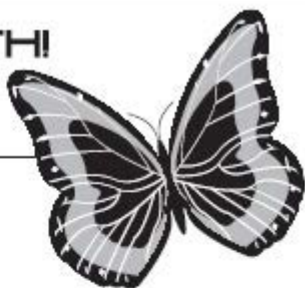




IT IS A BUG LIFE IN THE SOUTH! ALL ABOUT INSECTS.

Link to our exhibit: "Insects"



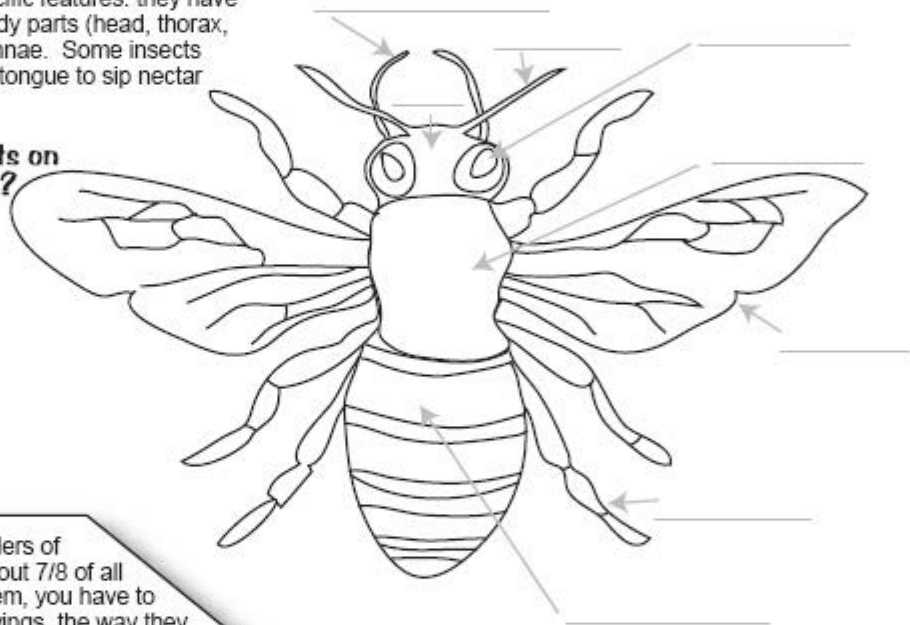
INSECTS

GAME 1: WHAT DO YOU KNOW ABOUT THE ANATOMY OF AN INSECT?

Insects belong to the phylum Arthropoda, which means, they have an exoskeleton, no backbone and several multi-jointed legs. They are the only arthropods with wings. Insects are characterized by very specific features: they have three pairs of legs (6 total), three body parts (head, thorax, and abdomen) and one pair of antennae. Some insects have a specialized spiral, straw-like tongue to sip nectar and other liquids.

Can you find these body parts on the picture of this honey bee?

- Abdomen
- Thorax
- Head
- Antenna
- Compound Eye
- Leg
- Proboscis



The class Insecta contains 31 orders of insects. Eight of them include about 7/8 of all insect species known. To sort them, you have to check whether or not they have wings, the way they grow and change to the next stage of their development (metamorphosis), and what are the characteristics of their mouth parts.

Here are the most common eight orders:

- Odonata: dragonflies and damselflies
- Orthoptera: grasshoppers, katydids, and crickets
- Hemiptera: true bugs
- Homoptera: aphids, cicadas, and hoppers
- Coleoptera: beetles
- Lepidoptera: butterflies and moths
- Diptera: flies
- Hymenoptera: ants, bees, and wasps





GAME 2: Answer the questions below to learn about insects and test your math skills!

A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25	26

To help you find the answer, first do the math problem. The number from the math problem answer corresponds to a letter listed in the key above. Write down the letter in the box below and you will have your quiz answer!

1. Where do insects live?

They live _____! In your backyard, on dogs, in trees, in swamps, etc.

Math problem	4+1	11+11	3+2	10+8	20+5	20+3	2+6	1+4	11+7	5+0
Math solution										
Quiz answer										

2. How many species of insects have been identified? Over one _____ different species.

Math problem	10+3	8+1	11+1	10+2	8+1	9+6	9+5
Math solution							
Quiz answer							



3. Can insects be helpful?

Yes. For instance, they can _____ flowers.

Math problem	16+0	15-1	14-2	12+0	10-1	15-1	2-1	21-1	10-5
Math solution									
Quiz answer									

4. Can insects be pests?

Yes, they can cause _____ to humans and animals, or cause damage to crops and plants.

Math problem	10-1	14-2	14-2	15-1	9-4	20-1	21-2	6-1	20-1
Math solution									
Quiz answer									

5. Are insects vertebrates or invertebrates?

They are _____, which means they don't have backbones.

Math problem	8+1	12+2	21+1	1+4	15+3	18+2	2+3	1+1	18+0	1+0	19+1	5+0
Math solution												
Quiz answer												

6. Are spiders insects?

_____! One of the reasons is that spiders have eight legs, they belong to the Arachnids.

Math problem	16-2	15-1
Math solution		
Quiz answer		

7. How many body parts does an insect have?

_____! The head, the thorax and the abdomen.

Math problem	19+1	4+4	9+9	5+0	1+4
Math solution					
Quiz answer					

8. How many eyes does an insect have?

It _____. Some insects have only two eyes, but most of them have more than two. In addition to two large ones, they usually have three smaller, simpler ones.

Math problem	20+2	1+0	9+9	4+5	5+0	10+9
Math solution						
Quiz answer						





9. What is the biggest insect that has ever lived?

It is the _____, a giant extinct dragonfly that had a wingspan of about 2 feet.

Math problem	14-1	6-1	8-1	2-1	15-1	6-1	22-1	19-1	2-1
Math solution									
Quiz answer									

10. Where are the legs attached?

The legs and the wings are attached on the _____.
The thorax is divided into three sections. Each section has a pair of legs attached.

Math problem	19+1	7+1	14+1	17+1	0+1	23+1
Math solution						
Quiz answer						

11. Why can't you see in some insects that their body is divided into three parts?

Because their _____ cover both the abdomen and the thorax.

Math problem	9+14	5+4	10+4	3+4	9+10
Math solution					
Quiz answer					



12. What is formed of a chitin coat and strengthens and supports the insect's body?

An _____.

Math problem	6-1	25-1	16-1	20-1	14-3	8-3	15-3	10-5	25-5	20-5	19-5
Math solution											
Quiz answer											

13. What is the name of a butterfly's larva?

It is a _____.

Math problem	1+2	1+0	1+19	1+4	1+17	1+15	1+8	1+11	2+10	1+0	1+17
Math solution											
Quiz answer											

14. What do you call the insect's multi-faceted eyes?

_____.

Math problem	4-1	16-1	14-1	17-1	16-1	22-1	15-1	5-1
Math solution								
Quiz answer								

15. When did insects appear for the first time?

In the _____ Period, about 415 million years ago.

Math problem	9+10	8+1	9+3	19+2	9+9	8+1	0+1	9+5
Math solution								
Quiz answer								

16. What is a name for the butterfly life cycle stage between the caterpillar stage and the adult butterfly stage?

A _____.

Math problem	6-3	12-4	22-4	27-2	21-2	7-6	14-2	11-2	25-6
Math solution									
Quiz answer									

