

# Urban Skies, Bright Minds: Transforming Astronomy Education in Bangkok's Boarding School

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Vajiravudh College, a prestigious all-boys boarding school located in the heart of Bangkok, faces environmental limitations that challenge conventional astronomy education—particularly light pollution, PM2.5 air quality, and urban obstructions. To overcome these constraints, the school has implemented an active learning approach that blends classroom instruction with experiential and outdoor learning. Students from Grades 4 to 12 participate in hands-on activities such as modeling cosmic expansion, studying stellar spectra, using planispheres and planetarium software, and exploring real astronomical tools like binoculars and telescopes. The boarding schedule, which alternates every two weeks between school and home, allows for both daytime and nighttime learning modules to be conducted in immersive blocks.

To enhance engagement, the school integrates external workshops from national institutions such as the National Astronomical Research Institute of Thailand (NARIT), providing access to real-life models, demonstrations, and mobile applications that stimulate deeper understanding. Astronomy learning is also creatively woven into other school programs—for example, in the Scout curriculum, students use astronomy apps and equipment to complete missions like locating treasure chests aligned with constellations, culminating in constructing solar masks and observing the Sun during the day.

These integrated strategies not only make astronomy accessible in an urban environment but also ignite long-term curiosity and excitement among students. By combining digital tools, observational practice, cross-curricular design, and authentic learning experiences, Vajiravudh College offers a replicable model of how urban schools can create deeply engaging and effective astronomy education—even under light-polluted skies.

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