Centre of Gravity experiment

Material needed:

Balance bird（3D printing object)

Centre of Gravity model（3D3D printing object recommended using PLA)

Tape

String

Weight

$1 coin X2

Hairdryer

Experimental procedure

1. Find out the centre of gravity (c.g.) using finger, record the position
2. Put a coin into the hole,record the position of c.g.
3. Use string to hang the model and hang a weight on other side of string and draw the vertical line.
4. Repeat step 3 in different position,locate the c.g.
5. Try to compare the process of finding balance point of the balance bird and the model.
6. Soften the middle rod by Heating using hairdryer and bend the middle as shown in Fig.1.
7. Compare with balance bird again.

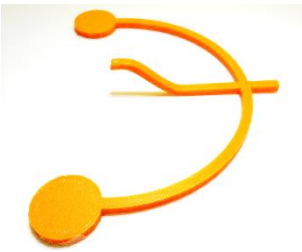

Fig.1 Centre of gravity model after bending

Discussion

1. How does the centre of gravity (c.g.) change after putting the coin in the hold? Why does c.g. change without changing the shape?
2. Are c.g. obtained from two methods (using finger and vertical line method) different?
3. Does c.g. change after bending the rod? Why?
4. Is it similar to balance bird? How?