



Long Jump - Why does running really fast help you to jump further?

Fact

- Running fast helps you to jump further because you travel faster through the air.
- The faster you go through the air, the further you can go before gravity brings you back down to earth.
- Also the higher you jump, the longer you will have in the air before gravity brings you down.

Do you know

- The world record for long jump is 8.95 meters. Now that's a long way to be travelling through the air! (That's about 9 seven year olds lying down on the ground head to toe!!!!)
- Running fast is just one of the things you need to do when you're doing a "long jump". Other things help too, like how you push up from the marker board with your feet and how you swing your legs in front of you as you land.

Experiments you can do

Try running at different speeds and doing a long jump. Do you jump further when you run slow or fast? Put a marker on the grass – you can use a piece of wood or a shoe. Always start your jump at the marker and get someone to help you mark where you land each time. Then do the same for them.

Experiment with swinging your arms and legs in front of you as you jump too. Does that help? Maybe get your teacher to help you and give you some ideas of how to jump further.

Other Investigations

Test speed and the length of a jump with toy cars.

What you need:

A bench seat at school

A large piece of heavy cardboard (the side of an old box is good)

A toy car

Things to mark each jump. (stones would work well)

Some friends to help you

What you do:

Lay the cardboard out along the bench seat so that one edge is along the edge of the seat. Get your friends to help you make a small ramp with the cardboard by bending it up at the back so it curves. Let the car go from the top of the ramp so it flies off the edge of the cardboard and lands on the ground. Mark where it lands. Get your friends to make the ramp steeper. Let the car go from the top of the ramp again and mark where it lands. Did it go further this time? Why would that be? What difference did steepness of the ramp make?