

Tricky Stuff

Leonardo loved a good puzzle and he was always experimenting, often through what might at first seem like trivial party games. Here are just a few of the games he played in search of a deeper understanding of the world around him.

Bean there, done that

Here's a trick involving beans and a scrambled mind.

- Ask a friend to place an equal number of beans in each hand. Tell him to place four of the beans from his right hand into his left hand and discard the remainder before getting rid of an equal number from his left hand.
- Now tell him to add five beans to the total in his left hand.
- How many beans does he now have in his left hand? Thirteen, of course.
- The real skill here, as with any trick, is in drawing attention away from the fact that all you are really doing is little more than telling your friend to put thirteen beans in his left hand.

An even dozen

Here's another trick that relies on distraction and preparation.

- Ask your friend to place a number of beans – more than one but less than twelve – in her left hand, but *insist* that she does not tell you exactly how many.
- Invite her to take as many beans as she likes from the handful of beans you are holding so as to make hers up to a total of twelve.
- Once she has done this you can reveal, as if by magic, that you now have exactly the same number of beans in your hand that your friend originally had in hers.
- In truth, this was always going to be the case – just so long as you began the trick with twelve beans in your left hand.

Circling the square

For several thousand years, mathematicians have been trying to square the circle – they really should get out more. Leonardo, perversely, achieved the opposite with this very simple party trick.

- Take a perfect cube of modelling clay and place it on a table. Using a flat surface, such as the underside of a small plate, apply even pressure from above, effectively squashing the cube down as flat as it will go.
- Before you remove the plate, challenge your audience to predict what shape will be revealed. Can you guess what it might be?
- If you said “a circle” then you were spot on (but you probably sneaked a look).

A pile of money

This trick may need a little practice, but it never fails to impress.

- Place a small stacks of pound coins on a flat surface such as a table and then remove the top coin with as much gravitas as you can muster. Place the coin a short distance from the original pile, and then flick it so that it strikes the bottom of the pile.
- As if by magic (but actually as a result of a physical phenomenon called an “unsupported wave”), the bottom coin will be ejected from the pile without knocking the entire stack over.
- If you have enough pound coins handy, experiment to see just how high you can build the stack and still make the trick work.