

Skill 1: Recognize Interconnections

Below Basic Systems Literacy	Recognizes only linear connections; does not look for connections not included in prior beliefs
Basic Systems Literacy	Includes some non-linear connections in understanding of causal structure of a system; can understand an explanation of a system's behavior in terms of non-linear causal structures
Intermediate Systems Literacy	Includes many non-linear connections in one's understanding of the causal structure of a system; actively looks for connections beyond prior beliefs; can explain a systems behavior in terms of non-linear causal structures
Advanced Systems Literacy	Can develop a quantitative model of complex systems that provides insights into how impacts will ripple across a system

Skill 2: Identify Feedback

Below Basic Systems Literacy	Little or no understanding of the role that feedback plays in a system
Basic Systems Literacy	Understands the basic role of feedback in a system; can understand an explanation of a system's behavior in terms of feedback
Intermediate Systems Literacy	Can identify feedback loops in complex systems and explain a system's behavior in the context of those feedback loops
Advanced Systems Literacy	Can incorporate multiple feedback loops in quantitative models to predict the varying influence of such feedback at different points in time

Skill 3: Understand Systems at Different Scales

Below Basic Systems Literacy	Tends to interpret system behavior on a single scale (typically individual and short-term)
Basic Systems Literacy	Understands that the behavior observed at any specific scale of a system is affected by broader and narrower levels of scale
Intermediate Systems Literacy	Can explain the behavior of a system in terms of interconnections between variables at multiple scales
Advanced Systems Literacy	Can incorporate behavioral interactions at multiple scales into a quantitative model

Skill 4: Differentiate Types of Stocks and Flows

Below Basic Systems Literacy	Little or no understanding of the relationship between stocks and flows
Basic Systems Literacy	Has a conceptual understanding of the distinction between stocks and flows; can follow an explanation of a systems behavior in the context of the interactions between multiple stocks
Intermediate Systems Literacy	Has a conceptual and practical understanding of stocks and flows and can interpret the behavior of a system based on this understanding
Advanced Systems Literacy	Can develop a model with multiple stocks and flows and use that model to make valid inferences about the behavior of the system

Skill 5: Understand Dynamic Behavior

Below Basic Systems Literacy	Has a static mental model of a system; does not incorporate the idea of change over time
Basic Systems Literacy	Has a basic conceptual understanding that systems change over time; can understand explanations of a system's behavior in terms of non-linear causal structures, feedback, and stocks and flows
Intermediate Systems Literacy	Has a thorough understanding of how systems change over time, which includes fast- and slowly-changing variables and delayed feedback; can develop reasonable hypotheses about a system's behavior in the context of non-linear causal structures, feedback, and stocks and flows
Advanced Systems Literacy	Can develop quantitative models to test hypotheses and explore scenarios regarding how a system may change over time.

*Skills 6 and 7 not shown