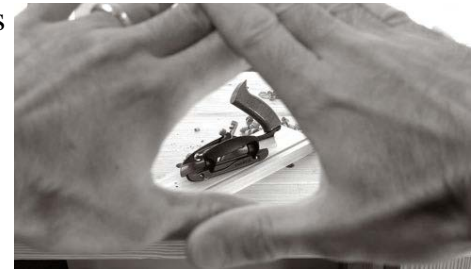


Independence with Real Data

Activity One: Collect data on eyedness and handedness.

1. Are you right-handed or left-handed?
2. Determine whether you are right-eyed or left-eyed. Hold your hands together in front of you at arm's length. Make a space between your hands that you can see through (as shown in the picture). Through the space, look at a object at least 15 feet away. Now close your right eye. Can you still see the object? If so, you are left-eyed. Now close your left eye. Can you see the object now, instead? If so, you are right-eyed.
3. Would you expect being right-handed and right-eyed to be independent? **Explain.**
4. Gather the data from the rest of the room and make a two-way table here showing the frequencies of eyedness and handedness:



Question: For a randomly selected person in the room, are being right-handed and right-eyed independent?



Activity Two: Collect data on the results of two coin flips.

1. With your partner, flip a penny twice – recording the results – until your group has 100 *pairs* of flips (trials).

Trial #	Flip 1 Result	Flip 2 Result	Trial #	Flip 1 Result	Flip 2 Result	Trial #	Flip 1 Result	Flip 2 Result
1			18			35		
2			19			36		
3			20			37		
4			21			38		
5			22			39		
6			23			40		
7			24			41		
8			25			42		
9			26			43		
10			27			44		
11			28			45		
12			29			46		
13			30			47		
14			31			48		
15			32			49		
16			33			50		
17			34					

2. Would you expect the results of the first flip and the second flip to be independent? **Explain.**

3. Place your results in a two-way table here:

Questions: Using your data, is your answer to question 2 above statistically correct? What about what other groups have found? Which group is the most *independent*? Which is the *least independent*?