ANSWER KEY

DO NOT HAND OUT

A PREDICTIONS THAT EARN FULL MARKS

Distilled water	"Gain mass. The egg has more dissolved material than the water outside, so net water moves in."
Corn syrup	"Lose mass. The syrup has more dissolved sugar than the egg, so net water moves out."

B VARIABLES

Independent	The liquid the egg soaks in (distilled water or corn syrup).
Dependent	Change in egg mass (g and %).
Controlled	Starting egg size, 250 mL of liquid, room temperature, 24 h soak, same container, same blot routine, same balance.

C SAMPLE DATA

Sample data (illustrative; real eggs vary, so expect the pattern, not the numbers).

LIQUID	START (G)	AFTER 24 H (G)	CHANGE (G)	% CHANGE	LOOKS AND FEELS
Distilled water	68.0	76.5	**+8.5**	**+12.5%**	Larger, firm, tight
Corn syrup	68.0	49.0	**−19.0**	**−27.9%**	Smaller, wrinkled, floppy

Check: (76.5 − 68.0) ÷ 68.0 × 100 = +12.5% · (49.0 − 68.0) ÷ 68.0 × 100 = −27.9%

D MODEL CLAIM, EVIDENCE, REASONING

Claim: Net water moved into the egg in water and out of the egg in corn syrup.
Evidence: The water egg gained 8.5 g (+12.5%); the syrup egg lost 19.0 g (−27.9%).
Reasoning: The membrane lets water cross much more easily than large sugar molecules. Water moves both ways, but the concentration difference makes the movement toward the more concentrated side larger, so the egg's mass changed in that direction.

E THINK FURTHER

Net water moves back in, so the egg re-expands, though it may not fully regain its first size because of damage and lost water-soluble material. Accept any answer that predicts net inward movement and gives the concentration reason.

F QUICK GRADING GUIDE

Use the 4-row rubric on the lesson plan (claim, evidence, reasoning, data care). Full credit needs numbers with units and signs, and the word "net".