Exploring multiple reflections – 2

See what you really look like!

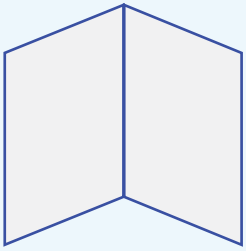
(Ireland)

You will need:

- ✓ two mirrors
- ✓ adhesive tape

Follow these steps:

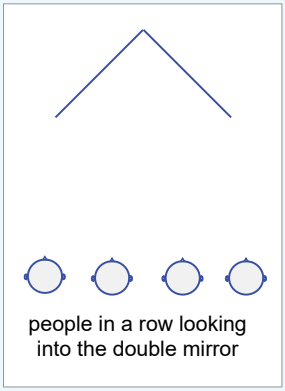
1. Tape the mirrors together along one edge only so that they form a flexible hinge.
2. Set the mirrors at right angles to one another, **at face level.**



3. Look at your own reflection in the pair of mirrors.
4. Move from side to side and note any changes in the reflection. Does the reflection appear to move with you or in the opposite direction?
5. Raise your right hand and observe the reflection.
6. Hold some large text (e.g. a book cover) facing the mirror. What do you notice?
7. Arrange a number of people in a line (beside one another) facing the pair of mirrors. What do they see?

So what happened?

1. Since the mirrors are perpendicular to one another you should see an image of yourself that has been reflected twice and is therefore 'the right way round'. You then see yourself as other people see you. (In a single plane mirror your image is reversed.)
2. When you move from side to side you still see your own image. In other words, you do not need to be 'directly in front' of the pair of mirrors.
3. When you raise your right hand, your reflected image also appears to raise a right hand - but it is on the opposite side to where it would appear in a single mirror. This can be a bit disconcerting.
4. Text held in front of the double mirror appears the right way round because it has been reflected an **even number** of times.



5. People in a row (beside one another) facing the mirrors will each see themselves only (unless they are very close together).
6. Shine a light (e.g. a laser) at the double mirror. The reflected beam is parallel to the incident beam.