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STUDENT VERSION
HOW DEEP IS THE WELL?

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Abstract: We drop a pebble in a deep well. Given the time elapsed from release of the pebble until we hear the splash determine the depth of the well.

SCENARIO DESCRIPTION

1. You drop a pebble into a well. Ten seconds later, you hear the sound of the pebble hitting the water. How deep is the well? For what part of the 10 seconds was the pebble falling? How long did it take the sound to travel back up the well? What assumptions did you make in solving the problem?
2. Suppose another well is just that depth at which the time it takes your pebble to hit the water is the same as the time it takes the sound of it hitting the water to return to the top. How deep is this well?
3. Suppose another well is just that depth at which the time it takes your pebble to hit bottom is 15 times greater than the time it takes the sound of it hitting to return to the top. How deep is this well?