Although I spent about four years collecting my specimens, and about four or five months in the actual construction of my display, many long weeks and months were spent studying over books and talking to geologists.

Minerals and geology are a seed of enjoyment to me. I have found that they will not only give you pleasure, but that they will be a constructive education, training the eyes to see, and the mind to think straight. I have found that a person should show his collection to as many of his friends as possible. He should tell them of the pleasure collecting minerals has brought him, of the wonderful beauties of color and form he has seen for the first time in studying minerals, and of the interesting readings to which they have led him, of the delightful trips he has made and is planning to make, and of the high class friendships he has made, and he will grow more and more enthusiastic over collecting and studying minerals. No one ever regretted the time and effort spent with minerals.

MY FIRST YEAR IN ASTRONOMY

NICHOLAS KENT DEMUTH
Mabel C. Williams High School, Germantown, Tennessee

In the fall of 1954 my science teacher mentioned something about building a telescope. Three friends and I started work on grinding a mirror for a Newtonian Reflector type telescope. After we had worked on the mirror for a while, we found out about having a science fair in Memphis. I took the telescope as a project. The mirror that we started was never finished because of the time it took for one person to grind and polish it.

After a mirror, eye piece and eye piece holder, cardboard tube, and a few other things were purchased and a few things borrowed or given to me, I started making various parts and putting others together. The mirror holder was made from two pieces of wood turned out on a lathe. The tripod was made from pipe and pipe fittings. The main tube was made from a cardboard tube. The tube saddle was made from a wood strip, two pieces of 1½ in. angle iron and two strips of 1½ in. metal. This type of telescope was brought into use by Sir Isaac Newton.

The main parts of the telescope are the eye piece, concave mirror, and the diagonal mirror. The top end of the tube is open. The light enters the open end and hits the concave mirror at the bottom of the tube. The mirror reflects the light to the diagonal mirror which is in the center of the top end of the tube. The diagonal is at a 45° angle to the tube. The light rays are then bent at right angles and are magnified by the eye piece. The eye piece is located on the tube at a right angle to the tube. My telescope is equipped with an equatorial mount.

With a mount of this type, if all adjustments are right, a star or the moon may be followed with only one motion of the telescope. The camera unit for the telescope was made from plywood bolts. Making the telescope was fun, but it did take a lot of time.

I would like to mention the names of four persons who helped me most on my project: Mr. John Barnes, my principal, who did the financing; Mr. George Sanidor, my science teacher, who got me started and gave advice; Mr. J. A. Williams, my shop teacher, who gave me advice, time to work, a place to work, and a lending hand when I needed it; Miss Billie Franklin, a friend, who helped me on my poster and did typing for me.

RELATION OF ANIMALS TO HABITAT

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Organisms are classified as to phylum, order and genus. A few are to the species, on my chart. I studied animals in relation to their habitat in connection with conservation. Since the very smallest of our animals feed upon vegetation, I found them in vegetation or where they can get plant food. Larger animals feed upon smaller animals, and in turn are fed upon by still larger animals. Thus all become a link in the food chain. Man eats fish that have eaten animals, that have eaten animals that have eaten plants. If we know the food, plants, and the habitat of the food of birds and fish we can conserve our natural live resources. We also get a great deal more pleasure when we spend leisure time along the lakes, ponds, streams, and sea shores because we learn to see more and understand what we see.

The mill-pond is fed by springs at the farthest point from the spillway. It is situated in a ravine, the hillsides getting lower near the dam until on one side it is almost level ground. The mill race is closed off since the mill is no longer used. Even near the dam but outside the lake there are small springs forming swampy ground along the brook formed by the spill way.

I was unable to get the depth but in places the bottom was visible. Near the center of the pond it was once very deep. Although the pond has filled in a great deal, the depth does not vary with rain fall nor does it get muddy. This gives permanent pond conditions and I found animal and plant life abundant. At the head waters, water cress grows out for twenty-five feet or more on both sides of the spring. One spring bubbles up right out of the sand bottom about 50 feet from shore. The water appears about 1½ to 2 inches deep from shore.

In the water cress many salamanders were found and just out of the vegetation whirley gig beetles moved in and out. The