How a Knight Got His Shiny Shell

by Liz Harrell

1 How could a knight wearing 60 pounds of armor move so easily? Wearing a suit of armor is not like wearing a backpack. Peter Fuller, who makes armor today, says that armor is like a human exoskeleton (a skeleton outside the body). A crab moves agilely with its exoskeleton, and so could a knight in armor.

2 Armor's most important job was to protect the knight who was wearing it. One way armor protected knights was by being smooth and rounded, which meant that weapons would skid right off without hurting the knight. Armor was also thicker in places a knight was likely to be hit.

3 Unlike crabs, humans don't grow their own exoskeletons. Instead, a medieval armorer would hand-make each piece of a knight's metal shell, and they would have apprentices to help them. An apprentice started the process by heating and hammering iron lumps, or blooms, into metal sheets.

4 Each knight's armor was custom-made so that it fit perfectly. Armorers took measurements of the knight's body and used those measurements to make metal patterns, or plates, for each piece. Using a huge pair of scissors, the armorer would cut out the plates. Next, water-powered grinders smoothed the edges of each piece. The armorer then used special tools to hammer each piece over and over until it had the perfect curve.

5   All these steps and more for one plate—a full suit sometimes needed as many as 100 or more plates. And still, the armor was not done. Hundreds of handmade rivets were used to assemble each piece of armor.

6   Sounds like a lot of work, right? Even so, some believe a medieval armor workshop produced several suits a day. Compare that with the three months it takes Peter Fuller to make a suit of armor. Why the difference? Medieval armorers had teams of apprentices, while Peter has only "electric apprentices." It might seem like cheating to use electric tools, but Peter's sanders are not so different from the water-powered grinders used in medieval times.

7   While today you may be able to throw on your clothes in a minute, back then putting on a suit of armor took much longer. The knight started by putting armor on his feet and legs. With the help of a page—a knight in training—each piece was buckled or tied into place. After the chest and back armor was buckled on, the arm and shoulder pieces were added. Finally, the page strapped the knight's helmet into place. Now he was fully armored and ready for his next quest.

8   Interested in making and wearing your own metal exoskeleton? You'll need to study, work hard, and grab some earplugs. *Clang!*

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Test Questions

Circle the correct answer.

1. How is a crab similar to a knight?

    a. Both have superior fighting skills.

    b. Both have exoskeletons to protect them from enemies.

    c. Both work best in teams.

    d. Both have a protective outer covering.

2. How is a crab different from a knight?

    a. A crab's exoskeleton is handmade, while a knight's is not.

    b. A knight's suit of armor is unbreakable, but a crab's shell is not.

    c. A crab grows its own hard shell for protection, while a knight does not.

    d. A knight's suit of armor breaks easily, while a crab's shell does not.

3. Why is Peter Fuller unable to produce as many suits of armor as armorers during medieval times?

    a. He has less help than armorers did during medieval times.

    b. He has less experience than armorers did during medieval times.

    c. He has more technology than armorers did in medieval times.

    d. He does not have electric tools to help him, while medieval armorers did.

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Test Questions (*continued*)

4. Select two sentences that could be a main idea of this text.

    a. Wearing suits of armor is not as popular today as it was during medieval times.

    b. Building a suit of armor is a long and careful process.

    c. Putting on a suit of armor is a one-man job because it's quick and easy.

    d. The suit of armor was designed for protection.

    e. Suits of armor made during medieval times were not well made.

5. What is the best meaning for the word *agilely* as it is used in paragraph 1?

    a. heavily

    b. painfully

    c. easily

    d. slowly