Unit 8 Motion and Force

Archdiocese of Cincinnati 8th standards

18. know the causes of friction

19. demonstrate ways to increase friction

20. demonstrate Newton’s three laws

21. differentiate between gravity, weight and mass

22. predict effects of varying forces

State of Ohio- 9th

* Introduction of one-dimensional vectors
* Displacement, velocity and acceleration
* Interpreting position vs time, velocity vs time graphs
* Force diagrams
* Types of forces ( gravity, friction, normal, tension)
* How forces effect motion- objects and rest, constant motion and accelerating

Concepts

Chapter 9 and 10

* describe a position in relation to a starting point, will utilize metric units & measuring tools to determine distance
* utilize four coordinate graph system, plot coordinates in + and - quadrants, utilizing signs as direction indicators
* differentiate between distance (position) and displacement
* analytically and quantitatively analyze motion by designing and conducting experiments- from developing hypothesis-analysis and conclusion
* utilize multiple representations for information- verbal, graph, and diagrams
* analyze and interpret a graph that depicts an object’s motion and explain meaning of data presented
* calculate velocity, acceleration
* understand and apply Newton’s laws

Activities

STEMM connection- egg car lab

Inquiry- motion lab