Scientists at NASA have developed a new generation of spacesuit, called the xEMU. The new spacesuit is simpler to put on and take off than older spacesuits, and it is also lighter and more flexible. Most importantly, the xEMU spacesuit includes new technology. It has a built-in communication system that eliminates the need to wear a separate headpiece. It also has high-definition cameras, thermal and dust protection, and an improved carbon dioxide system that allows astronauts to spend up to 9 hours outside their spacecraft.

Part 1: Answer these questions based on what you read above.

1. Why do you think scientists made the xEMU spacesuit lighter and more flexible?

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2. How long can astronauts wear the new suit comfortably?

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3. List two ways the xEMU suit has been improved over the old spacesuit design.

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Part 2: The xEMU spacesuit will come in two designs. The Orion astronauts will wear a bright orange suit, the traditional NASA color for spaceflight. On the Moon, astronauts will wear a white xEMU with color blocks of red and blue.

Here’s Snoopy in his Orion spacesuit, made of the same materials the astronauts will wear! If you could design a spacesuit, what colors and design would you use? Draw your idea on the back of this sheet and add notes about the features you’d want to build into your spacesuit.

Families: You can learn more about NASA’s new generation of xEMU spacesuits by visiting www.nasa.gov/suitup.