# Guide for Teachers from Mission Control

**Overview:**
SpaceOLÉ is an online expedition that utilizes a collaborative research simulation curriculum, developed by the Miami Museum of Science, to challenge students to explore cyberspace, interact with scientists, and learn as much as they can about one of the planets or moons in our solar system. They bring their findings to the SpaceOLÉ Summit to present the possibilities for humans to survive there.

The curriculum provides three options for student work.

- **Discovery** is designed to familiarize students with basic space/science information.
- **Voyager** requires higher level questioning and reasoning.
- **Explorer** encourages student-led investigations, and requires that students determine what important factors they should consider in their project.

**Discovery/Voyager Directions:**

| Time Allotted | Activity | Location | Resources |
|---|---|---|---|
| 10 min | • Assign students into cooperative groups of four students each. The number of groups will depend on the class size. | Classroom | N/A |
| 10 min | • Assign each group a destination. Recommended destinations are listed below. *(They are recommended on the basis that enough is known about them to provide students with sufficient information to complete their Challenge Questions and Job Cards.)*<br>✓ Mercury<br>✓ Venus<br>✓ Mars<br>✓ Jupiter<br>✓ Io<br>✓ Europa<br>✓ Ganymede<br>✓ Saturn<br>✓ Titan | Classroom | N/A |

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| | ✓ Uranus<br>✓ Neptune | | |
| 30 min | • Introduce the project.<br>• Assign each group member a scientific role:<br>✓ Geologist<br>✓ Meteorologist<br>✓ Astronomer<br>✓ Biochemist<br>• Distribute the corresponding Job Cards, Challenge Questions, Data Collection Journals and Questions for the Experts forms.<br>• Discuss with students the role of each type of scientist. | Classroom | SpaceOLÉ materials for each student:<br>• Job Card<br>• Challenge Questions<br>• Data Collection Journ<br>• Questions for the Exp |
| 30 min | • Demonstrate how to use the Internet, how to navigate through the SpaceOLÉ web page, and how to access the links.<br>• Demonstrate how to do an Internet search.<br>• Discuss Research Resources that can be used on the Job Card. | Computer Lab | • 20-25 computers<br>• Internet access |
| 50 min<br>1 or 2 sessions | • Students answer the Challenge Questions on the Data Collection Journals using the information they gather online. | Computer Lab | • 20-25 computers<br>• Internet access<br>• SpaceOLÉ materials |
| 20 min | • Students will discuss in groups if the information gathered is sufficient to complete the Scientist's Assignment on the Job Card.<br>• Students will add new ideas to their Data Collection Journals. | Classroom | • SpaceOLÉ materials |
| 15 min | • Ask students if there are some questions they could not answer.<br>• Discuss these questions in class and access if they should add these questions to the Ask The Experts Sheet. | Classroom | • SpaceOLÉ materials |
| 15 min | • Students will send their questions to the experts. | Computer Lab | • 20-25 computers,<br>• Internet access<br>• SpaceOLÉ materials |
| 50 min | • Students will compile their recommendations, findings, and answers from the experts into a PowerPoint Presentation.<br>• Note: If students are novices at creating PowerPoint Presentations, increase the allotted time. | Computer Lab | • 20-25 computers,<br>• Internet access,<br>• PowerPoint,<br>• SpaceOLÉ materials |
| 80 min | • Students present their findings in class | Computer | • A computer connecte |

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| | | Lab or Classroom | a projection board<br>a large TV monitor<br>• PowerPoint<br>• SpaceOLÉ materials |