Name _____ Date _____

Predator and Prey Populations Over Time

Directions: Read the passage and study the table. Then answer each question.

Aphids and Ladybugs in the Garden

By early summer, the bean plants in a school garden were dotted with aphids. Aphids are tiny insects that suck sap from plants. In warm weather, female aphids can give birth to live young without mating, and a young aphid can grow up and start having young of its own in about a week. So aphid numbers can climb very fast.

Ladybugs are predators of aphids. Adult ladybugs fly to plants that have aphids, eat them and lay eggs nearby. The eggs hatch into larvae that look like tiny alligators, and the larvae eat aphids too. It takes several weeks for an egg to become an adult ladybug. When aphids become hard to find, adult ladybugs tend to fly off in search of food, and fewer young survive.

A class tracked both populations for 12 weeks. Once a week, at the same time of day, students counted every aphid and every ladybug, adults and larvae together, on the same 10 bean plants. Other things, such as weather and the health of the plants, can also change aphid numbers, but the class counted only aphids and ladybugs.

Aphids and ladybugs counted on the same 10 bean plants each week

Week	Aphids (number counted)	Ladybugs, adults and larvae (number counted)
1	40	0
2	120	1
3	310	2
4	560	6
5	720	12
6	530	21
7	260	25
8	110	18
9	60	10
10	90	5
11	170	3
12	300	4

1. Of the 12 weekly counts, which week had the most aphids?

A. Week 6 B. Week 4 C. Week 7 D. Week 5

2. The ladybug count reached its highest weekly number some weeks after the aphid count reached its highest. How many weeks later?

_____ weeks

3. From week 5 to week 7, the aphid count fell while the ladybug count rose. Which choice gives a possible explanation based on the passage?

A. Some of the aphids were turning into ladybugs.

B. The ladybugs were eating the bean plants once the aphids were gone.

C. Ladybugs eat only when aphid numbers are falling.

D. Eggs laid while aphids were plentiful could have hatched into larvae that were included in the ladybug count.

4. From week 5 to week 9, the aphid count fell. Which choice uses the passage to give a likely explanation that fits the table?

A. Aphids can have young only in cold weather.

B. The aphids were eating the ladybug eggs.

C. Fewer ladybugs were on the plants during those weeks.

D. The growing number of ladybugs and their larvae were eating many aphids.

5. By how many aphids did the weekly count fall from week 5 to week 9?

_____ aphids

6. Why did the class count the same 10 bean plants, at the same time of day, every week?

A. So that every week's counts would come out the same

B. So that the aphids would not have time to reproduce between counts

C. So that the class would count only the adult ladybugs

D. So that changes in the counts would show changes in the populations, not changes in which plants or what time of day they checked

7. Which claim do the 12 weeks of aphid and ladybug counts support?

A. On these 10 bean plants, the ladybug count peaked before the aphid count peaked.

B. Ladybugs always wipe out every aphid in a garden.

C. On these 10 bean plants, the ladybug count rose and fell about two weeks behind the aphid count.

D. On these 10 bean plants, the aphid count rose because the ladybug count rose.

8. After week 9, the aphid count began rising again. Which choice uses the passage and the table to give a likely reason?

A. The aphids had stopped having young in week 9.

B. More ladybugs arrived in weeks 10 and 11.

C. The ladybugs started feeding the aphids.

D. With few ladybugs left on the plants, the aphids could have young faster than they were being eaten.

9. If the class kept counting after week 12, what would most likely happen to the ladybug count over the next few weeks?

A. It would most likely rise, following the rising aphid count.

B. It would most likely drop to zero and stay there.

C. It would most likely rise before the aphid count does.

D. It would most likely stay at exactly 4.