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| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Material Science Puzzle

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| **Across**  **2.** Ability of a material to undergo permanent deformation through cross-section reductions and elongation without fracture.  **5.** Category of materials that consists of aluminum, copper, steel (iron alloy), nickel, and titanium  **7.** Irreversible deformation of the form or dimension of a solid body under stress.  **13.** A materials scientist uses his/her combined knowledge of physics, chemistry and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to exploit property-structure combinations for practical use.  **16.** Ability of a material to break, snap, crack or fail easily when subjected to external loads.  **17.** Category of materials that includes clay, silica glass, alumina, and quartz  **19.** Some polymers can be \_\_\_\_\_\_\_\_ to 1000% the original length  **21.** In our lab we used a \_\_\_\_\_\_\_\_\_\_\_\_ to represent polymers. | **Down**  **1.** Material Science is a branch of science that focuses on materials; interdisciplinary field composed of physics and \_\_\_\_\_\_\_\_\_.  **3.** Category of materials that includes PVC, teflon, various plastics, adhesives, and kevlar  **4.** Mrs. Schneider had a single \_\_\_\_\_\_ to represent ceramics.  **6.** Polymers are \_\_\_\_\_\_\_\_weight.  **8.** The example of a composite in our lab was a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  **9.** Able to withstand great strain without tearing or cracking  **10.** Reversible deformation of the form or dimensions of a solid body under stress.  **11.** Category of materials that includes wood, carbon fiber resins, and concrete  **12.** Polymers are \_\_\_\_\_ to corrosive chemical environments  **14.** Our example of a metal was a \_\_\_\_\_\_\_\_\_\_\_\_\_.  **15.** A mixtures of two or more metal and nonmetal elements (for example, steel) is called an \_\_\_\_\_  **18.** Metals have a \_\_\_\_\_\_\_\_\_\_ melting point.  **20.** Metals are \_\_\_\_\_\_\_\_\_\_\_\_\_ strength |