SA1: Scientific Models: Gravity

1. Observation: using your senses to gather information from your environment.
   Inference: using logic to interpret the information gathered from your environment.

Identify the observations and inferences in the following narrative.

Bob wakes up and looks out the window. There are drops of water on the window. "It must have rained last night," he thinks. He goes downstairs and notices that the ladder is leaning against the house, so he goes outside to help his dad with the roof repair work. "Hey Alice, what are *you* doing up there?" shouts Bob. Alice is so startled that she loses her grip on the ladder. As she falls to the ground, she sees Bob getting closer and closer. "The force of gravity is making me accelerate down at 9.8 m/s^2," yells Alice. Bob reaches out and catches her just before she hits the ground. "Good thing I was accelerating up at 9.8 m/s^2 so I could rescue you," says Bob. Alice gives Bob a quizzical look and then she tells him about how she was washing the windows when he made her fall.

OBSERVATIONS	INFERENCES

2. True or False? Rewrite any false statements to make them true.

(a) There can only be one model that explains a set of observations.

(b) We prove a model is right when we observe the predictions it makes.

(c) Models that do not make new predictions are wrong.

(d) A model is valid if it can explain the observations.

(e) Any model that cannot explain the observations is useless and should be discarded.

(f) We design experiments to prove that a given model is correct.