

# WORKSHOP EXTENSION ACTIVITY

Built by The Home Depot Kids Workshop



## PENSKE TRUCK

Ages 5-8 and 9-12

**MAKE. CREATE. EXPLORE.**

#KidsWorkshopExplore





Trucks help us move things from place to place.

What type of **trucks** have you seen?

**They can be the size of a car or as big as a house!** The truck you built is a type you can rent to help you move or carry heavy things. Use your truck to test how weight and friction impact how far and fast your truck can move.



What other types of trucks have you seen?

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When we load objects into trucks, different weights and surfaces can affect how fast your truck moves.



What are some things that could make a truck go faster or slower? \*

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\*Heavy objects, light objects, slippery surface, rocky surface, hills



Use your **PENSKE** truck to investigate!



Share your discovery! Use **#KidsWorkshopExplore** to post pictures of your experiment and results.

# What do you think will impact a truck's speed?

## Helpful hint!

You can use a body scale, luggage grip scale, or kitchen scale to help you weigh your object. Rocks, pennies, building blocks, keys, and nails would fit into your truck.

## Ready...

Look around! What could you use to test how your PENSKE truck can handle weight and surfaces it might encounter on the road?



**What could you use to add weight to your truck?**

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## Helpful hint!

Sandpaper, rubber mats, foil, piece of rug, and towels could help add friction to your track.

**What could you use to add friction to your track? Friction is a force that holds back the movement of your truck.**

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## Set...

Ask an adult to help you measure out a course. You will need to make the starting point at the top of the ramp. A gutter, composite board, cardboard, or plastic sheet can all act as a ramp.

Setup your ramp using several books.



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How can you measure the motion of your PENSKE truck? \*

\*Stopwatch to measure the time and/or measuring tape to measure the distance

Go...

Load up Your Truck

Pick two types of objects to load into your truck. It might be a single object or a collection of the same object.

1.

Put the object(s) in your truck. Make sure you weigh them before placing them in your truck.
2.

Place your PENSKE truck at the top of your ramp and let it go! Start recording the time it takes from being released from the top of the ramp and for the truck to come to a complete stop after. Record your results in the data table.
3.

Measure the distance your truck traveled. Record your results in the data table.
4.

Conduct two more trials. The more trials you perform, the less chance there will be for error. We recommended conducting three trials total. You should weigh your object(s) each time. After your three trials, add up each column and divide by three to find the average.

Next, put the second object(s) in your truck and repeat steps 1-4.

What did you test?	Trial	Weight	Distance	Time
	Trial 1			
	Trial 2			
	Trial 3			
Average				
	Trial 1			
	Trial 2			
	Trial 3			
Average				



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Did a heavier or lighter weight help your truck move the **furthest**? \_\_\_\_\_

Did a heavier or lighter weight help your truck move the **fastest**? \_\_\_\_\_

Trick out Your Truck

Pick two types of surfaces to add to your track.

- 1. Put the first surface type on your track.
- 2. Place your PENSKE truck at the top of your ramp and let it go! Start recording the time it takes from being released from the top of the ramp and for the truck to come to a complete stop after. Record your results in the data table.
- 3. Measure the distance your truck traveled. Record your results in the data table.
- 4. Conduct two more trials. The more trials you perform, the less chance there will be for error. We recommended conducting three trials. After your three trials, add up each column and divide by three to find the average.

Next, put the second object(s) in your truck and repeat steps 1-4.

What did you test?	Trial	Distance	Time
	Trial 1		
	Trial 2		
	Trial 3		
Average			
	Trial 1		
	Trial 2		
	Trial 3		
Average			

Which surface helped your truck lose speed first?

Which material made your truck travel the shortest amount of distance?



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