CHICO SCIENCE FAIR

GATEWAY SCIENCE MUSEUM
CALIFORNIA STATE UNIVERSITY, CHICO

PARACHUTE PLUNGE CHALLENGE

Design & launch your prototype parachute!

Challenge Goal: To design and flight test a parachute using any materials.

Instructions:

1. Choose any materials to construct your parachute & record them in your data table. Need some inspiration? Here's some great materials: cups, yarn, plastic bags, paper bags, coffee filters, ribbon...
2. Assemble your parachute using your chosen materials. Don't forget to include your skydiver!
3. Drop your parachute! Measure the height of your launch point with a tape measure or ruler. Time how many seconds it takes for your parachute to hit the ground.
4. Record your results on the data table.
5. Analyze your results. Calculate the drop rate by dividing the height of the drop by the time it took to drop.
6. What changes would you make to your design to improve your parachute?

ABOVE & BEYOND

How heavy was the skydiver attached to your parachute?

What would happen if the skydiver was lighter? Or heavier?

Would it make your parachute drop faster or slower?

PARACHUTE PHYSICS

Would you ever skydive? When a skydiver jumps out of a plane, they fall toward the Earth because of gravity. Once they open their large, wide parachute, it has to push through the gas molecules in the air. This air resistance, or drag, slows down the parachute so that the skydiver can glide safely back to Earth!

AIR RESISTANCE (DRAG)

upward force when the parachute catches the air. This slows down the parachute as it falls.

GRAVITY

downward force with the weight of the skydiver.

CHICO SCIENCE FAIR

GATEWAY SCIENCE MUSEUM
CALIFORNIA STATE UNIVERSITY, CHICO

DATA SHEET

Use the table below to record your parachute plunge. There is room here to describe 3 different parachutes, but you can design as many as you want! Fill in the materials you used, the height that you released your parachute, how many seconds it took for the parachute to fall to the ground, calculate the drop rate, and record any observations about your parachute plunge. Did the parachute fall very fast or slow? Who was your skydiver?

PARACHUTE	PARACHUTE MATERIALS	HEIGHT OF DROP (FEET)	TIME OF DROP (SECONDS)	RATE OF DROP (FEET PER SECOND)	PARACHUTE OBSERVATIONS
1					
2					
3					

CHICO SCIENCE FAIR

GATEWAY SCIENCE MUSEUM
CALIFORNIA STATE UNIVERSITY, CHICO