

Falling Cats

Apparatus

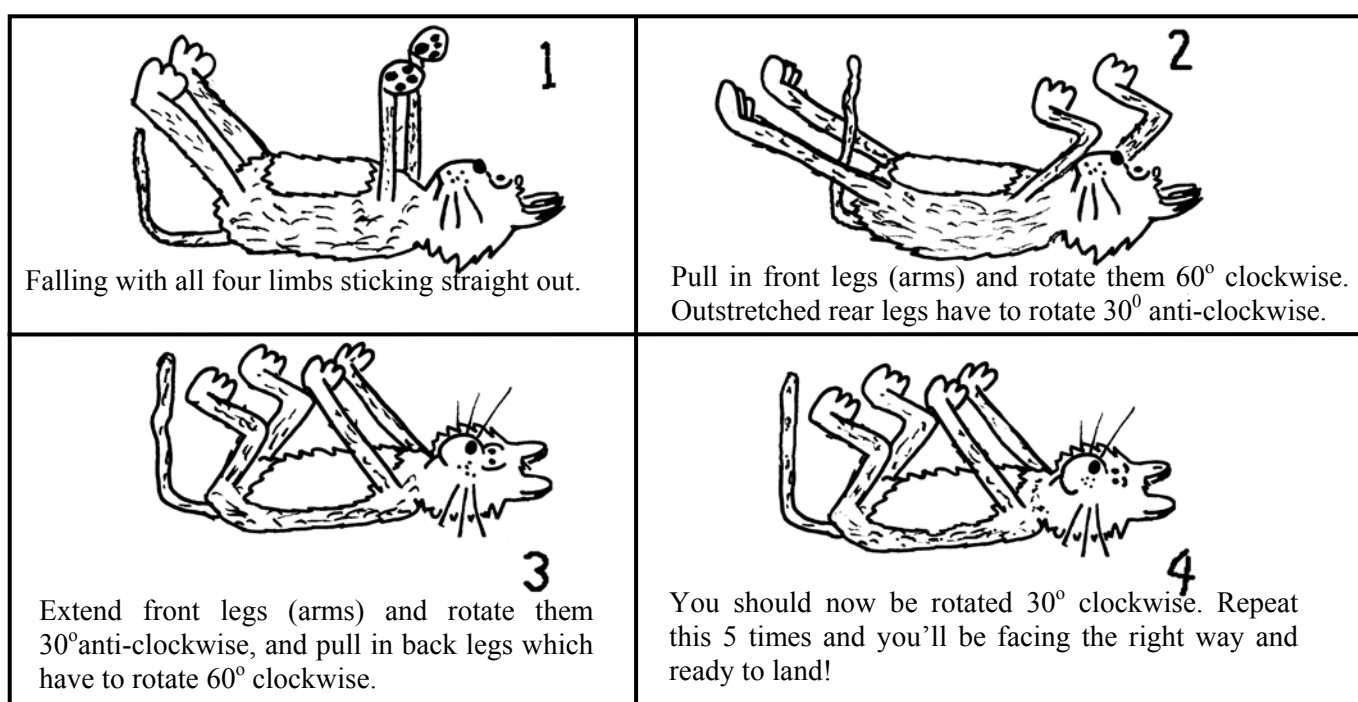
a stool which rotates smoothly,
enough floor space for other students to stand well back.

Action

The students look at the diagram showing how a cat falls, and attempt to rotate themselves 180° on the stool, without assistance and without touching anything else. Note that this is quite difficult and may take some practice.

The Physics

Angular momentum is conserved throughout the manoeuvre, see diagrams below. This demonstration is adapted from Dr Karl Kruszelnicki's book "Fidgeting Fat, Exploding Meat and Gobbling Whirly Birds and Other Delicious Science Moments"



Accompanying sheet

Falling Cats

Sit on the stool.

Look at the diagram showing how a cat turns itself around in mid air.
Can you turn yourself through 180° in the same way?

Is conservation of angular momentum being violated here?