

# NEXT-TIME QUESTION

CONCEPTUAL Physics

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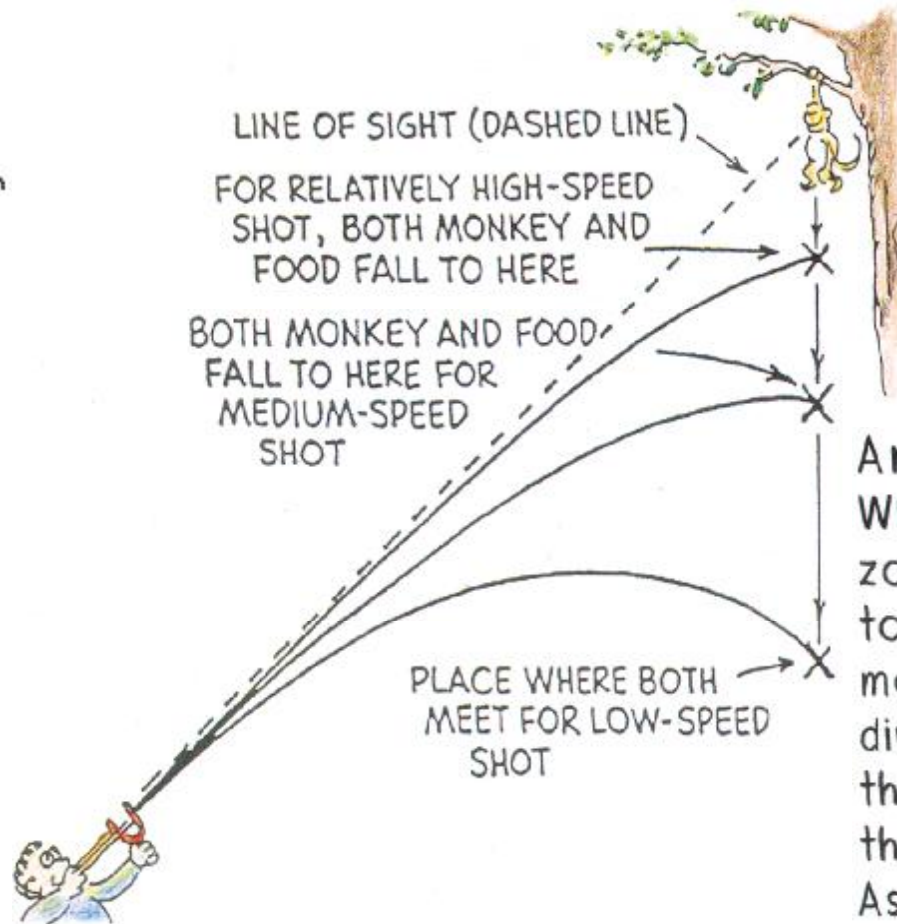
If the monkey does not move, should the zookeeper aim above, at, or below the monkey?

If the monkey lets go of the branch at the instant the zookeeper shoots the food, should the zookeeper aim above, at, or below the monkey to get food to the monkey in midair?



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## Answers:

When the monkey remains at rest, the zookeeper should aim above the monkey to compensate for gravity. But when the monkey drops, the zookeeper should aim directly at the monkey. Because of gravity, the food (like any projectile) will fall below this direct straight line. How far below? As far below as the monkey falls in the same time. So the monkey and the food will fall the same vertical distance in the same time, and midair contact is made.