Circle Time

A letter from Hoseli the Robot arrives from Supraland.

Hello Scientist!

My name is Hoseli the Robot. I live in a wonderful place called Supraland.

Here's a picture of me by my workshop.

I have a peculiar problem, and I was wondering if you, dear scientists, could help me figure this out: I was carrying some branches and, the pile was swinging and swaying, and I simply couldn't keep them in balance.

No matter what I did, the pile kept on collapsing.

What could be the reason for this?

Could you help me?

Your Friend,

Hoseli the Robot

Balancing Problems

Key concepts
balance, the center of gravity, symmetry

Aims during this experiment
- Practice observing and interpreting the position of the center of gravity
- Observing that an object's center of gravity is not always in the center

Supplies
- Different oblong objects (such as pens, chopsticks, cutlery, even real branches etc.), of which some are symmetrical, and some are not.
- Poster putty or tape

How to do the experiment

1. Search and gather some oblong objects.

   "Hoseli had a problem when carrying his branches. They kept falling all over the place. Can you balance an object on your finger?"

2. Ask the scientists to choose one object and to start balancing it on their finger. **Make observations**: is it easy or challenging to keep the object in balance?
3. When the object doesn't fall off but keeps its balance, take some poster putty and mark the point on the object that touches your finger.
4. When the scientists have balanced and marked several objects, **observe** where the marks are: are all of them in the middle of the object? Make **comparisons**.
5. **Make an interpretation** that an object with a symmetric, regular shape has the mark in the middle. Why is that so?
6. Tell the scientists that the marked point is called the center of gravity. **Observe** and discuss which factors determine where the center of gravity is.
7. Try to balance the objects on different parts of your body: on your nose, on top of your head, on your elbow, knee etc. Which is the easiest? Why's that?
8. Let's get back to Hoseli's problem and try to **form a conclusion**: what might have caused the swinging and swaying?
9. Do you think humans also have a center of gravity? Try standing on one foot and see if you can keep your balance.

Scientific explanation
Visit teachers.kidescience.com to find out the details.

Report to Supraland

Mystery solved! Reporting to Supraland:

Gather together in a circle and report to Hoseli:

- Tell him what you found out!
- Why do you think he had trouble keeping the branches in balance?
- Let's show Hoseli how we balance on two feet or just one foot.
- If it is possible for you to pick some small branches, show Hoseli how to balance them!

My Notes

Hands-on lesson

Reflection Time

It's time to return to the teacher platform and reflect on the lesson you had. Successfully completing each reflection grants an award for this training and will be counted towards your certification.

Visit teachers.kidescience.com and rate the hands-on lesson.