Reading
Pacing

Learning Targets

1. Summarize the importance of pace during the ACT.
2. Compare the time limit to the number of questions on a subject test to calculate an effective pace.
3. Practice using a pacing plan during a mini-test.

Instructions

Complete the mini-test.

Passage IV

NATURAL SCIENCE: This passage is adapted from *The Life Story of Insects* by George H. Carpenter (©1913 by G.P. Putnam's Sons).

Insects as a whole are preeminently creatures of the land and the air. This is shown not only by the possession of wings by a vast majority of the class but also by the mode of breathing through a system of branching air tubes carrying atmospheric air with its combustion-supporting oxygen to all the insect's tissues. The air gains access to these tubes through a number of paired air holes or *spiracles* arranged segmentally in series.

It is of great interest to find that, nevertheless, a number of insects spend much of their time under water. This is true of not a few in the perfect winged state, as for example aquatic beetles and water bugs ("boatmen" and "scorpions"), which have some way of protecting their spiracles when submerged and, possessing usually the power of flight, can pass on occasion from pond or stream to upper air. But it is advisable in connection with our present subject to dwell especially on some insects that remain continually under water until they are ready to undergo their final molt and attain the winged state, which they pass entirely in the air. The preparatory instars of such insects are aquatic; the adult instar is aerial. All mayflies, dragonflies, caddisflies, many beetles and two-winged flies, and a few moths thus divide their life story between the water and the air. For the present we confine attention to the stoneflies, the mayflies, and the dragonflies.

In the case of many insects that have aquatic larvae, the latter are provided with some arrangement for enabling them to reach atmospheric air through the surface film of the water. But the larva of a stonefly, a dragonfly, or a mayfly is adapted more completely than these for aquatic life; it can, by means of gills of some kind, breathe the air dissolved in water.

The aquatic young of a stonefly does not differ sufficiently in form from its parent to warrant us in calling it a larva; the life history is like that of a cockroach, all the instars, however, except the final one—the winged adult or *imago*—live in the water. The young of one of our large species, a perla for example, has well-chitinized cuticle, broad head, powerful legs, long feelers, and cerci like those of the imago; its wings arise from external rudiments, which are conspicuous in the later aquatic stages. But it lives completely submerged, usually clinging or walking beneath the stones that lie in the bed of a clear stream, and examination of the ventral aspect of the thorax reveals six pairs of tufted gills, by means of which it is able to breathe the air dissolved in the water wherein it lives. At the base of the tail-feelers or cerci also, there are little tufts of thread-like gills. An insect that is continually submerged and has no contact with the upper air cannot breathe through a series of paired spiracles, and during the aquatic life period of the stonefly, these remain closed. Nevertheless, breathing is carried on by means of the ordinary system of branching air-tubes, the trunks of which are in connection with the tufted hollow gill-filaments, through whose delicate cuticle gaseous exchange can take place, though the method of this exchange is as yet very imperfectly understood. When the stonefly nymph is fully grown, it comes out of the water and climbs to some convenient eminence. The cuticle splits open along the back, and the imago, clothed in its new cuticle, as yet soft and flexible, creeps out. The spiracles are now open, and the stonefly breathes atmospheric air like other flying insects. But throughout its winged life, the stonefly bears memorials of its aquatic past in the little withered vestiges of gills that can still be distinguished beneath the thorax.

31. The author's purpose for writing this passage can best be explained as:

- **A.** to create a literary manifestation of his love for insects.
- **B.** to educate readers on the life cycle of insects.
- **C.** to compare and contrast the stonefly with the dragonfly.
- **D.** to convince the reader to conserve insect habitats.

32. From the passage, the reader can infer that spiracles are most similar to:

- **F.** fins.
- **G.** lungs.
- **H.** gills.
- **J.** snorkels.

33. The overall tone of the passage is:

A. informative and insipid.
B. fascinated and educational.
C. scholastic and indifferent.
D. objective and pensive.

34. Which of the following insects is NOT described in this passage as adapting physical features necessary for breathing underwater?

F. Dragonfly
G. Stonefly
H. Beetle
J. Mosquito

35. Given that *molt* is a verb meaning "to lose feathers, hair, or skin to make way for new growth," the reader can infer that *instar* (lines 20–21) means:

A. phase.
B. scales.
C. wings.
D. life.

36. Lines 34–42 indicate that stoneflies:

F. spend almost all of their instars underwater.
G. prefer to lay their eggs underwater to protect them from non-aqueous prey.
H. only spend the first half of their life phases underwater.
J. hunt in the air but nest underwater.

37. The transformation of a stonefly from water insect to air insect is most like the transformation of:

A. a human fetus to a grown adult.
B. a caterpillar to a butterfly.
C. a tadpole to a frog.
D. a fish egg to a fish.

38. It can be reasonably inferred that "we confine attention" (lines 24–25) to three species of flies in order to:

F. provide examples of how typical flies go through some phases of their lives underwater.
G. prove that some flies are named incorrectly.
H. teach students about the larvae of all insects.
J. show that all insects fall into these three categories.

39. Based on the passage as a whole, it is implied that the author believes:

A. insects that can live in both the air and the water have a better chance of survival.
B. insects that mature underwater are more likely to develop wings than insects born above water.
C. insects who have the ability to lay eggs under water have higher offspring success rates.
D. the dual environments of these insects give them a varied life cycle.

40. In the first line of the passage, it can be inferred that the term *preeminently* is similar to all of the following definitions EXCEPT:

F. mostly.
G. primarily.
H. greatly.
J. predominantly.

Instructions

Fill out the chart as your teacher leads the discussion.

ACT (Not So) Secrets:

ACT Reading questions do not become more difficult as you go along. The difficulty levels are mixed up, so the most challenging questions could be followed by the easiest. There's no pattern. On top of that, sometimes the easiest questions show up in the back of the test, in the last passage.

For that reason, you should select a pacing plan that helps you answer the questions you need to reach your target score. You'll have 35 minutes to work through 4 passages and 40 questions.

	Skim	Steady	Strong
Target Score	Any Score	21 – 27	28+
Reading Time	_____ minutes	_____ minutes	_____ minutes
Question Time	_____ minutes	_____ minutes	_____ minutes
Total Passage Time	8 minutes	8 minutes	8 minutes

Pacing Plans

_____ **Skim:** Rapidly skim the passage. Soak in the general concepts and pay particular attention to *where* information appears. Save extra time to search for the details you need once you've read the questions. Less reading time, more question time.

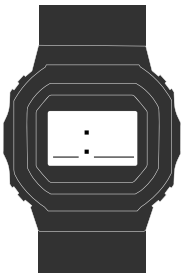
_____ **Steady:** Balance your time between reading and answering. By reading a little more thoroughly, you can pick up on nuances that help you answer the concept questions more accurately.

_____ **Strong:** To answer the toughest Reading questions, you need to have a firm grasp of the passage, so you spend more time reading than answering. Your deeper understanding of the passage helps you answer questions more quickly.

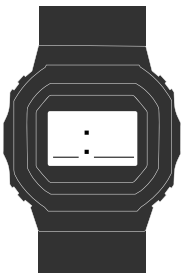
Instructions

Fill in the blanks with the times you should begin each passage.

Set your watch to 12:00 at the beginning of the test.

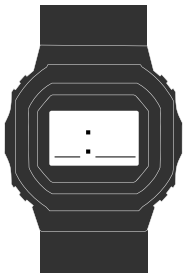


Passage 2

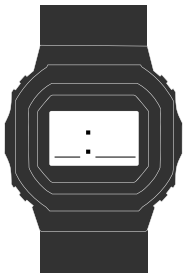


Passage 3

Passage 4



Check your answers.



The test ends.