

Balancing Gizmo

What You Need

Cardstock
Balancing Gizmo template
Scissors
Large paper clips
Crayons, markers, colored pencils (optional)



What You Do

1. Download the balancing Gizmo template. Print on cardstock, or print on regular paper and trace the shape onto cardstock. (File folder or cereal box material will also work if there are no creases.)
2. Use crayons, markers or other supplies to color in Gizmo.
3. Place one large paper clip on each of Gizmo's paws.
4. Hold out one finger and place it behind Gizmo's forehead to make him balance.

Questions to ask

- What do you think will happen if you remove the paperclips? What if you place them somewhere else?
- Why do you think the paperclips help Gizmo balance?
- Can you balance Gizmo on any point other than his head? Why or why not?

What's the Science?

Gizmo balances on his head because that is his **center of gravity**. The center of gravity is the point on any object where the weight is even on all sides. For an evenly shaped object, such as a ruler, the center of gravity is in the very middle. Without the paper clips, Gizmo cannot balance on his head because there is more weight on one side of his body than the other – his center of gravity is closer to the middle of his body. When you add paperclips to his paws the center of gravity moves toward his head, allowing him to balance on your finger.

Try This

Use science vocabulary: Use related science words such as balance, even, weight and center of gravity as you talk and play together. Children learn new vocabulary words when they hear grown-ups use them in context.

Extend your experiments: Design and create your own balancing toy! Draw a new design to cut out of cardstock or use other materials around the house to create a toy that balances on one point.

Keep in Mind

- Children are natural scientists; let them lead the way in their experimentation! Encourage them to ask questions and make suggestions only when they are stuck/discouraged.
- The order suggested is not the only right or perfect way. Adjust the activities based on the age, ability, and interests of the children.

Additional Resources

Balancing Act by Ellen Stoll Walsh
Move It! Motion, Forces and You by Adrienne Mason
Not a Box by Antoinette Portis

