



Time Needed

35 minutes

Materials needed per student group:

- One sheet of blank paper, 8.5- X 11-inch.
- Crayons or colored markers (brown, black, red, orange, yellow, and gray).
- Stapler.
- Scissors.

The question you will answer in this FACTivity is: How can a series of Landsat images help scientists estimate a forest's age over time?

Process:

Cut the sheet of paper into 8 equal pieces. Staple one side to make a small book. Number each sheet of paper in the lower right hand corner. The first page will be 1, the next page will be number 10. Then number each page in increments of 10 (20, 30, 40, and so on, until you have numbered all of the pages). Draw a large empty circle on each page.

Each of these numbers represents a person's age, from age 1 to 70. The circle represents the top of a person's head, as if you were looking down at them from above.

Think for a moment of a person's hair color. Hair gradually loses its **pigment** and becomes white (or gray) as a person ages.

Now color the circle (the top of a person's head) for each age. You decide when your person starts to get some gray hairs. Over time, your person becomes completely gray. Make this as realistic as possible, based on when you think most people's hair starts to become gray, and when it becomes completely gray.

As a class, complete the chart below. (You may put this chart on the whiteboard or blackboard.)

According to your class, at which age are people most likely to see their first gray hairs? At which age are they most likely to become about half gray? At which age are people most likely to become completely gray? If you had a stack of photographs of the tops of people's heads, how could you use this activity's results to help you assign an age to each head?

Compare this activity with the use of Landsat images in the study you just read. How are they similar? How are they different? Answer the question posed at the beginning of the FACTivity. What in this FACTivity is similar to the actions of scientists working within forests on the ground? What makes them similar?

| Age of person | 1 | 10 | 20 | 30 | 40 | 50 | 60 | 70 |
|--|---|----|----|----|----|----|----|----|
| Number of heads showing their first gray hairs | | | | | | | | |
| Number of half-gray heads | | | | | | | | |
| Number of completely gray heads | | | | | | | | |