

PD Leader Master Analysis Guide C: Selecting Activities Matched to the Learning Goal (Answer Key)

List the main learning goal: Objects slow down and stop at different distances on different surfaces.

Part 1: Identify and analyze the science ideas in the activity. Using the table below, first list in the left column each science idea (main and supporting) that is addressed in the activity. Then indicate in the right column how closely each science idea matches the main learning goal.

All Science Ideas in the Activity	The science idea is (<i>closely, partially, weakly, not</i>) matched to the main learning goal.
Does the Surface Matter?	
<i>In this activity (Does the Surface Matter?), students discuss their ideas about what causes a toy car to stop moving. The car rolls down a ramp and across three different surfaces (carpet, tile, and sandpaper). Students measure the distance traveled across each surface and compare the results.</i>	
Video Clip 6.3 (Before the Activity)	
1. A soccer ball will stop moving when it hits something.	Partial match
2. A soccer ball will stop when someone stops it.	Weak match
3. If you kick the ball softly, it won't go very far.	Partial match
Video Clip 6.4 (During the Activity)	
4. The car goes a lot farther on tile than on carpet.	Close match
Video Clip 6.5 (After the Activity)	
5. The car doesn't go as far on some surfaces (like carpet) because they're rough.	Close match
6. The car goes farther on slick surfaces (like tile).	Close match

Part 2: If there are weak or partial matches, suggest ways the activity could be modified to more closely match the main learning goal.

It makes sense that students' initial ideas (before the activity) would be partially or weakly matched to the learning goal. None of the students brought up the learning-goal idea that the surface matters, which is expected at the beginning of the lesson. However, the teacher could have asked whether the soccer ball would stop at different distances on the playground blacktop versus the grass. This might have helped students focus on the science ideas they would be working with in the activity.