

SCIENCE RELAY RACES

Work with a Physical Education teacher to set up several relay games. Use your amateur scientist teams or form teams. After each game, the winning team earns one point and a chance to answer a question that connects the activity to an area of scientific inquiry (Food Science, Weather, Sports Science...) for another point. The team with the highest point total wins. End with discussion of scientific forces and principles at work in completing the tasks. Possible games and follow-up questions:

- Tricycle relay: What simple machine moves the tricycle forward? (*Wheel and axle*)
- Egg on spoon. All teams but one get raw eggs and must stop, clean up the mess, and replace eggs that drop and break; one team's egg is hard boiled. Why does the team with the boiled egg have an advantage? How does boiling change the egg? (*Heat changes the chemical composition of proteins in the egg, making it solid.*)
- Balloon relay. Each team gets a fresh balloon for each member. All balloons should be identical in material, size, and shape. Team members must blow up their balloons repeatedly, and only move forward while the balloon is losing air. What's happening to the balloon? (*The elastic material stretches as you blow air into it. When the air escapes, the balloon returns to its original size and shape.*)
- Trace the Route. Mark out different paths for each team to follow from starting point to end point of the race. Make one path a straight line, one short zig-zags, one long zig-zags, one wide curves, etc. Students will carefully but quickly follow their path walking in small, toe-to-heel steps. Which routes are faster to follow? Why? What individual variables might affect team speed? (*Straight line routes are always the shortest distance; zig-zags require stop-and-go motion as you redirect steps, while loops allow the advantage of uninterrupted momentum... Individual variables include the size of team members' feet, sense of balance, and overall muscle coordination.*)

