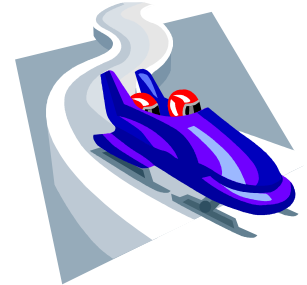# Design Challenge: Echo Base Bobsleds

Echo Base Bobsleds:
Can you design a bobsled to race down the icy hills of Hoth as quickly as possible?

Design!

1 Ask: Explore the materials available. Which materials are the heaviest or lightest? Which materials slide well? Test some of the sample materials by rubbing them on the counter. How do they perform? Brainstorm different combinations of materials you could use to design your bobsled. Examine the photos of actual bobsleds. How could you build your bobsled to look similar. Decide weather you will design a fast or slow bobsled. How will weight effect for design. Think of many possible designs and and discuss them with your team. Pick one idea you would like to design and test.

2 Create: Determine which materials you will use. How will you attach all of your components to the bobsled base? Construct your design with the materials you have selected.

4 Test: Ask design challenges staff to help you test your design! Test each track with a single design to see which track produces the best result.

5 Improve: Change one variable of your design and test it again. Which design worked best? What did you learn from your tests? Record your results on your worksheet. How could you make an even faster or slower design? Plan your new design and then ask design challenges staff to help you test it again. Is your new design faster? Slower? Why? Continue testing and redesigning until you achieve the best bobsled.

DESIGN CHALLENGE: ECHO BASE BOBSLEDS

DESIGN AND TEST:
Describe your design and record how quickly your bobsled made it to the bottom of the track.

Describe/sketch your design	Track (flat/curved)	Time