

Models, Technology and Timelines

A Multifaceted Approach to Space History

Objective: Participants will use technology as they explore U.S. space exploration events and build physical models of spacecraft with conductive modeling clay. This activity includes spacecraft and significant U.S. accomplishments from the past, present, as well as events and spacecraft projected for the future.

Teacher Preparation:

1. Download all documents at the following link – www.challengerscobe.org/space-exploration-timeline
This link includes the timeline cards, student handouts and “Squishy Circuit” conductive clay information.
2. Gather the materials for the conductive clay and building components. Organize clay into section of 1/3 pound each (137 g) which gives you approximately a 3 inch (7.5 cm) diameter ball. Set aside.
3. Shuffle and then organize cards for the number of lab groups for the class. Be sure to include at least one spacecraft, manned or unmanned, pictured in each grouping.

Classroom Activity:

1. Allow time for students to read and discuss each event. Have them order the events they have in their group. They can begin working on their “Space Timeline Exploration Activity” sheet.
2. Provide technology or allow students’ to use their own person devices to discover interactive resources on the timeline using a QR code app or Aurasma.
3. Instruct groups to choose a spacecraft to build from their cards.
4. Give each student group a ball of conductive clay (approx. 3 inch diameter ball) and circuit building materials. Allow time for construction.
5. Have students create a label using an index card for their model listing the name of the spacecraft and date.
6. Instruct students to work cooperatively with other groups to create the full timeline by placing their event cards in chronological order. Models of the spacecraft can be displayed near its timeline card location.
7. As students travel around the room to learn about significant events in space exploration they will complete their timeline facts (date and summary sentence for each event) on the handout.
8. Have them complete the Space Timeline Activity sheet using the complete timeline and class model spacecraft.