Pollinator Conservation

By ____________________________

http://padena.org/wp-content/uploads/2015/04/Pollinator-slider1.jpg
Who are the pollinators?

Besides honey bees, name five other animal pollinators.

1. Honey bees
2. Bats
3. Birds
4. Moths
5. Butterflies
6. Bumble & other native bees

Flies and Beetles are also pollinators.

Why are pollinators important

...to plants?
genetic diversity, seed production, survival of plant species

....to other wildlife?
part of the food chain/web, indirectly by providing seeds and fruits and plant shelter

...to humans?
indirectly by providing seeds and fruits

In the box below, draw or write the name of your favorite fruit that pollinators make possible.

https://media1.britannica.com/eb-media/41/62941-004-E3F5377B.jpg
Pollinators need flowers* that bloom in Spring, Summer and Fall.

*Some pollinators only drink the nectar from flowers but others may use both nectar and pollen as food.

List two native plants that bloom in each of these seasons.

<table>
<thead>
<tr>
<th>Season</th>
<th>Native Plants</th>
</tr>
</thead>
</table>
| Spring | 1. Refer to pages 16-17 Selecting Plants for Pollinators: Southeastern Mixed Forest Province for possible answers as there are too many to list here.  
2. _____________________________________ |
| Summer | 1. Refer to pages 16-17 Selecting Plants for Pollinators: Southeastern Mixed Forest Province for possible answers as there are too many to list here.  
2. _____________________________________ |
| Fall   | 1. Refer to pages 16-17 Selecting Plants for Pollinators: Southeastern Mixed Forest Province for possible answers as there are too many to list here.  
2. _____________________________________ |
| Winter | Most pollinators are not active during the Winter months and do not need nectar or pollen sources. |

Butterflies require specific host plants on which their caterpillars (larvae) feed.

For each of the butterflies listed, name one of its host plants.

<table>
<thead>
<tr>
<th>Monarch</th>
<th>Swamp Milkweed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danaus plexippus</td>
<td>Asclepias incarnata</td>
</tr>
<tr>
<td>Eastern Tiger Swallowtail</td>
<td>Tulip poplar, wild cherry, sweet</td>
</tr>
<tr>
<td>Papilio glaucus</td>
<td>bay, ash are possible answers</td>
</tr>
<tr>
<td>Cloudless Sulphur</td>
<td>Sicklepod (Cassia obtusifolia),</td>
</tr>
<tr>
<td>Phoebis sennae</td>
<td>partridge pea (Cassia fasciculate), and various Cassia spp. are possible answers</td>
</tr>
<tr>
<td>Fiery Skipper</td>
<td>Weedy grasses especially crabgrass and Bermuda grass are possible answers</td>
</tr>
<tr>
<td>Hylephila phyleus</td>
<td></td>
</tr>
<tr>
<td>Eastern Tailed-Blue</td>
<td>Pea family plants (vetches, clovers, beggar’s tick, alfalfa, lespedeza) are possible answers</td>
</tr>
<tr>
<td>Cupido comyntas</td>
<td></td>
</tr>
<tr>
<td>Gulf Fritillary</td>
<td>Maypop and other Passiflora spp. are possible answers</td>
</tr>
<tr>
<td>Agraulis vanillae</td>
<td></td>
</tr>
</tbody>
</table>

http://www.butterfliesandmoths.org/
http://bugguide.net/node/view/15740
Not all bees live in hives!

Some native bees make their nests in soil and... others, in cavities or tunnels.

Name two types of native bees that are ground-nesters.

1. Bumble, Digger, Squash and Gourd, Sweat, Plasterer or Cellophane and Andrendid bees are all possible answers
2. ______________________

Name two types of native bees that are tunnel-nesters.

1. Large and Small Carpenter, Leafcutter, Mason, and Yellow-faced bees are all possible answers
2. ______________________

What is something that you can do to help create habitat for these ground-nesting bees?

__answers may vary but basically leave some areas of soil bare and undisturbed __________________________

What is something that you can do to help create habitat for these tunnel-nesting bees?

__answers may vary but basically either leave dead wood and stems or create artificial nesting sites (straws drilled untreated wood)__
Become a Citizen Scientist!
Observe pollinators, record and report your data.

Observers: ________________________________________________________________

Date: __________________________ Start Time: ______ am/pm End Time: ______am/pm

Pollinators observed: Use tally marks to count numbers of each type.

☐ Bumblebees _____________________________________________________________

☐ Carpenter bees __________________________________________________________

☐ Western Honey bees ______________________________________________________

☐ Other bees (describe in notes) ______________________________________________

☐ Unknown bees ____________________________________________________________

☐ Birds _________________________________________________________________

☐ Butterflies (or Moths) _____________________________________________________

Be sure to list each type of pollinator (beetle, wasp, fly, etc.) separately and count the number of times it visits the flower.

☐ Other ___________________________________________________________________

☐ Other ___________________________________________________________________

☐ I did not see any pollinators.

Names of plants on which pollinators were observed and the number of blooms on each type

Example: Blueberry 30

1. _______________________________________________________________________

2. _______________________________________________________________________

3. _______________________________________________________________________

https://www.greatsunflower.org/

Weather conditions:

Temperature _______ 0 F/C Cloud cover: _______% Rain in past 24 hours: _______

Notes/comments: ____________________________________________________________
Planning your garden—think like a pollinator.

Go Native. Pollinators are "plant" adapted to local, native plants, which often need less water than ornamentals.

Be Slow. Flowers should bloom in your garden throughout the growing season, from early spring and early summer to fall flowers.

Be Beautiful. Plant big patches of each plant species for better pollinator efficiency.

Be Sunny. Provide areas with full sun and well-drained, dry and well-drained soil for pollinators.

Be Bee Friendly. Create pollinator-friendly habitat by adding plants at all stages of growth: small plants, flowering weeds, and native grasses and sedges.

Be Tolerant. Provide a variety of native plants that are "weedy" and will tolerate a range of soil conditions.

Be Diverse. Plant a diversity of flowering species with abundant pollen and nectar to attract pollinators and butterflies.

Be Gentle. Most bees will avoid stinging and use that behavior only in self-defense. Make bees feel safe.
How will you design your Pollinator Habitat?

- Food
- Water
- Shelter
- Places to raise young

Sketch or list your ideas here.