HOW DO HOT AIR BALLOONS WORK?
Hot air rises. The balloon envelope traps a large amount of air. If the air in the envelope is heated by a burner, the balloon will rise. If the air in the envelope is allowed to cool, or to escape, the balloon will descend. The balloon pilot uses instruments mounted in the basket to control how hot the air in the balloon is, how fast the balloon will rise or descend and how high the balloon will fly.

WHAT ARE BALLOONS MADE OF?
The most visible part of the balloon is the envelope, which is made of light, yet strong, nylon fabric. Nylon webbing helps to make the envelope stronger. The basket (also called the gondola) is made of a strong, flexible woven wicker material and is attached to the envelope with steel cables. The instrument panel and fuel tanks are located inside the gondola.

HOW BIG ARE HOT AIR BALLOONS?
While balloons will vary in size and shape, most sport balloons (like many of those flying at this event) are about 50 feet wide (diameter) and roughly 70 feet high. Many balloons are about as tall as a seven-story building! Most balloons have an air capacity of around 70,000 cubic feet of air. Most sport balloons can carry 3 to 4 people. Generally, special shape balloons are much larger and have a much greater air capacity.

HOW ARE HOT AIR BALLOONS INFLATED AND HOW MANY PEOPLE DOES IT TAKE?
Getting a hot air balloon into the air takes about 20 minutes. The envelope is spread out on the ground and the gondola is laid on its side and attached to the envelope. A portable fan pushes cold air into the envelope. When the envelope is about half inflated with air, a propane burner is ignited until the air inside the envelope is heated enough for the balloon to rise to an upright position. With a small amount of additional heat, the balloon will fly. Balloons require a minimum of three crewmembers and a pilot to get into the air. Most balloon crews are much larger than that. Each person on the crew has different responsibilities from preparing for launch, to following the balloon in a chase vehicle, to seeking permission from landowners to land at the end of the flight.

HOW MUCH DO THE BALLOONS WEIGH?
A typical balloon system including the envelope, gondola, fuel tanks with fuel, will weigh about 500 pounds when it is deflated on the ground. In the air, the complete system including the air inside the envelope will weigh about 2.5 tons!

WHAT KIND OF FUEL DO THE BALLOONS USE?
Liquid propane is used to heat hot air balloons. Fuel is carried in stainless steel tanks located in the balloon gondola. Fuel is delivered to the balloon burners, which shoot six to eight foot flames into the envelope. A typical balloon flight, lasting 1.5 hours will use approximately 22 gallons of propane.
WHAT IS A TYPICAL FLIGHT LIKE?
Most hot air balloons can stay aloft for one to two hours, depending on the weather conditions and the weight being carried in the gondola. Some flights can last as long as three to four hours. Generally speaking, pilots are not able to steer hot air balloons. A balloon drifts in the same direction and speed of wind.

However, because winds blow in different directions at different altitude, pilots can “steer” balloons by selecting different altitudes. Altitude changes are achieved through longer and shorter burns from propane burners. Pilots can, however, study wind currents to determine the general direction the balloon will fly.

When a balloon is launched, the crew follows the balloon in a chase vehicle and meets the balloon where it lands. The crew helps the pilot deflate, disassemble and pack the balloon equipment.

WHAT IS THE BEST TIME TO FLY?
Hot air ballooning is a year-round sport. Weather conditions for ballooning are just after sunrise and two to three hours before sunset. Light, ideal wind conditions (0-8 miles per hour) often occur during these times. During the day, when the sun is high, thermals (large bubbles of hot air that rise from the earth) make ballooning unpredictable and hazardous.

HOW HIGH DO BALLOONS GO?
Sport ballooning is most enjoyable when flying at 200 to 500 feet, just above the treetops. However, when flying over residential areas, balloons are required to maintain an altitude of 1,000 feet. Some flights in hot air balloons have been recorded at over 50,000 feet!

HOW MUCH DOES A BALLOON COST?
The average balloon costs from $12,000 to over $25,000. This price includes the envelope, gondola, fuel tanks, and instruments.

CAN ANYONE PILOT A BALLOON?
Balloon pilots must have an aircraft pilot’s license, especially for balloons. The license is issued by the Federal Aviation Administration (FAA) and is earned after taking hours of instruction with a balloon pilot instructor, passing an FAA written test, making a solo flight, and passing a test flight with an FAA examiner. All pilots flying in this event are licensed by the FAA.