

Informal Placement Inventory

The following pages contain a collection of articles and tests from the pupil books. These reading units were selected on the basis of the field-testing results. The set includes one representative selection from each text. Students should be given a series of three articles and follow-up tests on the basis of the formal testing information available about the student's reading level or a teacher estimate of student skill. It has been widely observed that the remedial student's exact reading level is not adequately determined by formal tests. Therefore, we are recommending that the informal testing begin at least one level below that given on the official reading records of standardized tests.

The articles are in sequence in relation to Books A-G. The reading levels are as follows:

Title	Book	Text Level Range
The Ginko Tree	A	High 2
When Earth Shakes	B	Low 3
Life in the Forest	C	High 3
The Milky Way Galaxy	D	Low 4
Everglades National Park	E	High 4
A Blast From the Sun	F	Low 5
China's Great Dam	G	High 5

Results from standardized tests can be used to decide which levels of the placement test should be administered. The instructor should prepare the student according to the directions given for Steps to the Reader in the student text.

A follow-up test score of 60% or better for Book A, 80% for Books B-C, and 70% or better for Books D-G, indicates that the student should be able to perform adequately in the text for which that score was attained. Lower scores indicate that the placement should be in the next simpler text. Scores significantly higher suggest that the student should be retested at the next two higher levels until the correct placement is found.

As you can see, if a student misses more than the items indicated below, he or she should be placed at an easier reading level.

Additional placement information will be gained by individual surveys during which a student reads aloud to the instructor for one or more paragraphs and responds to questioning relative to comprehension of the material read. Regardless of the test scores, a student who shows considerable difficulty in the personal interview should be placed downward until he or she is responding comfortably, and reading smoothly and rhythmically and with no apparent word recognition problems.

Book	No. of Points for Each Correct Answer	No. of Items	Minimum Correct for Placement
A	20	5	3
B-C	20	5	4
D-E	16.66	6	4
F	14.28	7	5
G	12.5	8	6

Continuous Observation to Adjust Levels of Reading Materials

The use of tests and the informal tryout of books are useful procedures for matching a student's reading level to the most appropriate book. However, constant observation by a teacher as students read and discuss what they have read is needed to assure continuous proper placement. A test or a tryout is only an estimate. Sometimes such estimates are too high or too low. A teacher should watch to see if students have difficulty understanding the books to which they have been assigned. Occasionally the teacher should ask a student to read aloud to check his or her word recognition. If a particular book seems too difficult or too easy for a student, he or she should be placed in the next higher or lower level. Then the teacher should carefully observe the student's reading for the next several days.

The Ginkgo Tree

The ginkgo is called a “living fossil.”

Ginkgoes (gīng' kōz) are a kind of tree. The ginkgo tree has dark, waxy leaves that look something like a fan. The leaves of the ginkgo help to give the tree its full shape.

Ginkgoes have grown on Earth since the time of the dinosaur. We know this because leaves from the ginkgo have been found as *fossils* (fōs'əlz). Fossils are the remains, or what is left, of plants and animals that lived long ago. They are found in certain kinds of rock. The ginkgo fossils have the same shape as the leaves you see on the ginkgo tree today. The ginkgo's leaves have not changed a bit.

Ginkgoes grow well almost everywhere in North America. They can grow where most other trees cannot. So people often plant ginkgo trees along city streets. Even city smoke and soot do not seem to bother them. No wonder the ginkgo tree has been around for such a long time.



QUESTIONS

1. The remains of plants and animals that lived long ago are called
 - a. rocks.
 - b. fossils.
 - c. leaves.
2. The leaves of the ginkgo
 - a. are dark and fan-shaped.
 - b. are light green in color.
 - c. make the tree look tall and thin.
3. Fossils of ginkgo leaves
 - a. prove that the ginkgo is not very old.
 - b. have been found in certain kinds of rocks.
 - c. do not look very much like ginkgo leaves today.
4. After reading the story, which statement would you say *best* describes the ginkgo?
 - a. Ginkgoes have long, pointed leaves.
 - b. The ginkgo has been growing on Earth for millions of years.
 - c. The ginkgo cannot live in cities where the air is dirty.
5. Which of the following words tells you what a ginkgo is?
 - a. fossil
 - b. rock
 - c. tree

When the Earth Shakes

Scientists study and record earthquakes.

Do you live in a place where the earth shakes? If so, you may be living in a place where earthquakes happen. Earthquakes take place in many parts of the world. Underwater, they cause huge waves. On land, they can destroy buildings, bridges, and roads and cause huge cracks in the ground. People can be hurt or killed during an earthquake. An earthquake in San Francisco nearly destroyed the entire city.

What causes earthquakes? Underneath the Earth's surface, there are layers of rock. Sometimes, suddenly and without warning, the layers of rock move up and down or from side to side. When this happens, a great amount of energy is sent out from the rock layers. And the earth *vibrates* (vī'brāts'), or shakes.



Scientists use a special tool called a *seismograph* (sīz'məgrāf') to record the shakes. The vibrations are recorded on a chart, and scientists study this chart to find out more about the size and strength of the earthquake.

QUESTIONS

1. A tool called _____ is used to record the earth's shakes.
 - a. a seismograph
 - b. an earthquake
 - c. a vibration
2. According to the story, earthquakes
 - a. make the earth shake.
 - b. do not cause serious damage.
 - c. are layers of rock under the earth.
3. Earthquakes can occur
 - a. everywhere in the world.
 - b. in many places in the world.
 - c. only in San Francisco.
4. The *main idea* in the third paragraph is that
 - a. the earth's vibrations can be recorded.
 - b. earthquakes can last over a long period of time.
 - c. there are many scientists who study earthquakes.
5. What causes earthquakes?
 - a. the breaking of the ground into large cracks
 - b. a sudden movement of rock layers under the earth
 - c. buildings and bridges falling down

Life in the Forest

Animals depend upon one another for food.

There are many kinds of animals that live in the forest, such as mice, rabbits, squirrels, owls, and hawks. Animals in the forest depend upon one another for food.

Many small forest animals, such as mice, eat green plants for food, and then they, themselves, are eaten by larger animals. This is called a food chain.

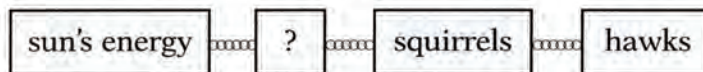
A food chain begins with the sun. The green plants in the forest use the sun's energy to make food for themselves. This process, or action, is called *photosynthesis* (fō' tō sīn' thī sīs)

Forest plants produce flowers and seeds that are eaten by mice and other animals. The mice get their energy from the plants, and the mice become food for a larger animal, such as the hunting hawk. So the energy from the sun passes from the plants to the mice to the hawk. A break in any link of this food chain means that some animal may not have enough food to survive.



QUESTIONS

1. *Photosynthesis* takes place when
 - a. green plants use the sun's energy to make food.
 - b. forest animals eat the food made by green plants.
 - c. the food chain is broken.
2. What is the *first* link in a food chain?
 - a. the sun
 - b. green plants
 - c. forest animals
3. Animals sometimes cannot find enough food because
 - a. there is very little food in a forest.
 - b. photosynthesis stops.
 - c. there is a break in the food chain.
4. What does the food chain show about living things?
 - a. that they depend upon each other
 - b. that small animals eat as much as large animals
 - c. that plants with flowers are most important
5. Which of the living things below fills the missing link in this food chain?



- a. mice
- b. green plants
- c. owls

The Milky Way Galaxy

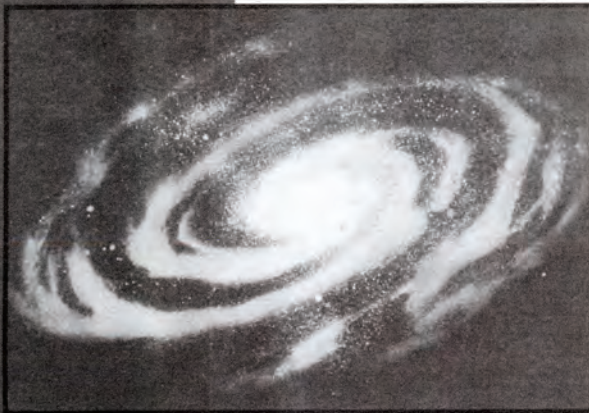
What is a galaxy?

The ancient Greeks enjoyed looking at the night sky. They found that a part of the sky was foggy-looking. They called this patch of foggy sky *galaxias* (gə lăksē äs), which means “milky.” The Greeks were looking at the group of stars that we now call the Milky Way galaxy.

The Milky Way galaxy stretches across the sky in the shape of a large wheel. It has many billions of stars in it. Our sun is only one little star out near the edge of the galaxy. When the moon is not shining, the galaxy does not look milky. With a pair of binoculars, it is possible to see stars in the Milky Way.

Earth is a part of the Milky Way galaxy. To discover what our own galaxy is really like, scientists study other galaxies through powerful telescopes.

They know from these studies that galaxies turn and that stars circle around inside them. Planets may then circle around the stars, just as Earth revolves around its nearest star, the sun.



It is difficult to comprehend, or understand, how huge the Milky Way galaxy is. It is even more difficult to comprehend all the stars in it. And it is most difficult of all to comprehend that the Milky Way is only one of millions of galaxies in our universe.

QUESTIONS

1. The Greek word *galaxias* means _____.
2. The Milky Way galaxy is in the shape of a _____.
3. Scientists have learned from their studies that
 - a. the stars circle around the planets.
 - b. galaxies turn and stars circle around inside them.
 - c. galaxies far from the Milky Way have no stars.
4. In the Milky Way galaxy, the sun is the star that
 - a. is closest to Earth.
 - b. revolves around Earth.
 - c. is located in the center of the galaxy.
5. Scientists use telescopes to see other galaxies because the other galaxies are
 - a. so crowded.
 - b. so dark.
 - c. so far away.
6. Which of the following conditions would be *best* for seeing the stars in our galaxy?
 - a. a night when the galaxy's milky look is seen clearly
 - b. a clear, moonless night
 - c. early evening before the sky gets too dark

Everglades National Park, A River of Grass

The Everglades protects endangered plants and animals.

The Everglades National Park was established in 1947. It is located on the southwestern tip of Florida. The Everglades National Park is one of the most unusual wetlands in the world. The northern part of the Everglades is covered by shallow, flowing water and sawgrass. Sawgrass is a plant with sharp, jagged-edged leaves. There is so much sawgrass that people refer to the Everglades as a "River of Grass." The Everglades contain swamps filled with huge, moss-covered trees and salt marshes.

The Everglades National Park provides a home for much wildlife. Rare and colorful birds, manatees, turtles, snakes, alligators, Florida panthers, and crocodiles all live in the park. The park is the only place in the world where alligators and crocodiles live side by side. There are many flowering plants that live in the park. For example, there are 25 different kinds of colorful orchids and more than 100 different kinds of trees.

Everglades National Park was established to preserve plants and animals. The park is a refuge for threatened and endangered animal species. Some of these include the American alligator and crocodile, the Florida panther, and the manatee.

The Everglades National Park has a number of problems. Water and air pollution have harmed some habitats. Most of the waterfowl are gone. And sea grass in some areas has died off.

Today, government agencies, local citizens, and environmental groups are working on solving the pollution problems. Their goal is to protect and preserve this "river of grass."



QUESTIONS

- Everglades National Park is located in _____.
a. Florida. b. Texas. c. California.
- The Everglades is called a “River of Grass” because it has flowing water and contains
a. habitats. b. sawgrass. c. flowers.
- Everglades National Park is a large
a. stream. b. wetland. c. river.
- Which of the following statements is true?
a. Only alligators live in the Everglades.
b. Only crocodiles live in the Everglades
c. Alligators and crocodiles live in the Everglades.
- Which of the following animals would probably not live in the Everglades?
a. wolves b. turtles c. frogs

Look at the table below. Then answer questions 6 and 7.

Some Endangered Animals in Everglades National Park:		
• Atlantic hawksbill turtle	• Atlantic leatherback turtle	• American crocodile
• Wood stork	• West Indian manatee	• Cape Sable seaside sparrow
• Key Largo wood rat	• Key Largo cotton mouse	• Florida panther
• Schaus swallowtail butterfly	• Atlantic Ridley turtle	• Red-cockaded woodpecker
		• Green turtle

- According to the list, most of the endangered animals are different kinds of
a. turtles. b. butterflies. c. fish.
- The three birds on the list include the wood stork, the sparrow, and the _____.

A Blast from the Sun

Energy blasts from the sun trigger a solar storm.

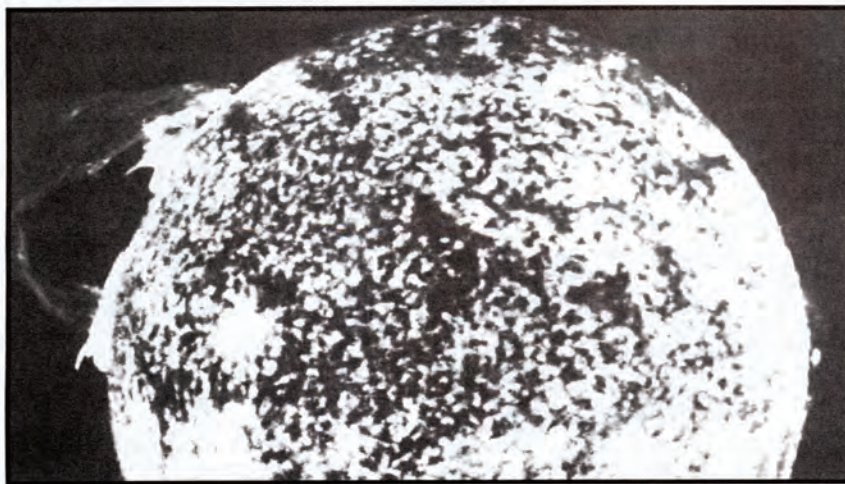
The night sky is filled with a strange rainbow of color. Huge ribbons of color flick across the sky and then disappear. Sometimes radios stop working, and electric power goes off in some places.

These strange happenings usually occur near the Earth's polar regions. Scientists believe that they are caused by solar storms. During a solar storm, the sun blasts superstrong energy to Earth. This extra-strong energy is given off when the nuclei of two atoms fuse, or come together, to form a new material that has a single, heavier

nucleus. This process is called *fusion* (fyōō'zhən).

Fusion requires a very high temperature and produces a great amount of energy. It is one of the most powerful nuclear reactions we know about. In fact, fusion energy is used to make powerful bombs called hydrogen bombs. The fusion energy released from the sun gives Earth its light and heat.

Sometimes too much energy collects in one place on the sun, and a solar storm begins. During the storm, tremendous blasts of energy, called solar flares, are sent out in all directions from the sun. One of the most spectacular solar flares extended 353,000 miles across the sun's surface. A solar flare can be seen in the picture. When some of the energy from the solar flare hits Earth's atmosphere, or air, strange things begin to happen.



QUESTIONS

1. What do we call the process by which two nuclei come together to form a new material that has a single, heavier nucleus?
2. Certain strange happenings near the Earth's poles are caused by _____ storms.
3. Solar flares are tremendous blasts of _____.
4. If the sun released no energy, Earth would probably be
 - a. cold and dark.
 - b. light and warm.
 - c. cold and light.
5. Number the following events (1, 2, 3) in the order in which they occur in the story.
 - _____ a. Solar flares are sent out from the sun.
 - _____ b. A solar storm begins.
 - _____ c. Energy collects in one place on the sun.

Use the table below to answer questions 6 and 7.

	Distance from the Sun in Miles (mi)	Surface Temperature in Degrees Farenheit (°F)
Sun	34,800,000	10,112
Mercury	64,800,000	12,569
Venus	90,000,000	621
Earth	136,800,000	57
Mars	466,800,000	54
Jupiter	855,600,000	280
Saturn	1,721,400,000	307
Uranus	2,697,000,000	361
Neptune	3,540,000,000	?
Pluto		?

6. As a planet's distance from the sun decreases, its surface temperature
 - a. decreases.
 - b. increases.
 - c. remains the same.
7. Of the following, the greatest difference in surface temperature is between
 - a. Mars and Jupiter.
 - b. Earth and Venus.
 - c. Mercury and Venus.

China's Great Dam

The Three Gorges Dam in China.

A new dam is being built in China. It is called the Three Gorges Dam. When completed in 2009, the dam will be about 610 feet high. The new dam will be so large that it will be seen from space.

The Three Gorges Dam is being built on China's Yangtze River. The Yangtze River is the third longest river in the world. It stretches almost 4,000 miles long. Building the dam across the Yangtze River will create a large lake, called a reservoir. The reservoir will be approximately 375 miles long and up 600 feet deep. To create a reservoir of this size and depth, about

1,000 villages along the river will be flooded. More than 1 to 2 million people will need to be resettled from their river towns and villages.

The Yangtze River has caused disastrous floods throughout the history of China. Many lives have been lost. Villages have been destroyed. The new dam will control flooding. It will store excess water during times of a heavy rainfall and runoff. The dam will release water during drier periods. Large deepwater ships will be able to navigate on the river, too. These vessels will be able to travel 1,500 miles into the interior of China. The Three Gorges Dam will also provide hydroelectric power for electricity.

However, some environmentalists are not in favor of the Three Gorges Dam. They point out that the construction of the dam will destroy many aquatic habitats. The dam's reservoir may become polluted. The pollution could contaminate drinking water supplies and cause outbreaks of disease.



QUESTIONS

1. The Three Gorges Dam in China will provide flood control, a navigation route for boats, and _____ for electricity.
2. The word in the article that means “a structure that restricts the flow of water” is a _____.
3. The Yangtze River is the _____ longest river in the world.
a. second b. third c. fourth
4. The Three Gorges Dam will be completed by the year 2012.
a. True b. False c. Article does not say.
5. One of the environmental problems with the building of the dam is that
a. people will be resettled from their villages.
b. aquatic habitats will be destroyed.
c. boats will not be able to navigate on the river.

Use the map to answer questions 6, 7, and 8.



6. The Yangtze River flows into the
a. Pacific Ocean. b. South China Sea. c. Yellow Sea.
7. The Three Gorges Dam is between
a. Shanghai and Yichang. b. Yichang and Chongqing.
c. Hong Kong and Chongqing.
8. A country located on the southern border of China is
a. Cambodia. b. Vietnam. c. Thailand.

Answer Key for Informal Inventory

The Ginko Tree

1. b
2. a
3. b
4. b
5. c

Life in the Forest

1. a
2. a
3. c
4. a
5. b

Everglades National Park, A River of Grass

1. a
2. b
3. b
4. c
5. a
6. a
7. red-cockaded woodpecker

China's Great Dam

1. hydro electric power
2. dam
3. b
4. b
5. b
6. c
7. b
8. b

When the Earth Shakes

1. a
2. a
4. b
3. b
5. b

The Milky Way Galaxy

1. milky
2. wheel
3. b
4. a
5. c
6. b

A Blast from the Sun

1. fusion
2. solar
3. energy
4. a
5. 3; 2; 1
6. b
7. c

Different Ways to Use the Program Effectively

Reading About Science can be used effectively by teachers whose main emphasis is increasing students' reading achievement. The books can be adapted to a variety of classroom settings, examples of which follow.

Teaching Developmental Reading

If students are to learn to read better, they must be given many opportunities to read interesting material. They must also be provided with reading selections that allow them to apply their reading skills. *Reading About Science* fulfills both of these needs and could be used as supplemental reading to a basal reading program. For example, when a student is progressing through the fourth-grade basal reader he or she can apply the reading skills that are introduced in the basal reader by reading selections from Book D.

The emphasis on reading comprehension in the series also provides the developing reader with much-needed practice using a wide variety of comprehension skills. The questions can easily lead to discussions, science projects, and additional reading. The questions at the end of each selection are not "merely checks on comprehension"; they emphasize the important concepts in the selections and have been written to pique student interest in the topic presented.

Teaching Remedial Reading

More than anything else, poor readers need to experience success in reading. Stories that deal with science, particularly life science, appeal to readers of all ages. The articles in *Reading About Science* cover a wide range of science topics chosen especially for their high interest as well as their science content. The controlled reading levels facilitate student placement in the appropriate book.

Also, because the selections are relatively short, students with reading difficulties are not faced with a lengthy article or chapter. They have the opportunity to complete a selection successfully, gain new knowledge, and obtain immediate feedback.

Teaching Science

Reading About Science includes numerous selections that build on the common experiences of students. In addition, the selections apply the basic concepts of science to those things with which students are familiar. This means that teachers who use these books as part of a science program will be following one of the basic tenets of good teaching: start with the familiar and move to the less familiar. Moreover, the series introduces all the students in a science program to a wide variety of science and science-related fields, thus expanding students' backgrounds.