

## The Function of *Stegosaurus* Plates

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**Title:**

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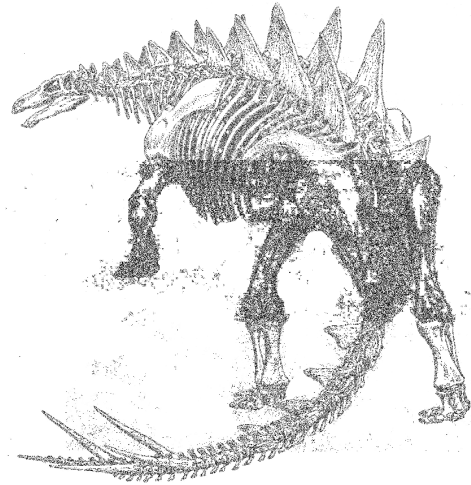
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## Part 1: Evaluating Different Hypotheses

Three hypotheses of the function of *Stegosaurus* plates are:

- a) protection and defense
- b) intraspecies display (display to other *Stegosaurus*, often related to mating behavior)
- c) thermoregulation (regulation of the dinosaur's temperature)



- 1) Which hypothesis do you initially think is more likely to be correct? You may choose more than one. Explain your reasoning.
- 2) Because it is impossible to observe the behavior of a live *Stegosaurus*, describe two ways that paleontologists learn about the function of *Stegosaurus* plates.

## Part 2: Evidence Supporting Different Hypotheses

Different lines of evidence of the function of *Stegosaurus* plates are given below. For each line of evidence, determine which hypothesis the evidence supports. The evidence can support more than one hypothesis.

- 3) The shapes and patterns of the plates and spines for different species of stegosaurs are nearly always unique to that species.
- 4) The plates are made up of bone that forms a hollow honeycomb pattern.
- 5) The outsides of the plates are covered with grooves that are likely to have been the locations of blood vessels. Blood would warm or cool depending on the location of the sun and wind as it flowed near the surface of the plates.
- 6) The large, flat surface of the plates would catch a lot of sunlight.
- 7) Fossils of juvenile *Stegosaurus* do not appear to have plates.

## Part 3: Conclusion

- 8) Examine your answers in Part 2. Which hypothesis is best supported by the data? There may be more than one. Explain your answer.