ment for younger children, and has to be fitted in older sizes.

The new project is to measure normal children aged one to 14 years, in eight different states, and to measure children that come from three levels of economic home life, and children with different racial heritages from the American melting pot.

The project has never been attempted before, says Miss Ruth O'Brien, textile and clothing specialist of the Bureau of Home Economics, U. S. Department of Agriculture, because it is such a huge task, requiring careful organization.

Now it is started, with the Bureau of Home Economics leading the work, in cooperation with institutions in the eight states, and with young people from the National Youth Administration to help in the big fact-and-figure gathering task.

Conferences

At the Bureau of Home Economics, in Washington, D. C., conferences are being held with representatives of the clothing and pattern industries, and with state institutions that have so far lined up for the work.

Six states represented at a recent conference show the variety of these institutions — colleges, experiment stations, child research agencies:

Iowa — Iowa Child Welfare Research Station, State University of Iowa.

New York—Vassar College.

Pennsylvania—Pennsylvania State College.

Kansas—Kansas State College of Agriculture and Applied Science.

Texas—Agricultural Experiment Station, Agricultural and Mechanical College of Texas.

Minnesota — College of Home Economics, University of Minnesota.

The Division of Home Economics of Iowa State College may also take part.

Knees and Elbows

Measurements that will be most useful are now being decided. They will include such figures as waist circumference, knee circumference, shoulder length, slope of shoulder, arm length.

To show what amount of "give" a garment should have for comfort on a lively child, the children will be measured from waist to back of knee while bending forward. Children will also be told to bend one arm akimbo, so that the difference between the straight and bent arm for sleeve purposes can be determined.

All the measurements will be taken with scientific tools (*Turn to Page 286*)

MEASURING A BEND

Dr. Eleanor Hunt, anthropometrist, runs her tape line from waist to back of knee in a position showing the amount of give a boy's garments may need. This measurement is particularly useful to bathing-suit and underwear makers.

BACTERIOLOGY

Making Diets for Germs Is Complicated Task

THE housewife, suddenly called upon in illness to provide a special diet for some member of her family, thinks she has a difficult job on her hands. Playing dietitian to bacteria is even more of a task. Yet it must be accomplished if scientists are to keep bacteria growing in laboratories for research. These single-celled organisms, many of which make trouble by causing serious diseases, are too small to see without a microscope.

Being made up of only one cell, they are generally regarded as very simple, primitive forms of life. There is nothing simple about their dietary requirements, however. In fact, so fastidious are they that many of them can be identified by the particular kinds of food they require for growth.

Among the indispensable elements in the diet of bacteria are carbon, nitrogen, hydrogen, oxygen and phosphorus. These are the meat and potatoes, so to speak, of bacterial diet. In addition, bacteria require small traces of other substances, such as iron, magnesium, cadmium, manganese, potassium and calcium.

Like humans, bacteria also require vitamins. Yeast, for example, could not be made to grow on synthetic media without the vitamin called bios. More recently, it has been found that a substance called pantothenic acid is active in stimulating the growth of yeast. The diphtheria bacillus requires foodstuff of a vitamin-like character found in meat extract. A substance from molasses acts like a vitamin in the diet of legume nodule bacteria.

Some bacteria can build new tissue from raw material without outside aid, but other bacteria apparently need some ready-prepared foods in their diet. The amino acids, which are the building stones of the protein molecule, are one example of the sort of ready-prepared food required by some bacteria. They are also essential in the diet of man, but while the same amino acids are essential in the diet of all humans, different bacteria have different requirements in this respect also.

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The London public can check the accuracy of a ruler or tape line or measuring chain by going to Trafalgar Square and fitting the measure to standards of length marked in bronze on a wall there.