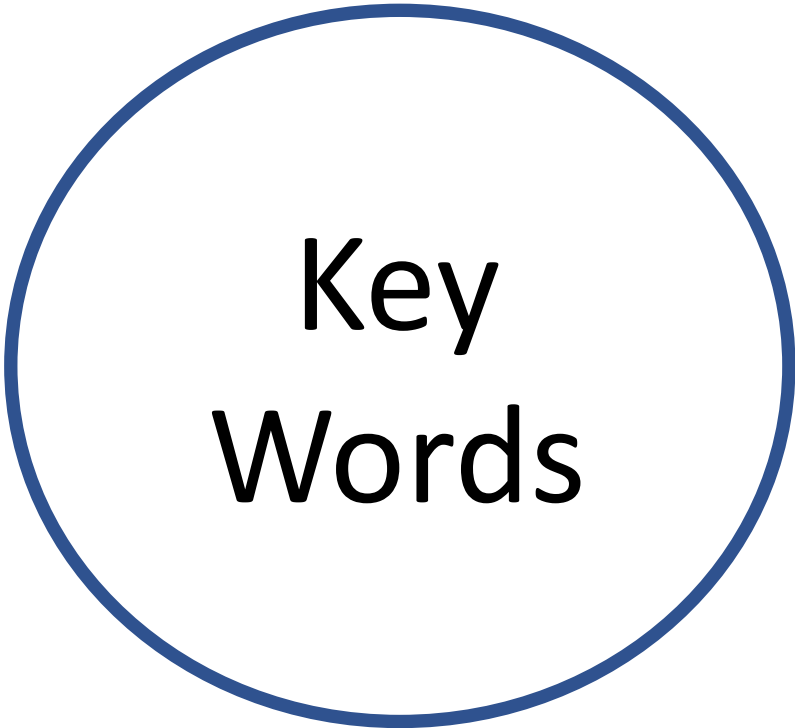


# Circle, Underline, Share Your Articles



Key  
Words



Prepare  
to  
Share

What is phenology?

Recurring plant and animal life cycle stages and their timing and relationships with weather and climate.











[https://www.usanpn.org/natures\\_notebook](https://www.usanpn.org/natures_notebook)



# PICTURE-BASED DATA SHEETS

NAME \_\_\_\_\_

## DESERT WILLOW Circle what you see!

<b>FLOWER BUD</b> 	<b>FLOWER</b> 
<b>FRUIT</b> 	<b>LEAVES</b> 

# BEGINNER DATA SHEETS



Scientific Name: Chilopsis Linearis

Nickname: Desert Willow Tree

Site: John B. Wright Elementary

Date: \_\_\_\_\_

Observer: \_\_\_\_\_

Do you see ....	Phenophases
Leaves?	Y N ?
Flowers or Flower Buds?	Y N ?
Fruits?	Y N ?

**naturesnotebook.org**



# INTERMEDIATE DATA SHEETS



**Scientific Name:** Chilopsis Linearis

**Nickname:** Desert Willow Tree

**Site:** John B. Wright Elementary

**Date:** \_\_\_\_\_

**Observer:** \_\_\_\_\_

Do you see ....	Phenophases
Young leaves?	Y N ?
Leaves?	Y N ?
Colored leaves?	Y N ?
Falling leaves?	Y N ?
Flowers or flower buds?	Y N ?
Open flowers?	Y N ?
Fruits?	Y N ?
Ripe fruits?	Y N ?
Recent fruit or seed drop?	Y N ?

**naturesnotebook.org**

## ADVANCED DATA SHEETS



**Scientific Name:** Chilopsis Linearis

**Nickname:** Desert Willow Tree

**Site:** John B. Wright Elementary

**Date:** \_\_\_\_\_

**Observer:** \_\_\_\_\_

Do you see ...	Phenophase	Circle the Value
Young Leaves? (small, just unfolding)	Y N ?	Less than 3    3-10    11-100 101-10,000    More than 10,000
Leaves?	Y N ?	Less than 5%    5-24%    25-49% 50-74%    75-94%    95% or more
Colored Leaves? (brown or yellow)	Y N ?	Less than 5%    5-24%    25-49% 50-74%    75-94%    95% or more
Falling Leaves?	Y N ?	Have leaves recently fallen off?
Flowers or Flower Buds?	Y N ?	Less than 3    3-10    11-100 101-10,000    More than 10,000
Open Flowers?	Y N ?	Less than 5%    5-24%    25-49% 50-74%    75-94%    95% or more
Fruits? (long, slender green or tan bean)	Y N ?	Less than 3    3-10    11-100 101-10,000    More than 10,000
Ripe Fruits? (brown, opening to show seeds inside)	Y N ?	Less than 5%    5-24%    25-49% 50-74%    75-94%    95% or more
Fruits or Seeds on the ground?	Y N ?	Less than 3    3-10    11-100 101-10,000    More than 10,000

**naturesnotebook.org**

## Sites

Manzo Elementary School ▾

Manzo's Desert Biome  
Tortoise Habitat  
Ecology Courtyard  
School Entry

Edit Site »

Add a New Manzo Elementary  
School Site »

## My Plants & Animals

Barrel Cactus 1  
Creosote Bush 1  
Ocotillo 1  
saguaro-1  
scarlet globemallow-1  
Engelmann's hedgehog cactus  
netleaf hackberry-1  
jojoba-1  
desert marigold-1  
sacred thorn-apple-1  
broom snakeweed-1

Add or Edit Plants »

Add or Edit Animals »

Sort Plants & Animals »

Print Field Datasheets »

## Details for this Organism

Barrel Cactus 1  
candy barrelcactus (Ferocactus  
wislizeni)  
Wild? No



View Species Profile »

Print Field Datasheet »

Print Phenophase Definition  
Sheet »

## Enter Observations



Enter Observation Data »

Download My Data (9) »



Nature's Notebook  
mobile apps for  
Android and iPhone.

**SUBMIT OBSERVATIONS**

Home » Observation Deck » Enter Observations

## Enter Observations

For each phenophase listed, click: **Y** if the phenophase was occurring; **N** if the phenophase was not occurring; or **?** if you were not certain of the species or occurrence of the phenophase. If you did not look for the phenophase, leave blank. Once you click "submit observations" your observations will show in blue, but may be edited ([more info](#)).

Select the site where your plant or animal is located. Site: Ecology Courtyard ▾

Review submitted observations: 3 columns ▶ 1 column ▶ 0 ▶

**SUBMIT OBSERVATIONS**

**ENTER MORE DATA**

Date / Time

10/19/2017

### Barrel Cactus 1

	10/19/2017	Circle all no Delete		Circle all no Delete		Circle all no Delete	
Do you see flowers or flower buds?	<b>Y</b> N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾
Do you see open flowers?	<b>Y</b> N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾
Do you see fruits?	Y <b>N</b> ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾
Do you see ripe fruits?	Y <b>N</b> ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾
Do you see recent fruit or seed drop?	Y N <b>?</b> What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾	Y N ? What value? ▾
Comments							



## MAP KEY

**A:** Palo Brea Tree

**B:** Ocotillo 1

**C:** Ocotillo 2

**D:** Barrel Cactus 1

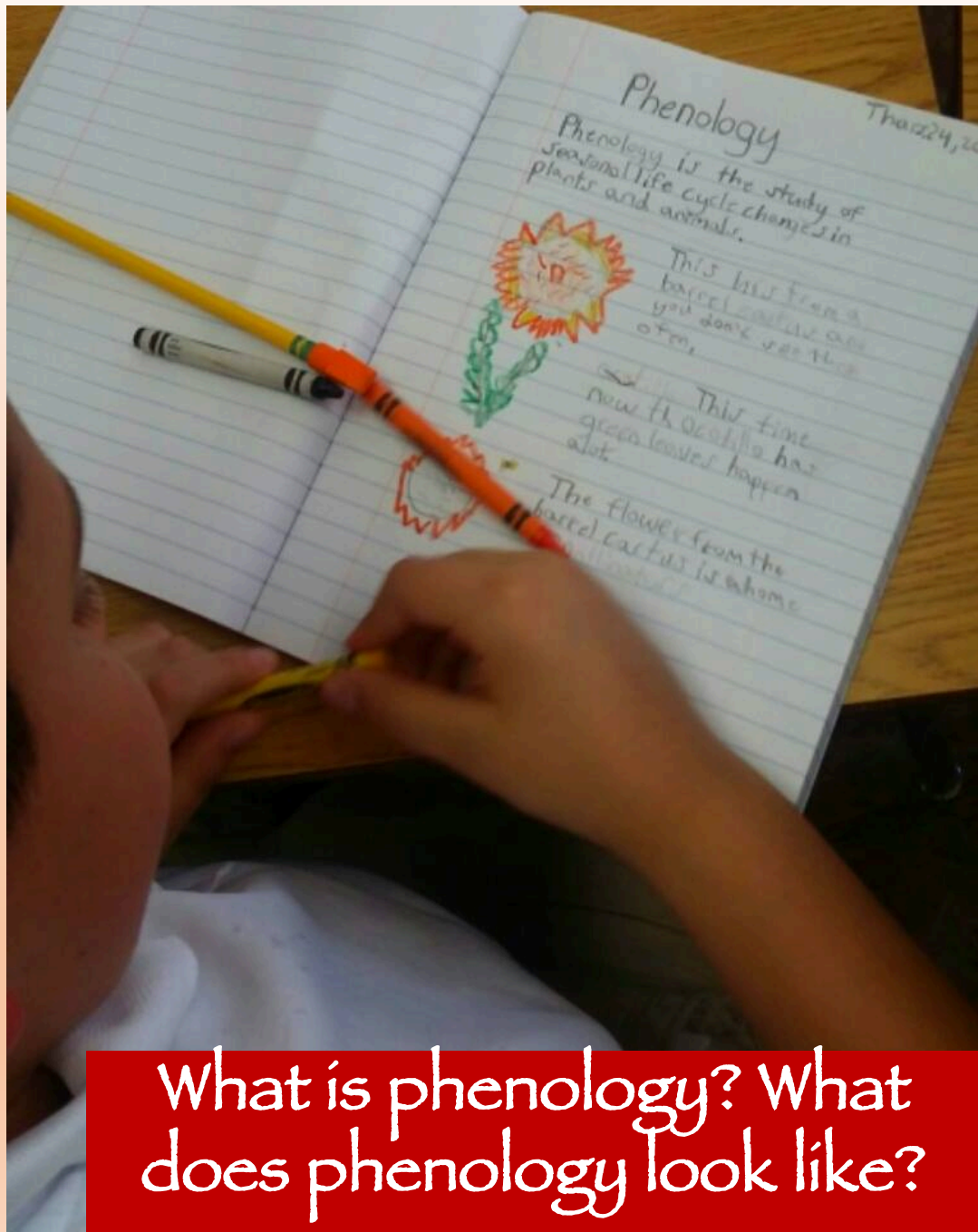
**E:** Barrel Cactus 2

**F:** Creosote Bush 1

**G:** Creosote Bush 2

**H:** Kumquat Tree





## STEP 1: Background Knowledge

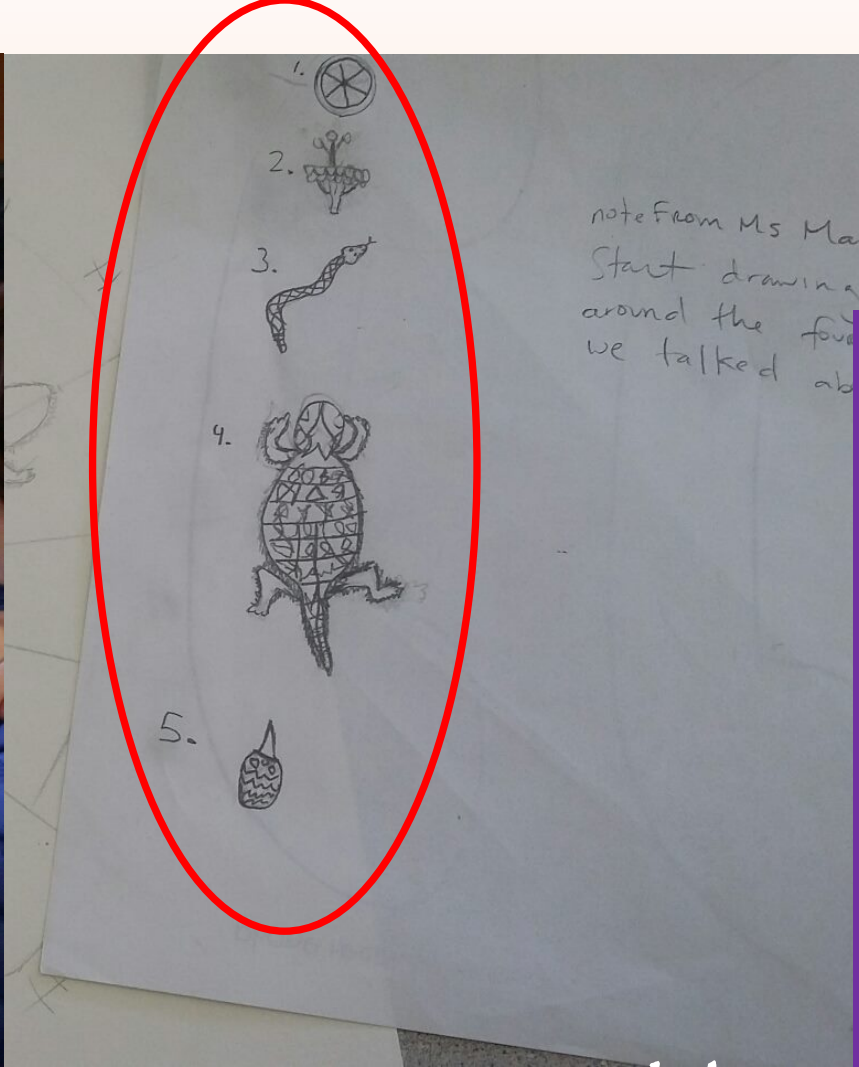
What is phenology? What does phenology look like?





Step 2:  
Research on  
phenological  
relationships

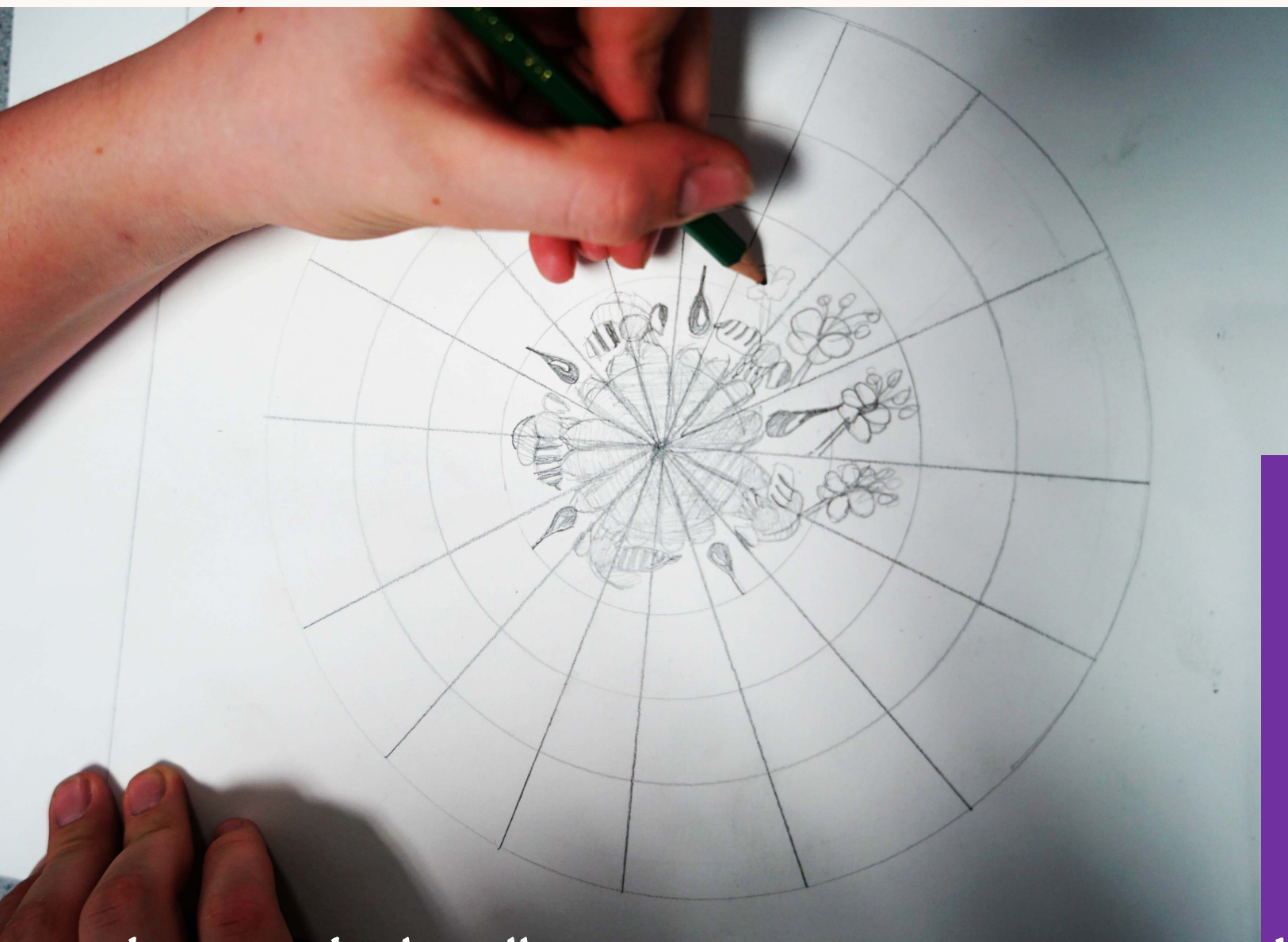
What relationships form the complete life cycle  
of your plant?



STEP 3:  
Creating a  
KEY LIST  
of symbols

What symbols will you represent on your mandala?





STEP 3:  
Translate *symbols*  
onto *your* mandala

What symbols will you represent on your mandala? Begin filling in your mandala in pencil. Erase lines you do not need.



STEP 4:  
Outline your  
symbols

- 1) Outline all symbols in black marker.
- 2) Erase all excess pencil marks.



A young person with dark, curly hair is sitting at a wooden desk, focused on coloring a large circular diagram of a plant's life cycle. The diagram is divided into several sections, each containing a black-and-white line drawing of a plant at a different stage of growth. The student is using a small brush to apply purple paint to one of the flowers in the diagram. On the desk, there are various supplies: a white cup of purple paint, a clear plastic container with more paint, a black marker, a green pencil, and several sheets of paper. One sheet shows a collage of colorful photographs of different plants and flowers. Another sheet has a green and white striped pattern. The background is a plain, light-colored wall.

Step 5:  
Begin adding  
color

Use your research to determine different colors, shapes, and sizes occurring in different phases of your plant's life cycle.





Step 6:  
Dry, cut,  
frame, and  
enjoy!

What will the title of your art piece be?





Mansfield  
Magnet Middle  
School  
Susan Sumner's 6<sup>th</sup>  
Grade Classroom

Seasons of the Mandala