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Curriculum Units by Fellows of the National Initiative
2022 Volume IV: Alien Earths

An Alien Earth, Far, Far Away!

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In the unit “Alien Earths,” students will engage and explore our solar system and celestial bodies outside of our solar system. This unit is written for 5th grade students but may be adapted for 4th and 6th grades. Students will gain extensive background on the order of the eight planets (from closest to farthest) that revolve around the sun and understand the definition of astronomical units, which are used to calculate the distance between objects in space. Students will engage in computer simulations of planets to learn the composition and atmosphere of each planet. Students will learn the similarities and differences between terrestrial planets, gas giants, and dwarf planets. Students will define key terms such as “the Goldilocks Zone”, “exoplanets” and learn about other alien earths in our planetary system. Students will study Jupiter’s moon, Europa, and Saturn’s moon, Titan, and how they show signs of habitability. At the end of the unit, students will create their own scale model of the distance between planets and from the Sun. The students will also represent the diameters of the planets and Pluto to scale. This unit addresses Next Generation Science Standards 5-ESS1-1 and MS-ESS1-2.

(Developed for Earth Science, grade 5; recommended for Earth Science, grades 4 and 6)

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