(1) The Asteroid Redirect Vehicle (ARV), powered by advanced Solar Electric Propulsion, is deployed to rendezvous with a large asteroid. (2) The ARV prepares to descend to the asteroid surface. (3) The ARV captures a boulder from the asteroid’s surface. (4) The ARV demonstrates planetary defense on a hazardous-size asteroid before it (5) begins its transit toward a stable orbit around the moon. (6) The powerful Space Launch System rocket leaves Earth (7) with two crew members (8) aboard the Orion spacecraft. (9) The astronauts conduct spacewalks to investigate the asteroid boulder before returning to Earth with samples.