The name of this student text is
“Examples of Cratering in our Solar System”

We will observe some examples of impact craters that have occurred on different planets of the Solar System in the past.

For each of the accompanying tactile cards, you will get an idea of the size and structure of the remnants of these collisions from long ago.

There will be questions for you to answer for each tactile card. Record your responses in the Cratering in the Solar System Report Sheet.

These tactile images represent craters as seen from a spacecraft looking down toward the ground. The dotted area of each card represents the surface features before the impact occurred.

Let’s begin our cratering journey with a visit to one of Earth’s neighbors, Mars.

Find the card number, either in print or in Braille, in the upper left corner. From the card number move your left pointer finger to the right. Find the open circle starting point in the middle of the top of the card.

Place another finger of your left hand on the edge of the card to help your pointer finger travel straight down from the starting dot.

Move your fingers down until your pointer finger until you find a raised irregular shaped figure with a clear circular non-textured area in the middle of it.

Notice that it feels indented, indicating that it a depression. That it is lower than the surrounding surface of the planet. This depression represents the crater where an impact took place on Mars.

Is it possible to tell how deep the crater is on the tactile card?

What aspect of this crater can we measure?

Let’s measure the diameter of the crater. Move your finger from this circle to the bottom left hand corner of this card. There you will find a series of lines.

Locate the top line. This is the scale bar. It represents a distance of about 3.00 kilometers (or 1.86 miles) on the surface of Mars.

The line directly below this represents the diameter of the crater.

Compare the length of the two lines.

How does the diameter of the crater compare with the scale line of 3.00 kilometers?

What would you estimate the diameter of the crater to be? Use a ruler to measure the length of both lines in order to determine the diameter of the crater.

Now return to the crater (circle) in the middle of the tactile card. Feel the raised area of the card that surrounds this crater on the surface of Mars. What do you think this raised area represents?

Why is it surrounding the crater?

How do you think it formed?

Now feel the outline or perimeter of the raised area that surrounds the central crater. Describe the shape in your own words.

Describe the distances from the central crater and the perimeter of the raised area.

Outside of the raised area the remainder of the card is filled with dots representing the other surface features on the body that we will not consider. In fact, these areas may include additional craters, highlands, cliffs, lowlands, and other interesting features.

The remainder of the cards in this activity will follow this same pattern. Each of them will have a central crater which is indented, a raised area representing an ejecta pattern, and a dotted area that

surrounds the entire feature that represents the landscape that was impacted.