

DNA - PROTEIN SYNTHESIS: Quick Check

In this activity, you have done **DNA translation** as a code-deciphering process, but you were asked to follow intermediate steps much the way molecular intermediaries in our cells do it. In order to check your understanding of the cellular players in the real process of DNA translation, study the two analogies below. The Protein Synthesis "players" are roughly sequenced (top to bottom) in their order of action in the cell. The sequences of the "players" in each of the two analogies have been scrambled.

CHECK YOUR UNDERSTANDING BY MATCHING: For each "player" in the process of Protein Synthesis listed down the center, indicate the letter for the correct matching "player" from the "construction analogy" on the left. For another check on your understanding, do the same thing with the "tape player analogy" on the right.

CONSTRUCTION ANALOGY		PROTEIN SYNTHESIS		TAPE PLAYER ANALOGY
A. BLUEPRINTS	___	NUCLEUS	___	I. MUSICAL NOTES
B. SUPERVISOR	___	DNA	___	J. TAPE PLAYER
C. TRUCKS	___	CYTOPLASM	___	K. TAPE COPY
D. FINISHED BUILDING	___	RIBOSOME	___	L. SONG
E. CONCRETE & LUMBER	___	mRNA	___	M. RECORDING COMPANY
F. MASTER PLANS	___	tRNA	___	N. ELECTRIC CURRENT
G. BUILDING SITE	___	AMINO ACIDS	___	O. MASTER TAPE
H. ARCHITECT'S VAULT	___	PROTEIN	___	P. TAPE PLAYING HEAD

SOLUTION [TEACHER: OMIT THIS FROM MASTER FOR STUDENT COPIES]:

CONSTRUCTION ANALOGY		PROTEIN SYNTHESIS		TAPE PLAYER ANALOGY
A. BLUEPRINTS	<u>H</u>	NUCLEUS	<u>M</u>	I. MUSICAL NOTES
B. SUPERVISOR	<u>F</u>	DNA	<u>O</u>	J. TAPE PLAYER
C. TRUCKS	<u>G</u>	CYTOPLASM	<u>J</u>	K. TAPE COPY
D. FINISHED BUILDING	<u>B</u>	RIBOSOME	<u>P</u>	L. SONG
E. CONCRETE & LUMBER	<u>A</u>	mRNA	<u>K</u>	M. RECORDING COMPANY
F. MASTER PLANS	<u>C</u>	tRNA	<u>N</u>	N. ELECTRIC CURRENT
G. BUILDING SITE	<u>E</u>	AMINO ACIDS	<u>I</u>	O. MASTER TAPE
H. ARCHITECT'S VAULT	<u>D</u>	PROTEIN	<u>L</u>	P. TAPE PLAYING HEAD