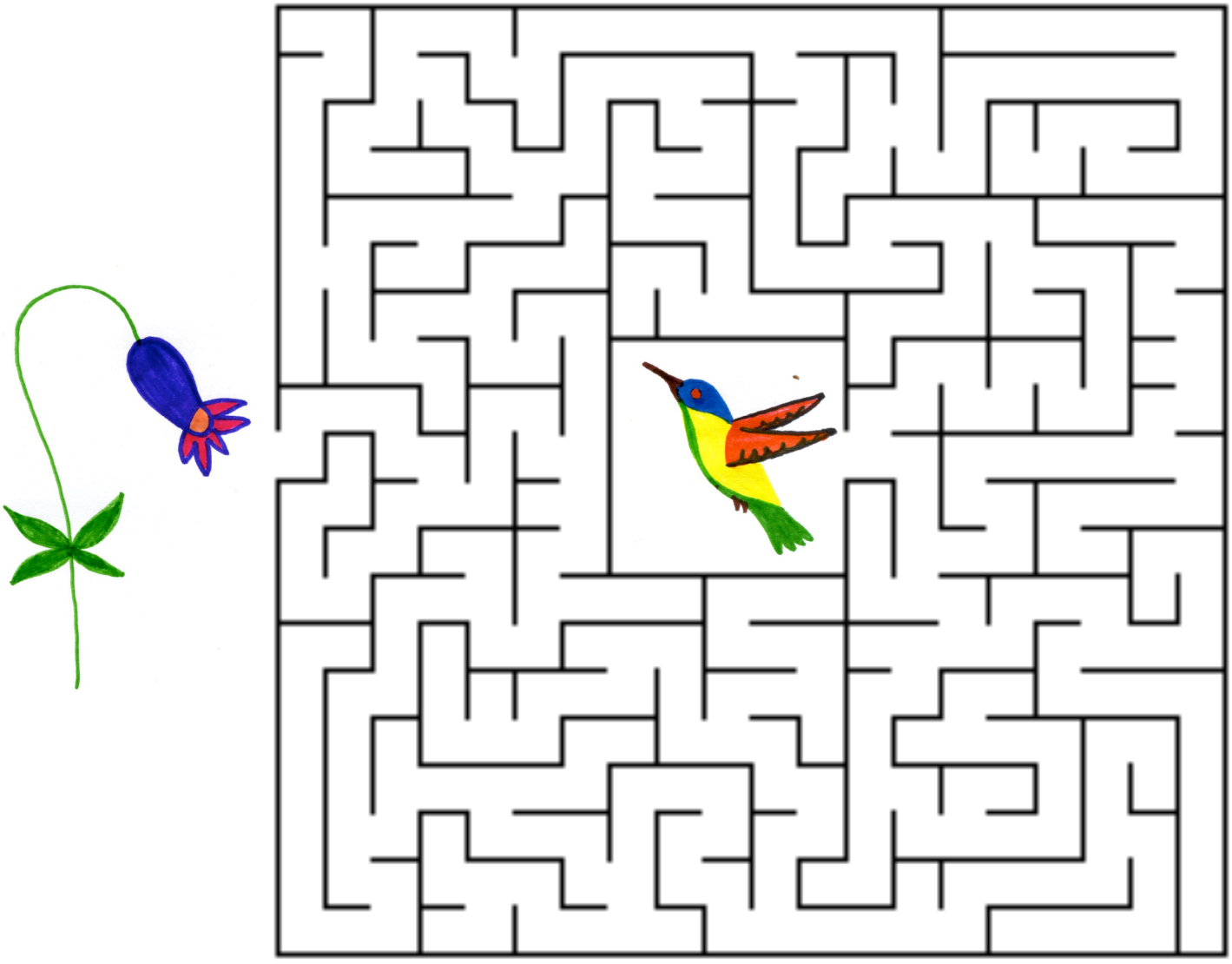
Flowers pollinated by _____ usually have white or pale colors. They open at night when they release a strong sweet smell. Their petals are flat and bend back to give a hovering _____enough room.

Flowers pollinated by _____ usually are brightly colored and have no smell. They often occur in clusters so that they form a landing platform.

Drawings by Lisa Knolhoff

Pollination by Vertebrates

Pollen can also be transferred by vertebrates (animals with internal skeletons), particularly by **hummingbirds** and other birds, and **bats**. But also by monkeys, marsupials, lemurs, bears, rabbits, deer, rodents, lizards and other animals.



Did you know? Hummingbirds use so much energy hovering in front of flowers that it would be like you needing to eat 300 lbs of hamburgers every day!

Bats

Bats are often the main pollinators of desert plants and big trees in the tropics.

They are also very important pollinators of many fruit plants.

Bat pollinated flowers are usually white or pale yellow in color and open at night. Why do you think this may be?

Match the bat with the word that describes the color of its wings.

Purple

Red

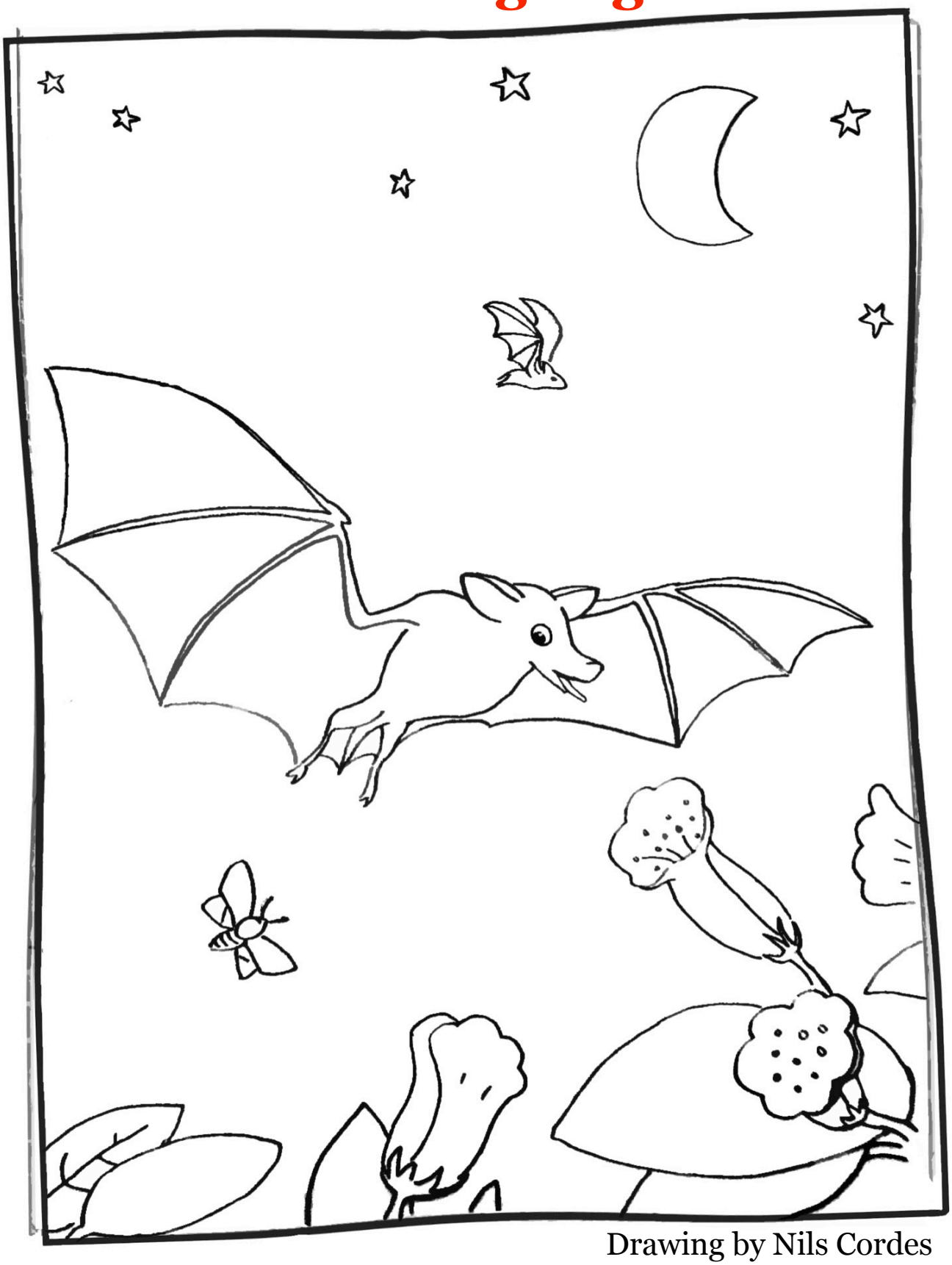
Blue

Yellow

Orange

Green

Coloring Page



Drawing by Nils Cordes

Why we should care about pollinators?

Headlines like these are becoming more common

- Honey bees are leaving their hives and never returning.
- Native pollinators such as bats, hummingbirds, and solitary bees are disappearing.

Why?

Scientists are racing against the clock to find out.

Here are four good reasons why we should all care:

1. One out of every 3 bites of food we eat is courtesy of a pollinator.
2. Pollinators keep plant communities healthy and able to reproduce.
3. Birds and other animals are even more dependent upon fruits and seeds than we are.
4. Pollinator-supported plant communities bind the soil, helping to prevent erosion.

The food we eat needs pollinators

All the foods listed below depend on **bee** pollinators. Are these foods part of your favorite meal or snack? Think back on what you ate for breakfast, lunch or dinner today. Could you have eaten all those foods if bees were no longer around to pollinate our crops?

FRUIT CROPS:
* Apple
* Apricot
* Avocado
* Berry (blackberry, blueberry, cranberry, gooseberry, huckleberry, raspberry, strawberry)
* Cherry
* Citrus (grapefruit, lemon, mandarin)
* Currants
* Kiwi
* Litchi
* Mango
* Melons (cantaloupe, honeydew, watermelon)
* Peach
* Pears
* Plum

VEGETABLE CROPS:
* Artichoke
* Chinese cabbage
* Asparagus
* Dill
* Pumpkin
* Broccoli
* Eggplant
* Radish
* Brussel sprouts
* Garlic
* Rutabaga
* Cabbage
* Kale
* Carrots
* Kolhrabi
* Squash
* Cauliflower
* Leek
* Turnip
* Mustard
* Celery
* Onion
* Parsley
* Pepper
* Lima beans
* Collards
* Cucumber

HERBS/SPICES:
* Annise
* Allspice
* Chives
* Cinnamon
* Coriander
* Fennel
* Lavender
* Mint
* Mustard
* Nutmeg
* Oregano

NUT CROPS:
* Almond
* Coconut
* Cacao
* Coffee
* Cashew
* Chestnut
* Macademia

OILSEED CROPS:
* Cotton
* Rape
* Safflower
* Soybeans
* Sunflower

Word search

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

alfalfa
almond
apple
avocado
blueberry
broccoli
carrot
cinnamon
coffee
cucumber
kiwi
mango
melon
pear
pumpkin
squash
strawberry
sunflower
tomato

National Pollinator Week

at the University of Illinois

June 22-28, 2008

To download more copies of this activity book go to
http://www.life.uiuc.edu/entomology/pollinators/activity.html