1. Two intracellular molecules, A and B, are normally synthesized at a constant rate of 1000 molecules per second per cell. Each molecule of A survives an average of 100 seconds, while each molecule of B survives an average of 10 seconds.

A. How many of A and B will a cell contain?

B. If the rates of synthesis of both A and B were suddenly increased 10-fold to 10,000 molecules per second-without any change in their average lifetimes-how many molecules of A and B would be present after 1 second?

C. Which molecule would be preferred for rapid signaling? Explain your answer.