

SCIENCE QUIZ ANSWERS

Now that you have taken the science aptitude test, you are ready to check your answers.

Correct answers to Part A are: 1, 2; 2, 4; 3, 1; 4, 4; 5, 4; 6, 4; 7, 3; 8, 3; 9, 1; 10, 3; 11, 3; 12, 4; 28, 1; 45, 1.

Correct answers to Part B are: 53, 54, 2; 80, 3; 81, 2.

The correct answer in Part C is: 105, 4.

Of the 19 possible correct answers, if you achieved 15 or higher, you can consider that pretty good. If you got eight or less, that was not so good. Your talents probably lie in other fields. Those who could do as well as the equivalent of 15 on the entire test would have been in the running for consideration for honors in the National Science Search.

Science News Letter, January 24, 1953

ANIMAL NUTRITION

Feed Ramie to Pigs

► PIGS ARE spoiled down in Central America. They are fattened on bananas. Sometimes they live in the house with the folks. They are led from place to place with loving care on leashes, much as we walk the family dog.

But in spite of this porcine attention, there are not enough pigs in this tropical area to supply sufficient low-priced animal protein in the diet of the population. One of the problems has been that there is not enough high-protein pasturage for large-scale production of pork.

Dr. Robert L. Squibb, U. S. animal nutrition specialist and one of many agricultural technicians from the United States who have attacked the problem, thought of using a fiber plant, ramie, as an experimental forage crop. To his amazement, pigs would eat nothing but ramie as long as it was

available, turning up their snouts at ripe bananas and tasty corn.

Ramie is a fast-growing, leafy perennial, now raised in Florida for its exceptionally strong and versatile fiber. Immature ramie has from 18% to 21% protein content, placing it among the high-protein animal feeds.

In the tropical areas of heavy rainfall, it has been observed to grow 20 inches in 20 days. Ramie can be grown almost anywhere in Central America, from the sweltering seacoast up to 5,000 feet in the cool highlands.

Pigs like protein-rich ramie so much that its use has created a new problem. Because they prefer ramie to corn, bananas and other fattening foods, it is hard to make them supplement their diet. Only by removing all ramie or mixing other feeds with it can they be made to vary their diet sufficiently.

This work of U. S. agricultural technicians in Central America was reported in *Foreign Agriculture* (Jan.).

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RADIO ASTRONOMY

Harvard University Moves Radio Telescope

See Front Cover

► THE 25-FOOT antenna of Harvard College Observatory was recently moved through the town of Harvard, Mass., on its way to the Observatory's Agassiz Station.

The antenna was built in one piece in order to obtain great sensitivity at minimum cost. It was moved to the installation site on a trailer, as shown on the cover of this week's SCIENCE NEWS LETTER, with attached winch to maneuver it under overpasses and other obstructions.

When in operation sometime this spring, the radio telescope will be used principally to study the 21 centimeter radiation from hydrogen clouds in our Milky Way galaxy, and may help to trace its spiral arms.

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METEOROLOGY

Coldest and Hottest

► DESPITE CONFLICTING Chamber of Commerce publicity, it is more likely to get colder in Florida than in most parts of California sometime during the next 100 years.

Arnold Court, graduate meteorologist at the University of California, has figured the highest and lowest temperatures likely to hit different parts of the United States during the next 100 years. According to a map he has drawn, lowest temperature in the Florida panhandle for the next 100 years will be about five degrees Fahrenheit. The expected minimum for Florida in the next 100 years is highest near Miami where it will get down to 21 degrees at least once.

However, minimums for San Francisco, Los Angeles and San Diego are all higher. Once in 100 years the temperature at the Golden Gate will hit bottom at 28 degrees, at Los Angeles, 23, and at San Diego, 27. San Francisco's 28 degrees will be the highest low temperature in the country in the next 100 years.

The lowest low temperature in the country in the next 100 years will be minus 64 degrees which Mr. Court expects to hit Montana, near the Canadian border, on at least one day.

Highest temperature likely to be recorded in the next 100 years will be in Death Valley, Calif., where we may expect at least one reading of 130 degrees. There is a big area in the middle of the Great Plains, stretching from the Texas-Oklahoma border up into Iowa and then northwest into Montana which can expect, at one point or more, readings of 115 degrees during the next century.

California's coast will have higher extreme temperatures than Florida. San Fran-

cisco will get at least one 108 reading, while Miami's thermometer will rise only as high as 99 degrees. Mr. Court figured this out on a statistical basis and presents his findings in the *Geographical Review* (Jan.).

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PHYSICS

Atom Spacing Measures Stresses in Minerals

► HARD-TO-DETECT strains in metals and minerals under stress may be spotted by measuring minute changes in spacing between their atoms.

This has been revealed in studies at the University of California at Los Angeles by Daniel Rosenthal, George Sines and Murray Kaufman. Changes in atomic spacing are measured by means of X-rays using the principle of diffraction.

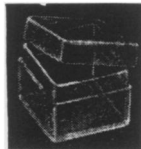
In one phase of the study, it was found that prestressing doubled the ability of one aluminum alloy, used in the aircraft industry, to carry an external load.

The understanding of the behavior of metals and minerals under strain has been greatly clarified in another phase of the investigation. Marble previously deformed was ground up and changes of atomic spacing followed during the process of grinding.

Marble is especially suitable to the studies because its crystalline structure under confined hydrostatic pressure behaves in a manner similar to that of certain metals. Marble can be ground up for detailed laboratory studies without altering the crystalline structure, whereas metals cannot.

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