

## Unit 2

### Radio Phenomena

#### Lesson 2.5

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**Lesson Title:** Satellite Operation

**Curriculum Area(s):** Science

**Grades:** 6 – 8

**Duration:** 2 class periods

**Content Standard:** SC-2

**Benchmarks:** SC-2.1  
SC-2.2  
SC-2.3

**Goal:**

- Develop students' understanding of the fundamentals of radio wave propagation and how it is utilized in today's technological world.

**Objectives:**

- To understand Amateur Satellite Operations
- To understand Earth-Moon-Earth (EME) Communications

**Resource Materials:**

*Now You're Talking*

*Radio Wave Propagation*, pages 3.1-3.9

*ARRL Operation Manual*, page 4.4

*ARRL Instructors Manual*, pages 5.5-5.6

**Instructional Content:**

Amateur Satellite Operations

Earth-Moon-Earth (EME) Communications – Moonbounce

**Suggested Activities:**

Teacher: Download and display the WinOrbit 3.6 from [www.amsat.org](http://www.amsat.org). With this program you can display and printout the orbital paths of any of several amateur satellites in real time.

Locate OSCAR 14 on the computer.

Display the path of OSCAR 12 for the next 24 hours.

Determine when OSCAR 14 will make its next closest pass to your geographical location.