STEM

The Battle between 2-D and 3-D

Shapes

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Welcome!

Olivia enters the noisy convention hall. She spots the welcome poster above the sign-in booth. Walking far ahead of her friends, she quietly makes her way through the crowd.

Olivia stays quiet as she approaches the booth. She assumes the staff will know who she is. After all, she's the creator of *Technicolor Jet*. She prepares to receive her well-deserved compliments and praise. Just then, she finds Jack Larkin, the famous video game **designer**, unexpectedly standing next to her. He is only inches away. The staff makes a big fuss over him. Olivia tries to remain cool and unfazed. She pretends not to notice, except she feels her heart racing. She is in the presence of a legend. Butterflies begin to flutter in her stomach. Her palms start to sweat. She gulps nervously.

"Attention, all **2-D** and **3-D** finalists. Please report to **Amphitheater** 7," a deep voice announces over the loudspeaker.

Olivia quickly gives her name to the sign-in booth staff to receive her convention badge. She races through the mob of people, name tag in hand. She travels back the way she came. This time, she is less confident and self-assured. Olivia moves cautiously though the convention hall in search of Amphitheater 7.

A small crowd awaits the start of a competition in a dark amphitheater.

The contestants take a long escalator to an underground amphitheater. A small crowd of gamers looks on. Jack and Olivia take their places on the raised area at the center of the stage.

The **emcee** begins, "Welcome to the National Gaming Challenge. Today's competition is between the finalists of the 2-D and 3-D categories. Jack Larkin will create two-dimensional video games, and Olivia Kuan will work in three-dimensional virtual reality. There will be four rounds of competition. Each round will focus on a different shape. Whoever creates the best games will win and…become the new reigning champion!"

Visions of classic video games flash in Jack's head. His old favorites always come to mind whenever it is time to design a new game.

Olivia begins chewing her gum in slow motion. Her mind, though, is moving at lightning speed. She silently vows to create something that no one has ever imagined.

"Do you accept this challenge?" the emcee asks Jack and Olivia.

"I do," they both answer. They give each other a quick glance.

"Then, let the games begin," the emcee declares to the audience. "Competition will start tomorrow. Tonight, have some dinner and meet new people. Good luck to you both!".

LET'S EXPLORE MATH

Jack designs classic 2-D games. Identify the polygons used in the characters below.