

Passage II

A scientist wanted to determine the effects of different doses of an experimental drug called PCH. This drug was believed to help control weight gain. To test this hypothesis, four experimental groups of 100 rats each were all given a daily dose of sugar. Three of the four experimental groups were also given a daily dose of PCH, with each group receiving a different amount of the drug. The rats were all fed the same kind and amount of food. After four months, the percentage of rats gaining weight was determined. The results of this experiment are presented in Table 1.

Table 1: The Effects of PCH on Weight Gain in Rats		
Group	Contents of Dose	% of Rats Gaining Weight
1	5 grams of sugar	17%
2	5 grams of sugar 1 gram of PCH	23%
3	5 grams of sugar 5 grams of PCH	19%
4	5 grams of sugar 10 grams of PCH	21%

Passage III

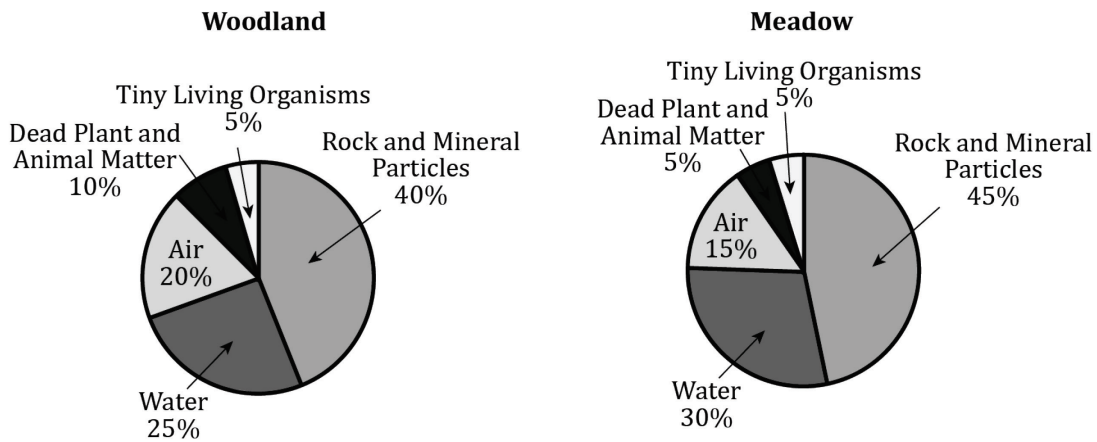
Atoms are considered the basic building blocks of matter. The atom consists of a positively charged center, or nucleus, surrounded by negatively charged electrons. The major kinds of particles in the nucleus are protons, which are positively charged, and neutrons, which have no charge. The number of protons in one atom of an element, called the atomic number, identifies the element. The mass number of the atom represents the total number of protons and neutrons. Not all of the atoms of an element are identical. The different atoms of an element are called isotopes. The three carbon-isotopes are shown in Table 2.

Name	Protons	Neutrons	Electrons	Mass Number
Carbon-12	6	6	6	12
Carbon-13	6	7	6	13
Carbon-14	6	8	6	14

Passage V

Soil is made up of rock and mineral particles, water, gases (air), dead plant and animal matter, and tiny living organisms. Water soaks into the ground from rain (and other forms of precipitation). Gases come from the air, plants, and animals. Soil also contains living organisms (such as bacteria, fungi, insects, etc.) that break down organic plant and animal matter in the soil, making it rich and healthy for plants to grow in. An experiment was conducted on soil samples collected from two different geological locations. The following graphs summarize the soil sample compositions by content, shown in volume percent.

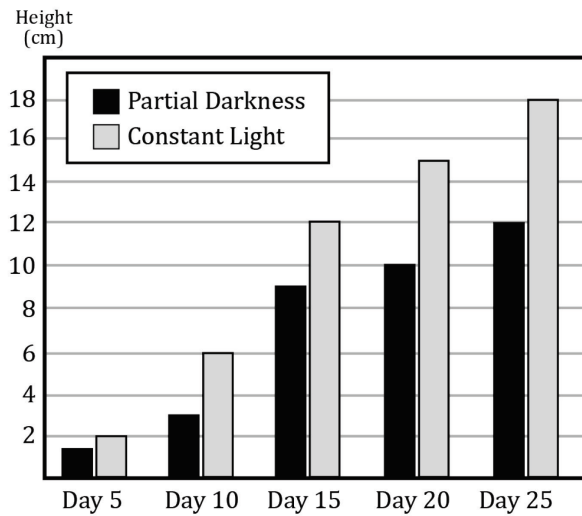
Soil Composition by Sample Location
(Soil Sample Sizes = 100 mL)



Passage VI

The following graph summarizes the results of an experiment conducted to investigate the role that light plays in the growth and development of bean seedlings. Seedlings were grown in two conditions: constant light and partial darkness (regular alternating intervals of light and darkness). Seedling heights were measured at five-day intervals following planting and the median height of the seedlings in each group was determined.

Median Height of Bean Seedlings
(*Phaseolus vulgaris*)



Passage XI

Insects are the most numerous group of animals on the planet, making up about 80% of all animals. They play essential roles in the balance of nature as predators, food for other animals, and scavengers. The following graph summarizes the results of a backyard inventory of five general insect populations in five different locations, each measuring five square meters.

Backyard Inventory of Insect Populations (by Location)

