

The Physics of the Shot

When rock "A" hits rock "B", it is not entirely obvious what will happen to them. Both will continue to move, but in what direction, and at what speed?

A straight line from the centre of "A" to the centre of "B" at the time the rocks collide will give the direction of "B". The direction of "A" is always at an exact right angle (90 degrees) to the direction of "B".

Now that we know the directions, we can determine the speeds. Obviously, if "A" hits "B" dead centre, "A" will come to a complete stop while "B" will begin to move with "A" 's original speed. Likewise, if "A" just barely touches the side of "B", "B" will not move at all, while "A" will continue at its original speed. In between these two extremes are all possible combinations.

If you are mathematically inclined and understand vectors, then the sum of the velocity vectors of "A" and "B" after the collision is equal to the velocity vector of "A" before the collision. Things are slightly more complicated if both rocks are moving, but "Curling for Windows" will handle this situation appropriately if it should ever happen.