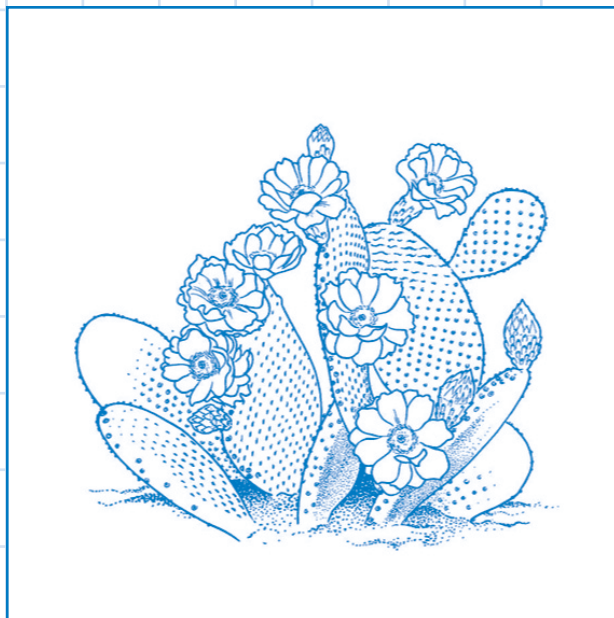
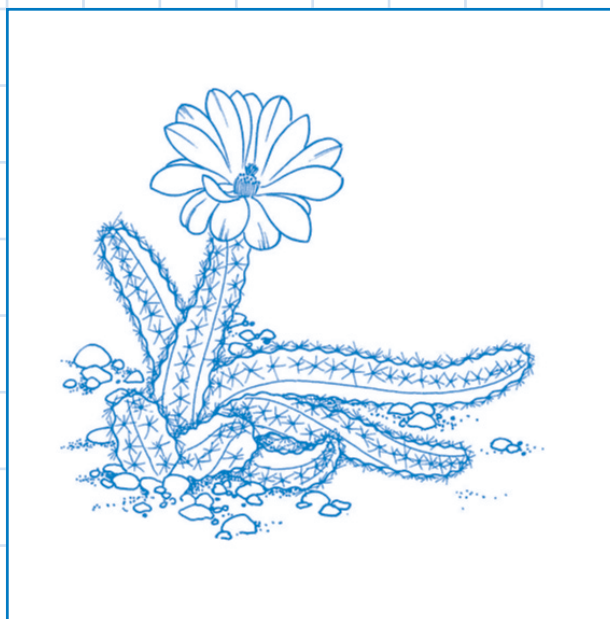
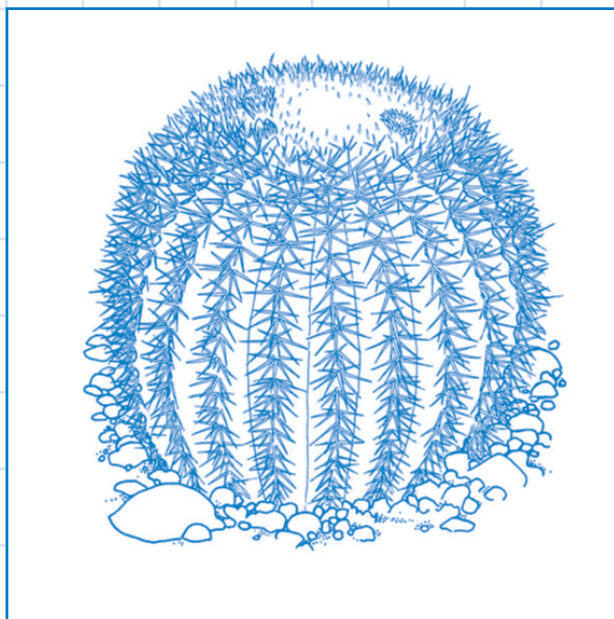


Date: _____

Cactus Plants

Look at the pictures below to see some of the physical characteristics of different cactus plants.



Modeling How a Cactus Saves Water

Materials

Item	Quantity	Notes
Paper towels	13 sheets per group	To make into model "stems."
Trays	1 per group	To put the stems on in a warm place.
Twist ties	12 per group	To hold the stems together.
Water		To soak the model stems.
Waxed paper	1 sheet per group	To wrap around one model stem.

Directions

1. Model the shape of a regular plant's narrow stem:
 - a. Roll one paper towel tightly into a column.
 - b. Tie three twist ties around the column: one at the top, one at the bottom, and one in the middle.
 - c. Put the paper towel column in water.
 - d. Squeeze out the extra water and place the column on the tray.
2. Model the shape of a cactus plant's fat stem:
 - a. Stack six paper towels in a pile.
 - b. Roll the pile tightly into a column.
 - c. Tie three twist ties around the column: one at the top, one at the bottom, and one in the middle.
 - d. Put the paper towel column in water.
 - e. Squeeze out the extra water and place the column on the tray, not touching the first column.
3. Model a cactus plant stem with its waxy outer coating:
 - a. Stack six paper towels in a pile.
 - b. Roll the pile tightly into a column.
 - c. Tie three twist ties around the column: one at the top, one at the bottom, and one in the middle.
 - d. Put the paper towel column in water.
 - e. Squeeze out the extra water.
 - f. Wrap the column with waxed paper, and add three more twist ties on the column.
 - g. Place the column on the tray, not touching the others.
4. Place the tray in a warm and dry spot, such as in the sun.

Date: _____

Modeling How a Cactus Saves Water

After leaving the three model "stems" on a tray in a warm and dry place until the flat paper towel dries, do this:

1. Unroll the one-towel column that models a regular plant's narrow stem.

Describe the inside. Is the inside still wet? How does it feel?

2. Unroll the six-towel column that models a cactus plant's fat stem.
Describe the inside. Is the inside still wet? Is it more wet or less wet than the narrow stem?

Date: _____

Modeling How a Cactus Saves Water

3. Unroll the six-towel-plus-waxed paper column that models a cactus plant stem with its waxy outer coating.

Describe the inside. Is the inside still wet? Is it more wet or less wet than the other two stems?

4. Think. What physical characteristics does a cactus have that help it save water?