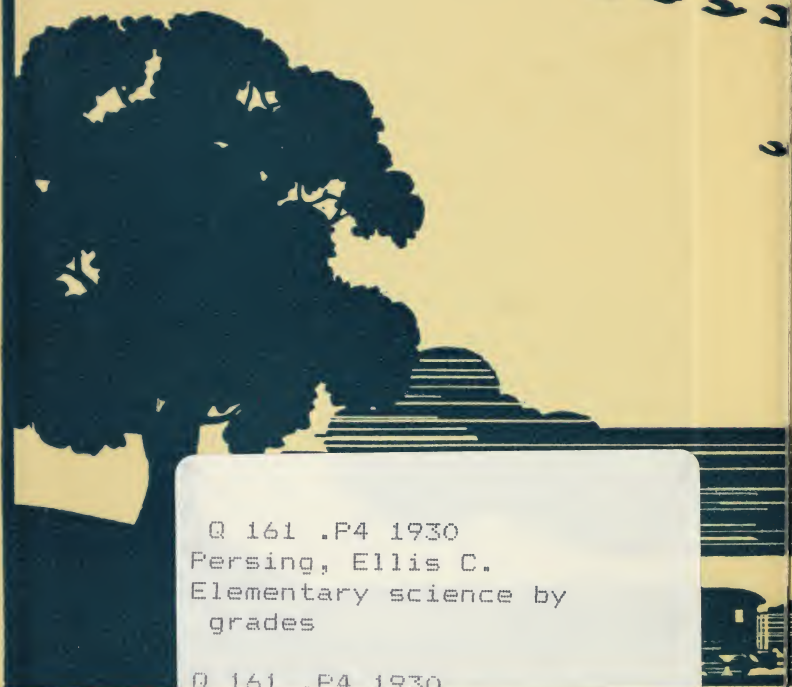


ELEMENTARY SCIENCE BY GRADES



Book One



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Elementary science by
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ELEMENTARY SCIENCE BY GRADES

BOOK ONE

BY

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ELEMENTARY SCIENCE BY GRADES

EDITED BY

FRANK W. BALLOU, PH.D.

SUPERINTENDENT OF SCHOOLS, WASHINGTON, D. C.

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PREFACE

Elementary Science is the natural means through which a child becomes acquainted with the world about him. Without suggestion or direction some children acquire considerable knowledge of their environment; but more remain pathetically and dangerously blind and deaf to it. For the child's physical, intellectual, and spiritual good the educator should see that he is made aware of the phenomena within his observational scope, and his relations to them.

Elementary science, more than any other subject, supplies actual experience with concrete things. It is, therefore, an ideal study in elementary schools, and may be used as a basis of approach to practically every other subject. Present practice in the teaching of elementary science and nature study in the first six years has indicated the need for a graded series of readers having a science content that will conform generally in subject matter and organization to accepted requirements. It was in the hope of supplying such a need that this series, *Elementary Science by Grades*, has been prepared under the general editorship of Frank W. Ballou, Superintendent of Schools, Washington, D. C.

The vocabulary in this volume of the series, *Book One*, has been based upon the first group of Gates, "A Reading Vocabulary for the Primary Grades," and upon Thorndike's "The Teacher's Word Book."

Simplicity in subject matter and style has been an aim in the preparation of this reader in order that the joy of the subject, and the attitudes, habits, and ideals taught by it

may not be lost in a maze of mechanical difficulties. The psychology of the child has been kept constantly in mind in the presentation of the subject matter.

Like other books in the series, this volume has been organized on a seasonal basis. Subject matter has been arranged throughout so it will be suitable for the season of the year in which it normally will be studied. In this book, for example, the squirrel, trees in the autumn, the caterpillar, and certain flowers are studied in the fall. The chapters dealing with astronomy and the physical sciences come during the winter months. The latter part of the book, which ordinarily will be studied in the spring, includes chapters on birds, trees, the toad and snail.

To test reading ability, different forms of new-type tests have been included at the end of every chapter under the heading, "Some Things to Think About." Some teachers, of course, may desire to substitute other forms or to supplement those that have been prepared. Activities are suggested under the heading "Some Things to Do." Specific suggestions to the teacher on the teaching of each chapter are placed at the back of the book.

E. C. P.

E. K. P.

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THE SEASONS

What are Bobby and Betty doing?

What are the birds doing?

What are on the tree?

What time of year is it?



What are Bobby and Betty doing?

What are the birds doing?

What is on the tree?

What time of year is it?



What are Bobby and Betty doing?

What are the birds doing?

What are on the tree?

What time of year is it?



What are Bobby and Betty doing?

What are the birds doing?

What are on the tree?

What time of year is it?



PIGEONS

What do pigeons eat?

What can pigeons do?

Where do pigeons live?

Bobby has some pigeons.

Pigeons are birds.

Pigeons are big birds.

Pigeons have feathers.

Pigeons eat seeds.

Pigeons drink water.

What does Bobby eat?

What does Bobby drink?

Pigeons can fly.

They fly with their wings.



Can Bobby fly ?

Pigeons can walk.

Can Bobby walk ?

Pigeons nod their heads
when they walk.

They say, "Coo, coo."

Pigeons walk in the street.

Pigeons live in the pigeon house.

Pigeons like the pigeon house.

Do you like your house ?

The pigeons stay with Bobby all
the year.

SOME THINGS TO DO

Look for pigeons in the street.

See what they do.

Bring a pigeon to school.

Give it seeds and water.

Say "Coo, coo," as the pigeons do.

SOME THINGS TO THINK ABOUT

Find the words that tell about
each picture.



1. Pigeons can fly.
2. Pigeons eat seeds and drink water.
3. Pigeons live in a pigeon house.



THE CANARY

Have you a canary?

What can a canary do?

How does a canary look?

Betty has a pet canary.

The canary's name is Dickie.

Dickie lives in a cage.

He eats seeds.

He drinks water.

Betty gives the canary seeds to eat.

Betty gives him water to drink.

Dickie can sing.
He sings a sweet song.
He is a little bird.
He has yellow feathers.
He is a little yellow bird.

Dickie can hop.
Hop, little canary.
Sing Betty a song.
Dickie stands on a perch.
He can fly.
He can fly up to the perch.

Dickie has bright eyes.
He looks at Betty
 with his bright eyes.
He looks for the seeds and water.
He has a bill.
He eats seeds with his bill.
He drinks water with his bill.



Dickie has wings.

He can fly with his wings.

Fly, little canary.

Fly up to your perch.

Dickie has two feet.

He holds to the perch with his feet.

He hops on his feet.

Dickie likes his cage.

When Betty opens the door,
he comes out.

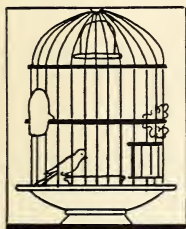
He hops about. He flies
about the room.

Then he goes back in his cage.
He looks for Betty to give him some
seeds and water.

The canary lives with Betty
all the year.

SOME THINGS TO THINK ABOUT

Find the part of the story
that tells about each one
of these pictures.



SOME THINGS TO DO

Bring a pet canary to school.

Tell what it does.

Give it seeds and water.

Keep its cage clean.



GARDENS

Have you a garden ?

Is it a flower garden ?

Is it a vegetable garden ?

Do you work in your garden ?

It is fun to have a garden.

Betty has a flower garden.

Bobby has a vegetable garden.

Mother cooks the vegetables
for dinner.

Betty puts flowers
on the dinner table.

Flowers grow from seeds.

Vegetables grow from seeds.

Fall is the time to gather seeds
from your garden.

Spring is the best time to plant
the seeds.

When you plant seeds,
more flowers and vegetables grow.

Farmers have gardens, too.

Vegetables grow in farmers' gardens.

Farmers sell vegetables in the market.



If you have no garden, you can buy
vegetables in the market.

The farmer gathers seeds
from his garden in the fall.

In the spring he will plant
the seeds.

Then he will have a new garden.

He will have vegetables to sell
in the market next summer.

Betty picks flowers from her garden.

Bobby picks vegetables
from his garden.

Betty and Bobby gather seeds
from their gardens in the fall.

All winter the gardens will rest.

In the spring Betty and Bobby will
plant the seeds.

They will have new gardens.

FIND THE RIGHT STORY



1. Betty gathers flowers.
Mother cooks the vegetables.
2. Betty puts flowers on the table.
Bobby gathers vegetables.
3. Farmers sell vegetables in market.
All winter the garden will rest.

SOME THINGS TO DO

Go to see a garden.

Tell all the things that you see
growing in it.

Find some ripe seeds.

Plan a garden for next spring.

CATERPILLARS

Have you seen a caterpillar?

Where was it?

What was it like?

What did it do?

Bobby saw a caterpillar.

It was on a tree.

Betty saw a caterpillar, too.

It was on some leaves.

Caterpillars eat leaves.

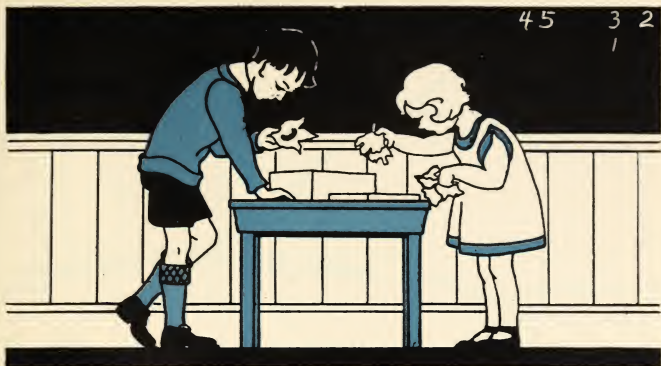
Dick saw a caterpillar in the grass.

Bobby brought a caterpillar
to school.

He put the caterpillar in a box.

Betty brought leaves to school.

The leaves were for the caterpillar
to eat.



She put the leaves in the box.

The caterpillar ate the leaves.

Betty brought more leaves
for the caterpillar.

The caterpillar ate them, too.

Every day Betty brought leaves
for it.

Betty and Bobby looked at the
caterpillar.

They looked at it every day.

Betty and Bobby like to look at
caterpillars.



A caterpillar has a head.
Find the caterpillar's head.
On its head are eyes and a mouth.
The caterpillar eats leaves
with its mouth.
Betty and Bobby like to see the
caterpillar eat leaves.
They like to see it crawl.
The caterpillar has legs to help
it crawl.
Count them.
Where are the caterpillar's legs?

You can see many caterpillars
in the fall.

Look for them. See them eat.

See them crawl.

Some caterpillars are the color
of the leaves.

Some caterpillars are the color
of the ground.

Some are other colors.

Some caterpillars have hair on
them.

Some have bright stripes on them.

A caterpillar's body is made
of many rings.

Can you count the rings?





CAN YOU FIND THESE THINGS?

1. The caterpillar's head.
2. The caterpillar's mouth.
3. The caterpillar's legs.
4. The leaves the caterpillar likes to eat.

SOME THINGS TO DO

Bring a big box to school.

Look for caterpillars. Look on leaves. Look in the grass.

Bring caterpillars to school.

Put caterpillars in the box.

Bring leaves for the caterpillars to eat.

Tell what they do.



SUNFLOWERS AND GOLDENROD

Why is this flower called a
sunflower?

Where do we see the goldenrod?

What color are its flowers?

Sunflowers

A sunflower is a big yellow flower.
Betty has sunflowers in her garden.
Look at the picture of the sunflower.
There is a big brown spot
in the middle of the flower.

When the flower is old, there
are seeds in the brown spot.
Birds like sunflower seeds.
They come to Betty's garden
to eat the seeds.

When Betty plants a sunflower
seed, another sunflower grows.
Sunflower plants grow very tall.
They are taller than Bobby or Betty.
Some of them are taller than Daddy.
They have large green leaves.

Goldenrod

Bobby and Betty saw many flowers
in the woods and fields this fall.
One of the flowers was the
goldenrod.
The flowers of the goldenrod
are yellow.



The leaves are green.

Goldenrod grows in the fields.

Have you ever seen patches of yellow
flowers in the fields in the fall?

Goldenrod grows along the roads, too.

The goldenrod does not grow so high
as sunflowers.

It is only as high as Bobby's waist.

Late in the fall the goldenrod
makes seeds.

When the seeds are planted, new
goldenrod plants grow.

The seeds are so tiny they are hard
to see.

They have fluffy hairs on one end.
The wind carries them to new homes.

SAY YES OR NO

Sunflowers are blue.

Goldenrod flowers come in the fall.

Sunflower plants are not so tall
as Betty.

Goldenrod grows in the garden.

Sunflowers have brown seeds.

SOME THINGS TO DO

Look for goldenrod in the fields.

Watch sunflowers in the garden.

What becomes of these flowers?

See into what they change.

Try to find seeds of the goldenrod.

Bring some seeds to school.

THE OAK TREE

What trees do you know?

Do you know the oak tree?

Where does the nearest oak tree
grow?

Boys and girls have names.

Trees have names, too.

It would be funny to call

Bobby, "John."

It would be just as funny to call

an oak tree a pine.

Bobby and Betty wanted to know
the names of the trees near their
school.

Their teacher took the class for a walk.

She said, "We will look at the trees
near our school.

Then we will choose a tree we like.

It will be our class tree.”

The boys and girls looked at
all the trees.

Some trees were taller than others.

Some had red leaves.

Some had yellow leaves.

Some leaves had fallen
to the ground.

Under one tree the children
found acorns.



They liked the acorns.

They liked the acorn cups.

The tree on which they grew
was very tall.

The leaves on the tree were dark red.
Some of the leaves had fallen
to the ground.

The leaves were not like
the leaves of other trees.

It was an oak tree.

The children chose the oak tree
for their class tree.

“Last summer the oak leaves
were green,” said Bobby.

“There were no leaves on the ground
then,” said Betty.

“Let us watch our class tree
to see how it looks this winter,”
said their teacher.



The children picked up acorns.
They played in the leaves
on the ground.

They liked the oak tree that gave
them so much fun.

SOME THINGS TO THINK ABOUT

Make these right.

The children found acorns

Betty put seed and water

The leaves on the oak tree

The goldenrod flowers

in Dickie's cage.

under the oak tree.

were yellow.

were brown.

SOME THINGS TO DO

Take a walk to see the trees

near your school.

Choose a tree you like for

your class tree.

Watch your class tree.



THE SQUIRREL

Where have you seen squirrels?

What can they do?

How do they look?

One day in winter Betty and Bobby
went to the park.

Near the park they saw a man
with peanuts.

Bobby bought a bag of peanuts.

They ate the peanuts as they
walked along.

The day was cold.

There was snow on the ground.

All at once Betty stood still.

“Look, Bobby,” she cried.

Something gray was running
across the snow.

It was a gray squirrel.

It ran up to Betty and Bobby.

Bobby had a peanut in his hand.

He stood very still.

Can you guess what the squirrel did?

It walked up on Bobby's shoe.

There it sat up on its hind legs.

It reached for the peanut
with its front feet.

It ate the peanut with its sharp
teeth.

“Poor little squirrel, it was
hungry,” said Betty.



“The snow has hidden the nuts,”
said Bobby.

After that, the children watched
the squirrels every day.

When the snow was gone, they saw
the squirrels dig in the ground.

Then they saw them take out
some nuts.

The squirrels had hidden the nuts
to eat in winter.

Betty and Bobby saw the squirrels'
fur coats.

Some were gray and some were
red-brown.

They saw a hole in a tree where
a squirrel lived in winter.

They saw a nest in a tree where
it had lived in the summer.

Betty and Bobby saw the squirrels
climb trees.

The squirrels ran up and down
the trees very fast.

They jumped from tree to tree.

“What big, bushy tails they have,”
said Betty.

“What fun they have,” said Bobby.

FIND THE RIGHT WORD

1. Squirrels eat —— with their sharp teeth.
2. A squirrel lives in a —— tree in winter.
3. Squirrels have warm —— coats.

SOME THINGS TO DO

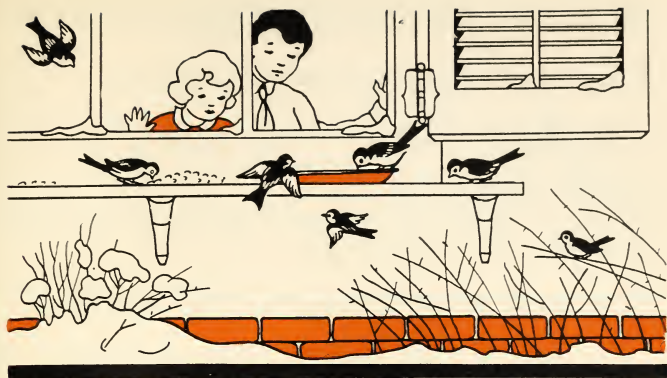
Look for squirrels.

Tell in what kinds of places you find them.

Give a squirrel a nut.

Feed the squirrels, if any live near you.





HOW TO HELP BIRDS IN WINTER

Who gives you your dinner?

Who gives the canary its dinner?

How do other birds get their dinners?

Betty gives her pet canary food.

She gives it water.

Bobby gives the pigeons food to eat.

How do other birds get food?

What do they eat?

Where do they get it?

Some birds eat seeds of plants.

Sparrows like to eat seeds.

There are many seeds for them
to eat in the summer and fall.

Some birds eat fruit.

Robins like cherries.

There is much fruit for the birds
to eat in the spring and summer.

Some birds eat insects.

They like caterpillars and flies.

There are many insects for the
birds to eat in summer.

In winter it is cold.

There is snow on the ground.

There is snow on the plants.

The birds can not get seeds.

They can not find many insects
in winter.

There is not much fruit for them
to eat.



It is hard for the birds to find
food in winter.

What can we do to help them?

We can put out food for them
when it is cold.

We can put out food when there
is snow on the ground.

Put out bird seed.

Put out bread crumbs.

Put out some water, too.

Can you tell why we should give
the birds water in winter?

Put the food where the wind
can not blow it away.

Put it where cats can not get
the birds.

Build a shelf outside the window.

Put some food on the shelf.

The birds will soon find it.

Betty and Bobby feed the birds
in winter.

SOME THINGS TO THINK ABOUT

Tell three things to put out for
the birds.

Tell three reasons why we should
feed the birds in winter.

SOME THINGS TO DO

Make a place to feed the birds.

Put out food every day.

Look at the birds that come to eat.

Tell what they look like.

Tell what they do. Count them.

THE OAK TREE IN WINTER

Have you watched your class tree?
Does it look as it did in the autumn?
What change do you see in it?

All through the autumn Betty and

Bobby watched their class tree.

One by one its leaves fell

to the ground.

One by one the acorns fell.

At last winter came.

Betty and Bobby could see all

of the oak tree's big trunk.

They could see all of its branches.

The beautiful oak tree was bare.

Other trees were bare, too.

Only the evergreen trees had leaves
on them.



The leaves of evergreens are green
all winter.

Bobby saw something strange
on the oak twigs.

The twigs are the smallest
branches of the tree.

He saw little brown knobs
on the twigs.

Bobby took a twig to school.

He showed the little brown knobs
to his teacher.

“They are buds,” she said.

“What are they for?” asked Bobby.

“Watch the buds, and when
spring comes, you will see,”
said his teacher.



SOME THINGS TO THINK ABOUT

Which tree has green leaves on it
in winter?

oak pine apple

Which part of the oak tree has
buds on it?

trunk roots twigs

Which one is made of wood?

floor cup glass

SOME THINGS TO DO

Tell how your class tree has
changed since school began.

Look for buds on all the trees.

Make a list of things in your room
that are made of wood.

THE PINE TREE

How do the trees look at Christmas?
Would your class tree make a good
Christmas tree?

Betty and Bobby wanted
a Christmas tree.

They wanted their Christmas tree
to look pretty.

Mr. Brown told them to get
a Christmas tree in his woods.

They went to pick one out.

On the way they saw their class tree.
It was bare.

“The oak tree would not be a
good Christmas tree,” said Betty.

Most of the trees in Mr. Brown’s
woods were bare, too.



Their leaves had fallen off
in the autumn.

“We do not want a bare tree
for our Christmas tree,” said
Bobby.

All at once they saw a tree
that was green.

Its leaves looked like needles.

They were long and thin.

They were sharp at the end.

“Hurrah,” cried Bobby, “what a fine Christmas tree!”

That evening Daddy went with them to get the little tree.

“That is a pine tree,” said Daddy.

“It is called an evergreen.

Can you tell why, Betty?”

Betty guessed. Can you guess why?

“What is this?” said Bobby.

He had found a pine cone on one of the branches.

“That holds the pine tree’s seeds,” said Daddy.

They took the little pine tree home.

They set it up in the living room.

The little pine tree made a pretty Christmas tree.

“Hurrah for our pine tree!” cried the children.

SOME THINGS TO THINK ABOUT

Find the part of the story that tells

1. How the leaves of the pine tree looked.
2. Another name for a pine tree.
3. What Bobby found on the pine tree.
4. What grows from a pine seed.

SOME THINGS TO DO

Look at your class tree.

Then look at an evergreen.

Are they alike in winter?

Find the seeds in a pine cone.



THE SKY AT NIGHT

How does the sky look in daytime?

What do you see in the sky
in daytime?

What do you see in the sky
after dark?

Betty and Bobby like to look at
the sky at night.

In winter the days are short.

The nights are long.

Betty and Bobby look out the
window at the sky every night
before they go to bed.

One night they saw the new moon.

It looked like this.



Every night they looked at it.

Every night the moon grew larger.

After a while it looked like this.



“That is a half moon,” said
Mother.

The moon kept on growing larger.
At last it looked like this.



“That is the full moon,” said
Mother.

The full moon was very beautiful.
When the moon was full, it was hard
to see the stars.



One night Betty and Bobby did not see the moon.

The sky was very dark.

They could see many stars.

Mother said, "Long ago people thought the stars made pictures in the sky. One of the star pictures is the Big Dipper.

There it is in the sky."

Betty and Bobby looked out of the window.

They saw something like this.



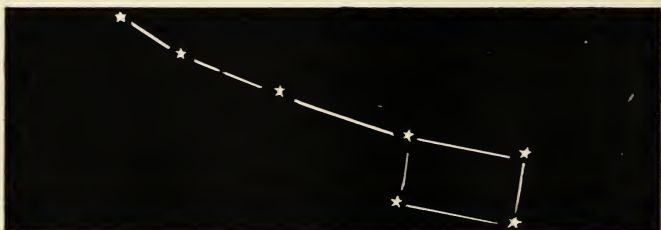
A dipper is a cup with a handle.

“How many stars are there
in the cup?” asked Mother.

Betty counted them.

Mother said, “Another star picture
is the Little Dipper. There it is
near the Big Dipper.”

It looked like this.



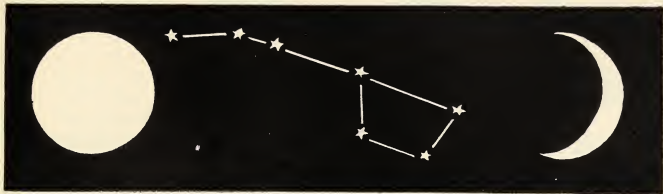
Betty and Bobby counted the stars
in the Little Dipper.

The Big Dipper and the Little Dipper
are near each other in the sky.

Bobby and Betty looked at them
every night.

SOME THINGS TO THINK ABOUT

Here are some pictures.



Here are some names

Big Dipper

Full Moon

New Moon

Put the right name under each picture.

SOME THINGS TO DO

Look for the Big Dipper and the Little Dipper in the sky.

Every night when you see the moon make a picture of it.



THE SUN

Where is the sun in the morning?
Where is the sun in the afternoon?
Where is the sun at night?

Have you ever watched your shadow?

What color is your shadow?

Betty liked to watch her shadow.

When the sun was shining, it was
always near her.

When Betty walked, her shadow
came along.

When she ran, it followed her.

One morning Betty watched the sun
come up.

It looked like a big red ball.

When Betty looked at the sun,
her shadow was behind her.

It was very long.

The shadow was much bigger
than Betty.

At lunch time, Betty could
hardly see her shadow.

It was very small.



In the afternoon, the shadow grew longer and longer as the sun went down in the sky.

Can you tell what makes your shadow?

ANSWER YES OR NO

1. Betty's shadow ran away from her.
2. In the morning, the shadow was very long.
3. At lunch time, it was very small.

SOME THINGS TO DO

Watch your shadow.

Find out when it is in front of you.

Find out when it is behind you.

Find out when it is longest,
and when it is shortest.



THE CAT

Have you a pet cat?

How large is it?

What color is it?

Betty has a pet cat named Fluff.

It is a big, black cat with yellow eyes.

At night, when it is dark, Fluff's eyes
look like balls of fire.

Fluff can see in the dark.

All cats can see in the dark.

Fluff's black fur is thick and soft.

Fluff likes to have Betty
stroke her fur.

Betty strokes Fluff from her head
toward her tail.

Fluff keeps her fur clean.

She cleans it with her tongue.

She licks her paw, and rubs it
over her face like a wash-cloth.

She licks the rest of her body
with her tongue.

When Fluff has kittens, she keeps
them clean, too.

Can you tell how?

When Fluff wants her dinner,
she says, "Mew, mew."

Betty gives her milk.

She also gives her bread,
vegetables, and a little meat.

Fluff catches mice.

When she finds a hole where
mice live, she watches it.



When a mouse comes out, she springs upon it.

She holds the mouse with her sharp claws.

She eats it with her sharp teeth.

When Fluff was a kitten, she caught a bird.

Betty's mother said, "We must not let our cat catch birds."

She switched Fluff.

After that, Fluff did not try
to catch the birds.

Betty's mother strokes her
because she is a good cat.

When Betty's mother strokes her,
Fluff purrs.

SOME THINGS TO THINK ABOUT

Can you ask a question about
these things?

1. Fluff's eyes.
2. Fluff's tongue.
3. Fluff's fur.
4. Fluff's dinner.

SOME THINGS TO DO

Bring a pet cat to school.

Feed the cat. Give it milk to drink.

Watch the cat. Look at other cats, too.

Watch kittens at play.

Stroke the cat. Be sure to rub

its fur the right way. Hear it purr.

THE SWING

Have you a swing at home?

Have you a swing at school?

Can you show how the swing goes?

Look, there goes Betty up

in the swing!

The swing goes up high in the air.

Then it comes back near the ground.

Then it goes back, and up

on the other side.

Then it comes down near the ground

again.

No matter how high it goes,

it always comes back near the

ground.

When the swing stops, it is always

close to the ground.

Watch Betty swing.

Up, and down,
and back, and down
and up, and down again.
When the swing goes up,
Betty can look at the sky.
When the swing goes down, she
can look over at the school.
When the swing goes back,
she can look down at the ground.



Swing, swing,
swing, swing.
up, and down,
and back, and down
and up, and down again.

Bobby helps Betty to swing.
He gives the swing a push to start it.
It takes a push to make the
swing go up in the air away
from the ground.

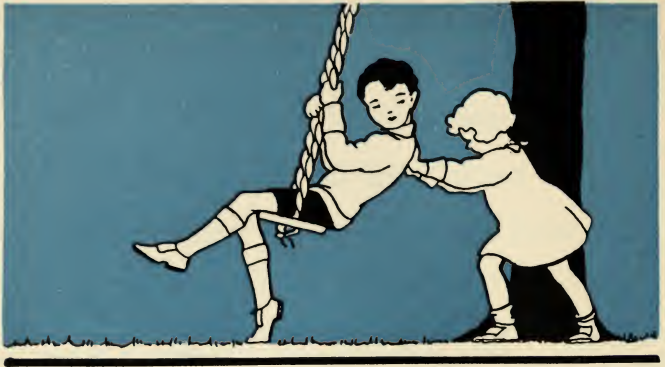
The harder Bobby pushes, the higher
the swing goes.

Look, he has made the swing go
very high.

Betty can see over the wall!

Oh! what fun!

When Bobby gets in, Betty starts
the swing.



Bobby is larger than Betty.

He is heavier than she is.

It takes a harder push than it
did to start it with Betty in it.
Betty can not make Bobby go
very high.

Bobby is so heavy that the
swing does not go very high.

But here comes Daddy! Daddy
is strong.

Daddy gives the swing a hard push.

Then up goes the swing, and up
Bobby goes.

Every time Daddy gives the swing
a push, it goes higher and higher.

It goes faster and faster, too.

Higher and higher,

faster and faster,

up and down,

and back, and down,

and up, and down again.

Betty laughs and claps her hands.

She likes to see Bobby go so high
and so fast.

Then Daddy stops pushing.

The swing does not go so high.

It does not go so fast.

It goes lower and lower.

It goes more and more slowly.



Slowly, slowly,
lower, and lower,
up, and down,
and back, and down,
and up, and down again.

At last it stops.

Bobby steps out on the ground.

Oh, what fun!

ANSWER YES OR NO

1. Does a swing ever stop
when it is high up in the air?
2. Will a swing start if you do
not start it?
3. Do you need to push harder
to start a swing when there is a
big child in it than you do when
there is a little child in it?

SOME THINGS TO DO

Play in a swing.

Start the swing for another child.

Watch how the swing goes.

Make a swing for a doll.



THE AIRPLANE

Do you like to watch airplanes?
Where do you look for airplanes?
Can you make a noise like
an airplane?

One day Bobby heard the noise
of an airplane.
He looked in the sky and saw it
high in the air.
It was flying fast.

Bobby thought it touched a cloud
as it went by.

The engine of the airplane makes
the noise.

An airplane has a propeller.

Find it in the picture on page 72.



The engine makes the propeller go.
The propeller pulls the airplane
through the air.

An airplane has wings.
The wings help to keep it
in the air.

It looks like a big bird
as it flies in the sky.

An airplane has two wheels.
It can run along the ground
on the wheels.

The airplane runs along the ground
very fast before it goes up
in the air.

When the airplane comes down again,
it runs along on the wheels, too.

Can you tell who guides
the airplane?



A pilot guides the airplane.
He can make it go up in the air.
He can make it turn.
He can guide it down to the ground
again.

Airplanes can fly very fast.
They go quickly from place to place.
Airplanes carry letters.
Sometimes they carry big packages.
They carry passengers, too.
Would you like to ride
in an airplane?

FIND THE RIGHT WORD

sky	pilot	wings
passengers	engine	wheels

1. The airplane flies in the ——
2. —— help to keep the airplane in the air.
3. The —— makes the propeller go.
4. Airplanes carry ——.
5. The —— guides the airplane.
6. An airplane has ——.

SOME THINGS TO DO

Watch for airplanes in the sky.

Find pictures of airplanes.

Bring toy airplanes to school.

Make them fly.

THE ENGINE

Have you ever seen an engine
pull a train?

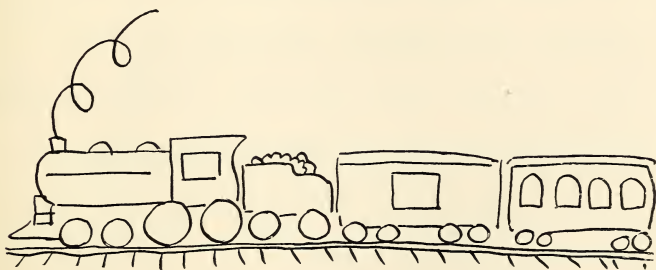
What kind of noise does an engine
make?

What makes an engine go?

One day Bobby's Daddy went away
on a train.

He sent Bobby a letter.

The letter said, "Daddy is going
far away on a train like this.



Be a good boy while I am gone."



One day Bobby's Mother and Bobby
went to the station to meet Daddy.
Daddy was coming home again.
Bobby heard the engine whistle far off.
He saw the train coming
down the track.
It came into the station.
There was Daddy waving to him.
The engine had brought Daddy home.
The engine went S-S-s-s-s-s-s-s-s-s-s
as it stood in the station.
A white cloud came from the top
of the engine.

The white cloud was steam.

Black smoke came from the
smokestack of the engine.

The black smoke came from the fire
inside the engine.

The round part of the engine
is the boiler.

There is water in the boiler.

Have you ever seen water boil
on the stove in the kitchen?

There is a fire under the engine boiler.

The fire makes the water turn
into steam.

The steam makes the engine go.



Bobby likes to watch the engine
pull the train.

Bobby is glad when the train
brings Daddy home from far away.

YES OR NO

1. Bobby's Daddy went away
in an airplane.
2. The train brought Bobby's
Daddy home again.
3. There is a fire under the engine
boiler.
4. The smoke makes the engine go.

SOME THINGS TO DO

Bring toy engines and trains
to school.

Make a noise like the engine.

Tell what makes the engine go.

MARCH WINDS

Have you ever seen the wind?

Have you ever felt the wind?

Have you ever heard the wind?

March is the first spring month.

It is the windy month.

Some wind blows every month,

but there is much wind in March.

We can not see the wind,

but we can feel it.

Do you know what wind is?

You have seen fish in a stream.

Perhaps you have some goldfish

in your schoolroom.

Fish live in water.

We live in air, just as fish live

in water.



The air is all around us.
When air moves, we feel it.
We call it wind.
We can see the things the wind does.
Wind helps people in many ways.
It helps to dry the clothes
 on the line.
It carries your kite high up
 in the air.
It makes your pinwheel spin.
It turns the arms of windmills.
It makes the sailboats go.

On a warm day we like to feel
the wind.

It helps to keep us cool.

Sometimes it plays tricks on us.

One March day it blew Bobby's
hat away.

It blew the papers off Betty's desk.

When the wind is very strong,
it breaks things.

Sometimes it breaks branches
off the trees.

Sometimes it tears up trees
by the roots.

Sometimes it blows down houses.

We can not see the wind, but
we can hear it.

Can you tell what kind of noise
it makes?

A RIDDLE TO GUESS

Sometimes it is strong.

Sometimes it is gentle.

Sometimes it hurts us.

Sometimes it helps us.

We can hear it.

We can feel it.

We can not see it.

What is it?

SOME THINGS TO DO

Go out and play in the wind.

Tell how it feels.

Make a list of the things you have
seen the wind do.

Tell the class what you have seen.

Make a paper pinwheel.

OPENING BUDS

How do winter buds look?

Do all trees have them?

What is inside a bud?

All through the long winter Bobby
and Betty watched their class tree.

All through the long winter
they saw the little brown buds
on its twigs.

Then spring came.

The sunshine grew warmer.

The buds began to grow larger.

One day the brown buds opened.

Inside of them were green flowers
and green leaves.

At first they were very tiny,
but they grew fast in the warm
sunshine.



The flowers were very strange.
Bobby and Betty did not know
at first that they were flowers.
They looked like strings
of little green beads.
Their teacher told the children
that they were flowers.
Soon the flowers fell off.
The green leaves grew larger.
The leaves were soon so large
that Bobby and Betty could not
see the branches.

“The oak tree has a new green dress,” said Betty.

“Its dress was all wrapped up in those little brown buds,” said Bobby.

SOME THINGS TO THINK ABOUT

Draw these three things.

One day the brown buds opened.

Inside of them were green flowers and green leaves.

At first they were very tiny, but they grew fast.

SOME THINGS TO DO

Put some twigs in water.

Set them in the sunshine.

Watch to see the buds open.

See what comes out of each bud.

Watch the buds on the trees outside.

APRIL SHOWERS

Do you like rain? Why? Why not?

Do plants need rain?

What would happen if there were
no more rain?

April is a spring month.

There is much rain in April.

The April rain helps plants to grow.

Betty knows an old saying,

“April showers

Make May flowers.”

Can you tell what it means?

April showers come very quickly.

They do not last long.

They go as quickly as they come.

The sun may be shining warm
and bright.



All at once clouds come
across the sky.

The sunshine is gone. It grows dark.
Down comes the rain.

Pit-a-pat, pit-a-pat, go the
raindrops on the window.

Pit-a-pat, pit-a-pat, they fall
on the grass and flowers.

They come faster and faster.



Splash, splash, on the oak leaves!
Splash, splash, on Bobby's raincoat!
Streams of water run down the street.

Oh, there comes the sun!
How bright the sunshine looks
on the wet leaves.
The clouds are going.
The shower is over.

The plants like the cool water.

Some of the water goes

in the ground.

The roots of the plants take it in.

After the shower, the plants are

nice and green.

Now how fast they will grow!

YES OR NO

1. April showers come slowly.
2. April showers make May flowers.
3. April showers do not last long.
4. There is very little rain in April.
5. April is a spring month.

SOME THINGS TO DO

Watch the next April shower.

See how it comes.

Tell what happens.

LITTLE CHICKS AND DUCKLINGS

Where have you seen little chicks?

How do they look?

What can they do?

Where have you seen little ducks?

How do they look?

What can they do?

How can you tell little chicks
from ducklings?

Mother hen had a nest on the ground.

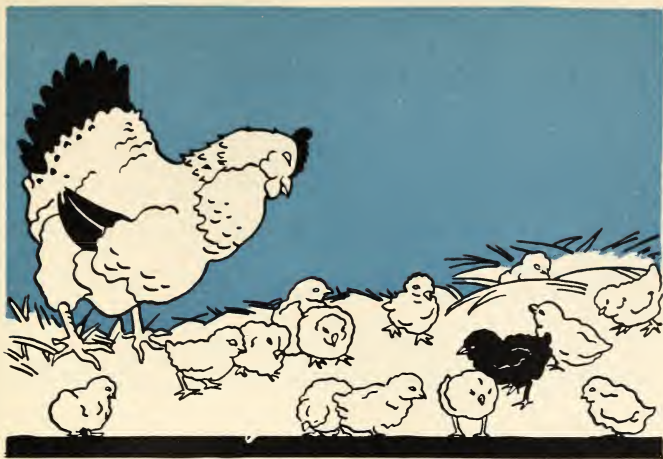
It had many eggs in it.

She sat on the eggs a long time
to keep them warm.

Then little chicks came out
of the eggs.

They were pretty little birds.

They had bright eyes and
strong legs.



They ran after their mother the day
they came out of the eggs.

Mother hen said, "Cluck, cluck."

She went to find food
for the little chicks.

The little chicks ran after her.

"Peep, peep," said the chicks.

When they had had their dinner,
they went to sleep under their
mother's wings.

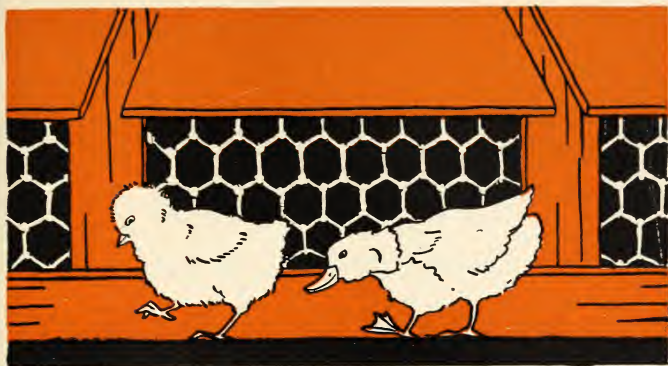
Mother duck had a nest
on the ground.

Her eggs were big and white.
She sat on the eggs a long time
to keep them warm.

Then little ducks came out
of the eggs.

They were pretty little ducklings.
They had bright eyes and big feet.
They did not look like the
little chicks.





“Quack, quack,” said mother duck,
as she took them to the water.

The ducklings could swim as well
as their mother.

They found food in the water.

They liked to swim.

When they came out, it was fun
to see them walk.

“Little ducks do not walk as well
as little chicks,” said Bobby.

“But little chicks can not swim,”
said Betty.

SOME THINGS TO THINK ABOUT

Here are two words

chicks ducks

The words below belong with one or the other of them. Put them under the right word.

hen water cluck

quack peep swim

SOME THINGS TO DO

Get a big box and put a wire net over the top.

Keep three or four chicks and ducklings at school for two days.

Give them soft bread and water.

Keep the box clean.



THE ROBIN FAMILY

Have you ever seen a bird's nest?

Where was it?

Of what was it made?

In the cherry tree is a robin's nest.

Betty can see the nest

from her window.

The father and mother robin

made the nest.

They came back in the spring,

looking for a place to build it.

The mother robin found the place

to build it in the cherry tree.

The mother and father robin

carried sticks to build the nest.



They carried them in their bills.
Then they brought mud from a pond.
Betty saw them carry the mud
in their bills.

They made a mud cup inside
the sticks.

The mud cup was big enough
to hold the mother robin.

She sat in the mud cup,
and turned around and around.

She made the mud cup smooth
with her breast.

Then the robins carried grass
to put inside the mud cup.
The grass made the nest soft.

When they had made the nest,
the mother robin laid four blue
eggs in it.

After that, she sat on the eggs
for many days.

Betty watched her from her window.
She heard the father robin
singing to the mother.

One day, when Betty looked out
of the window, the father and
mother robin were gone.

Betty could not see any eggs
in the nest, but she saw four
little robins.

The little robins were not pretty.

They had no feathers.

They had very big mouths.

Soon the mother robin came back
to the nest.

She had a worm in her bill.

All the little robins opened
their mouths wide.

Mother robin put the worm
into the mouth of the first little
robin.

Then father robin came with a worm
in his bill.

All the little robins opened
their mouths wide.

Father robin put the worm
into the mouth of the second little
robin.



By this time mother robin came
with another worm.

All the little robins opened
their mouths wide.

She put the worm into the mouth
of the third little robin.

Soon father robin came with a worm
for the fourth little robin.

Mother and father robin did this
all day long.

“How tired those poor robins
must be,” said Betty.



Every day she watched.

Every day the mother and father
fed the little robins all day long.

The little robins grew fast.

They were soon as large as
their mother and father.

Then they flew away from the nest.

SOME THINGS TO THINK ABOUT

Make these right

1. The robins built a nest
2. They put grass
3. Betty looked
4. The mother robin put worms

inside the mud cup.

out of the window.

into the mouth of the little
robins.

in the cherry tree.

SOME THINGS TO DO

Watch some robins build a nest.

Watch them feed their young robins.

Do not go too close.

Make a picture of a robin.

A RIDDLE TO GUESS

Go Slow has only one foot.

Wherever Go Slow goes, it leaves
a shining track.

Go Slow carries its house on its back.

Go Slow has eyes that look
like horns.

Can you guess who Go Slow is?

Betty could not guess, but Bobby did.

Go Slow is the land snail.

Betty and Bobby looked for snails.

They liked to watch them.

With its one foot, the small snail
can crawl up walls, as well as
over the ground.

It can even crawl up a glass window,
or a glass jar.



The snail's foot is sticky,
as if it had glue on it.
That is why the snail can crawl
up a wall, or up a glass window.
That is why Go Slow leaves a
shining track wherever it goes.
When Go Slow crawls, it stretches
its body.
The body is long. The shell
sits up on its back.
Birds like to eat snails. Snails
use their eyes to look for birds.

When a bird comes near, the snail
draws its body into its shell.

The shell keeps it safe.

Snails have funny eyes.

Flowers grow on stems.

The snail's eyes are on stems, too.

The stems look like horns.

Snails use their eyes to see
where they are going.

They use them to see when to go
into their shells.

They use them to find food, too.

Snails like to eat fruit and soft leaves.

Their funny eyes help them
find this food.

When a snail is looking for food,
it stretches its eyes far out.

When a snail wants to go into its
shell, it draws its eyes into its head.



Snails lay eggs. Their eggs
are about as large as small peas.

Snail's eggs have soft shells.

When the little snails come
out of the eggs, they have their
shells on their backs.

In winter snails rest.

They go into the ground to sleep
or under a log or stone.

They have a long sleep before
spring comes.

It was summer when Betty and Bobby
saw the snails.

SOME THINGS TO THINK ABOUT

Find the best ending for each story.

1. The snail carries its house

in a box on its head on its back

2. The snail has

one foot two feet four feet

3. The snail's eyes

are pretty grow on stems are blue

SOME THINGS TO DO

Find snails out of doors, and

bring them to school.

Feed them. Watch them.

Draw a snail's shell.

Tell what you see the snails do.

THE TOAD

Have you ever seen toads' eggs?

What do they look like?

What do they change into?

There is a pond near Bobby's school.

Every spring Bobby looks for toads' eggs in the pond.

He finds them in the water near the edges of the pond.

Bobby went to look for toads' eggs this spring.

He took a bucket with him, so he could bring some back to school.

He took an old saucepan to scoop up the toads' eggs.

He scooped up some of the pond water, too.



He put the toads' eggs and the pond water in the bucket.

When he brought them to school, the teacher put them in a glass jar. After a while tadpoles came out of the eggs.

Bobby put the tadpoles in an aquarium.

At first the tadpoles had no legs, but they had long wriggling tails.

Their tails kept them moving
through the water.

After a while the tadpoles
changed to toads.

The toads had no tails, but they
had four legs to move about on land.

Toads eat insects that fly about.

When it is looking for dinner,
a toad sits very still.

When an insect flies near, the
toad opens its mouth.

It puts out its long tongue.

The toad's tongue is sticky,
and the insect sticks fast.



The toad swallows the insect.

Bobby put the toads out
in the garden.

Toads sleep in the earth all winter.

In the spring they come out
of the earth.

They hop to the pond.

The mother toad lays many eggs
in the pond.

A toad has long strong hind legs.

These strong hind legs help
the toad to hop.

Where have you seen a toad?

How high can it hop?

What other animals do you know
that can hop?

Toads are almost the color
of the earth.

Betty looked at a toad without seeing it, because it was the color of the earth.

When it hopped, she saw it.

SOME THINGS TO THINK ABOUT

Find a sentence that tells

1. Where Bobby finds toads' eggs.
2. What hatches from toads' eggs.
3. How tadpoles look.
4. What color toads are.

SOME THINGS TO DO

Draw a picture of a toad's egg.

Look at the toads' eggs in your schoolroom every day.

Tell what happens to them.

Draw a picture of a toad tadpole.

Look at the tadpoles every day.

Look for toads out of doors.



ANIMALS AT THE ZOO

What have you seen at the zoo?

Which animal do you like best?

Betty and Bobby like to go
to the zoo.

They like to see the animals.

In one of the cages there is a tiger.

The tiger is nearly as tall as Betty.

It is a large animal.

It has a beautiful coat of soft fur.

The tiger's fur coat is yellow
with black stripes.



In another cage there is a lion.
The lion is nearly as tall as Bobby.
It is a little larger than the tiger.
The lion has a coat of soft fur.
The lion's fur coat is yellow
and brown.
It does not have stripes on it.
The father lion has a mane
of long hair about his neck.
He is called the king of beasts.
Do you think his mane makes him
look like a king?

Betty and Bobby like to see the man
at the zoo feed the lion and tiger.
He gives them big pieces of raw meat.
They hold the meat with their
sharp claws.

They eat the meat with their
sharp teeth.

The tiger once lived in the forest.
It had to find its own food.
It lay still until another animal
came near.

Then it sprang on the animal.
It held it with its sharp claws.
It ate it with its sharp teeth.

The lion once lived in the forest, too.
It had to find its food as the tiger did.
Lions and tigers have strong legs.
They can run fast and spring far.

They have soft pads on their feet.
They can move without making
a sound.

They have sharp eyes.

They can see in the dark.

WHO AM I?

I live in a cage.

I eat raw meat.

I am yellow and brown.

I have a mane.

I am called the king of beasts.

SOME THINGS TO DO

Go to the zoo, the circus, or
the museum to see lions and tigers.

Watch a tiger to see how it moves.

Watch a lion to see what it does.

Find pictures of lions and
tigers for your schoolroom.



THE CHANGING YEAR

In the fall Betty and Bobby went to school.

The sun was not very warm, so they wore their caps and sweaters.

Some mornings it was very cool.

As they walked to school, they saw birds flying by.

Betty took the teacher some sunflowers from her garden.

The teacher said, "Betty, will you give me some sunflower seed to plant in my garden next spring?"

There was a beautiful oak tree in the school yard.

When school was over in the afternoon, Betty and Bobby liked to play in the oak leaves.

They saw a squirrel getting acorns under the oak tree.

The squirrel dug holes and put the acorns in them.

He was putting away food for winter.

The trees were getting ready for winter, too.

Their leaves were turning beautiful colors.

"I like the fall," said Bobby. "So do I," said Betty.



All winter Betty and Bobby went
to school.

The days were cold, so they wore
their warm coats and hoods.

Some days there was snow
on the ground.

Betty and Bobby liked to play
in the snow.

Most of the birds had gone south,
but there were some left.

It was easy to see them because there
were no leaves on most of the trees.

Only the evergreens had leaves
on them.

When it snowed, the children put
out bread crumbs for the birds.

They put out water for them
to drink, too.

When Christmas came, they helped
to trim the little pine tree
that was their Christmas tree.

“I like winter,” said Betty.

“So do I,” said Bobby.

One day on the way to school,
Betty saw a robin.

“Spring has come,” she said.

“Yes,” said Bobby, “Spring has
come. I can tell because the March
winds are blowing. I can fly
my kite.”



Soon other birds came. The robins
made a nest in the cherry tree.
There were little green leaves
on all the trees now.

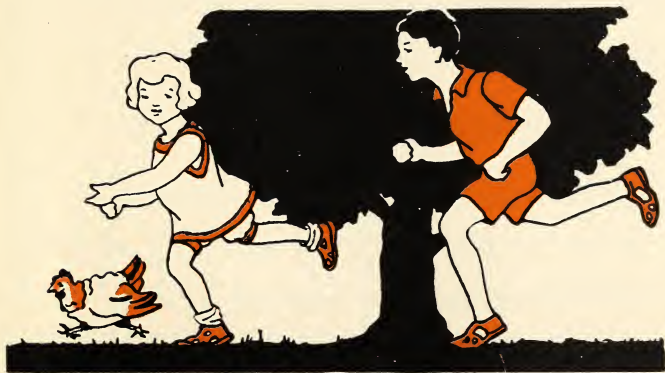
Bobby found some toads' eggs and
tadpoles in the pond on the way
to school.

Every day the sun grew warmer.
The April showers gave the grass
and trees a drink.

“Let us plant a garden,” said Bobby.
So Bobby helped Betty plant
a flower garden at home.

“I like the spring,” said Bobby.
“So do I,” said Betty.

When the summer came, Betty and
Bobby went to the farm.
They played out of doors without
hats or coats, for the sun was
very warm.



They grew brown in the sunshine.

They fed the chickens and ducks.

They saw many other birds.

Sometimes it was hard to see

the birds because the green leaves
on the trees hid them.

There were flowers in the woods
and fields.

Betty and Bobby had a good time
on the farm all the long summer
days.

“I like the summer,” said Betty.

“So do I,” said Bobby.

SOME THINGS TO DO

Make a list of signs of spring.

Make a list of signs of every season.

Tell what season you like best.

Why?

WORD LIST

<p>7</p> <p>what are Bobby Betty doing and the birds on tree time of year is it</p> <p>11</p> <p>pigeons do eat can live has some big have feathers seeds drink water does fly they with their wings</p> <p>12</p> <p>walk nod heads when say</p>	<p>“Coo, coo” in street house you like your stay all</p> <p>13</p> <p>look for see bring to school give as things think about find words tell each picture a</p> <p>14</p> <p>canary how pet name Dickie cage he him</p> <p>15</p> <p>sing sweet song little yellow</p>	<p>hop stands perch bright eyes bill</p> <p>16</p> <p>up two feet holds opens door comes out flies room</p> <p>17</p> <p>then goes back part story that peep clean</p> <p>18</p> <p>gardens flower vegetable work fun mother cooks dinner puts table</p> <p>19</p> <p>grow from</p>	<p>fall gather spring plants more farmers too sell market</p> <p>20</p> <p>if no bug will new next summer picks winter rest</p> <p>21</p> <p>right go</p> <p>21</p> <p>plan</p> <p>22</p> <p>caterpillars seen where was leans grass brought box</p> <p>23</p> <p>ate every days looked</p>
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24
head
mouth
crawl
legs
count

25
many
color
ground
other
hair
stripes
body
made
rings

27
sunflowers
goldenrod
why
called
brown
spot
middle

28
old
another
very
tall
taller
than
Daddy
large
green
woods
fields

29
ever
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only
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30

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37
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poor
hungry

38
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39
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40
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41
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42
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