

Inquiry Skills: Finding relationships to investigate:

While watching skateboarders drop in to half-pipes of different heights, you notice 2 things: 1) that different skateboarders on the same half-pipe can reach different speeds by the bottom flat portion by using different drop in techniques and 2) that the same skateboarder reaches faster speeds on higher half-pipes. You decide to investigate *"How does the height of a half-pipe affect the speed a skateboarder reaches at the bottom flat portion of the half-pipe?"*

1. What is the independent variable? _____
2. What is the dependent variable? _____
3. What are the controlled variables? (i.e. what must you keep constant?)

While sliding your physics textbook across the table, you realize it becomes much more difficult when your English and Math book are stacked on top. So you create the focused research question *"How does the force of friction between the surface of the bottom of your physics textbook and the table top surface depend on how much the weight of the books is pressing the surfaces together?"*

4. What is the independent variable? _____
5. What is the dependent variable? _____
6. What are the controlled variables? (i.e. what must you keep constant?)

One September night you notice on nights when it is cloudy the rate the air cools is slower than when it is clear. So you create the focused research question *"How does the cloud cover affect the rate the air cools at night?"*

7. What is the independent variable? _____
8. What is the dependent variable? _____
9. What are the controlled variables? (i.e. what must you keep constant?)

While at the beach you notice that dropping a large rock into the sand creates different sized craters. So you ask *"How does on the height from which a rock is dropped affect the depth of the crater formed by the rock?"*

10. What is the independent variable? _____
11. What is the dependent variable? _____
12. What are the controlled variables? (i.e. what must you keep constant?)

"How does the time that the ball is allowed to roll affect the distance the ball has rolled?"

13. What is the independent variable? _____
14. What is the dependent variable? _____
15. What are the controlled variables? (i.e. what must you keep constant?)

"Create Your Own Scenario:

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16. What is the independent variable? _____
17. What is the dependent variable? _____
18. What are the controlled variables? (i.e. what must you keep constant?)