Graph Match-Up Game

Instructions

Photocopy the pictures of graphs and ask each student to pin one of the graphs onto the back of another student (students should not see their own graphs). Have each student also randomly choose from 3 to 5 of the "clue cards" that describe the graphs the students are wearing.

Allow students to wander among each other to match their clue cards to the correct graphs. When a student finds a match, the student should write down the name of the person wearing the graph that matches the clue card directly onto the clue card and then continue until all the clue cards are matched with names. *Note: Potentially, a student might receive a card that matches the graph that the student is wearing. In that case, the student will not be able to find a person wearing the graph. The student should hold onto the card and at the end of the activity determine whether indeed the clue card matches the graph the student is wearing.*

Collect the clue cards at the end, separate them by student name, and then redistribute them to the students. Then, have students determine what the graphs they are wearing look like by reading their clue cards. Discuss any discrepancies.

Clue Cards

Constant acceleration of a car vs. time	Frequency of a wave vs. wavelength
Compound interest accumulated vs. time	Path of the orbit of the planets around the sun
Path of an electron around the nucleus of an atom	Bacterial growth vs. time
Trajectory of an object thrown into the air vs. time	$y = x^2, x > 0$
Reflection of light on a shiny flat surface	$y = \lvert x \rvert$
Acceleration of a falling object vs. time	Motion of a cork floating in water as waves pass

A weight bouncing as it is suspended from a spring vs. time	Loudness (magnitude) of a sound vs. distance of the sound
Weight of an object vs. height above the surface of the earth	Brightness of a light vs. distance from the source of the light
Radioactive decay vs. time	$x^2 + y^2 = 5^2$
Pressure of a gas in a container vs. the temperature of the gas (volume is constant)	Pressure of a gas in a container vs. the volume of the container (temperature is constant)
$y = \sin x$	$y = \log x$
$y = 2^x$	Cost of mailing a first class letter vs. weight

Income tax category vs. personal income	The time it takes to travel 100 miles vs. the speed of a car
Path of an object thrown from a moving airplane (direction of plane is easterly)	Temperature of water set to boil vs. time
Height of a person's head while swinging on a swing vs. time	Path of sand dropping from a swinging pendulum onto a conveyer belt
Constant deceleration of a car to a stop vs. time	$\frac{x^2}{4} + \frac{y^2}{9} = 100$

Graphs