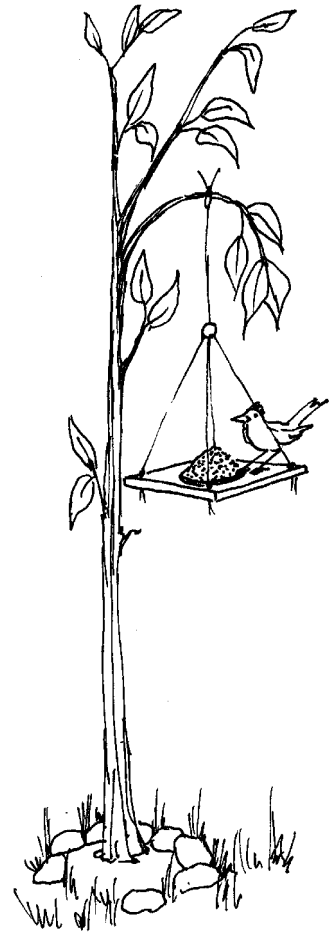


## CHAPTER 3 — Basic Skills

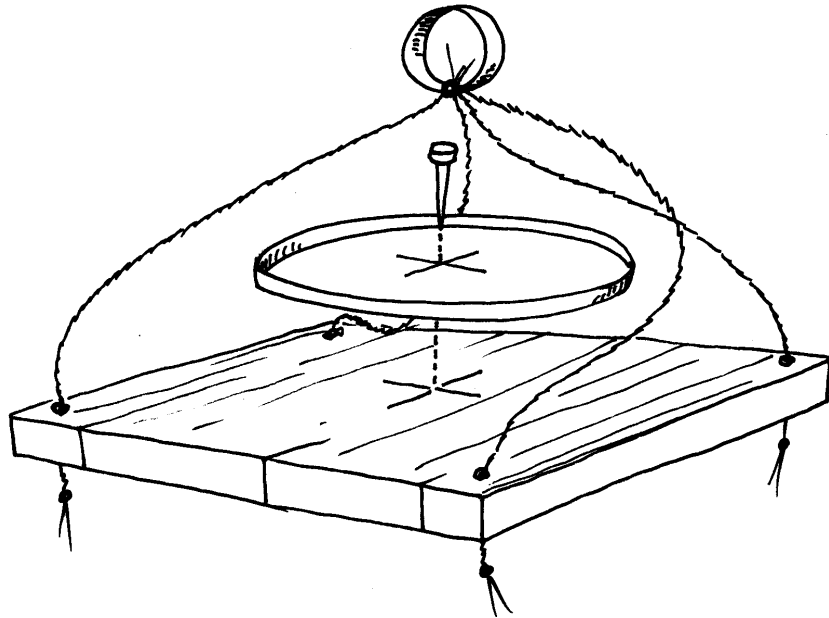
- A. Captain Meriwether Lewis discovers an interesting rock and wants to determine its hardness. He uses the objects shown in the following chart to see if they will scratch the rock he found. The hardness value of each object is given.

Object	Hardness Value	Does object scratch the new rock?
Fingernail	2.5	No
Copper coin	3.0	No
Glass	5.5	Yes
Steel file	6.5	Yes

- Which of the following is true about the hardness of the rock?
    - It has hardness of less than 2.5.
    - It has hardness between 3.0 and 5.5.
    - It has hardness between 5.5 and 6.5.
    - It has hardness greater than 6.5.
  - Collect at least five different rocks in your environment. Classify them by type and name. Then place them in order from softest to hardest.
- B. You have read about the many birds described by explorers to your region. Now you have decided to build a bird feeder to attract these birds.
- Explain in words and diagram how you could use the information given to find the total cost of materials. You will need the following materials to construct the birdfeeder:
    - 12- by 12-inch board (or a vinyl floor tile)
    - Plastic lid from a coffee can or oatmeal carton
    - Finishing nails
    - Metal ring, 1 to 2 inches in diameter or a piece of wire
    - Twine



2. Work with a partner to build a birdfeeder such as the one shown in the illustration.



- Sketch the birdfeeder and scale the drawing to actual size. If the bottom board or platform is 12 by 12 inches, then how long should the string lengths be to stabilize a hanging birdfeeder?
- Hang the birdfeeder from a tree or somewhere else where you can observe birds feeding.
- Record the number and types of birds that use the feeder over a period of several days.
- Make proportionally sized sketches of the different birds and color the sketches accurately.
- Note findings such as the time of day which birds use the feeder. Write a report presenting your findings.