



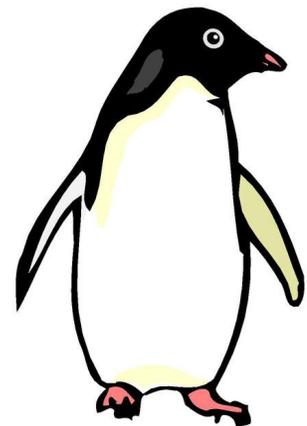
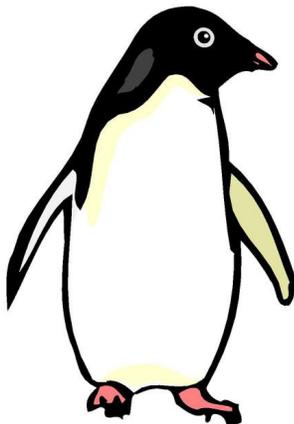
All About Birds



An Integrated Unit

by

Lillian A. Mitchell



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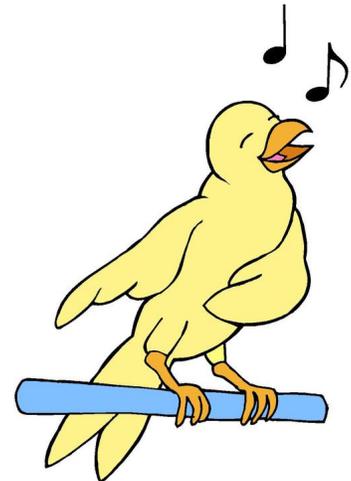
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WHAT ARE BIRDS?



Birds are different from all other creatures. They have feathers and most of them can fly. They have two wings, a strong bill, scaly legs and feet, three or four toes with claws on the end, no teeth. The body temperature of birds stays the same both in warm and cold surroundings. The birds that cannot fly, have strong

legs for running.

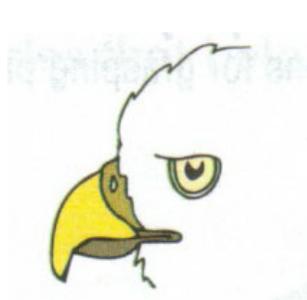


Birds breathe, they are warm-blooded and they have a skeleton inside their bodies.



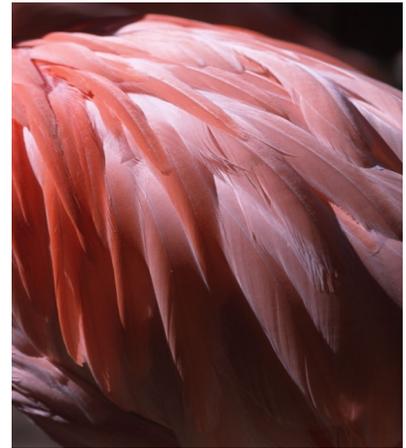
Some birds like the hummingbirds are very small. Others like the ostriches are huge.

Birds can be found in forests, deserts, and grassland. Many birds live on water, a few birds make their homes in icy, cold places.



The body of most birds is suited to flying. In order for a bird to fly, it must be lightweight. The bones are hollow and this makes their bodies light. If the bones were not hollow, the birds would not be able to fly.

The skeleton of a bird is a framework of bones under the skin. The skeleton supports and protects the soft tissue and delicate organs like the heart and lungs.



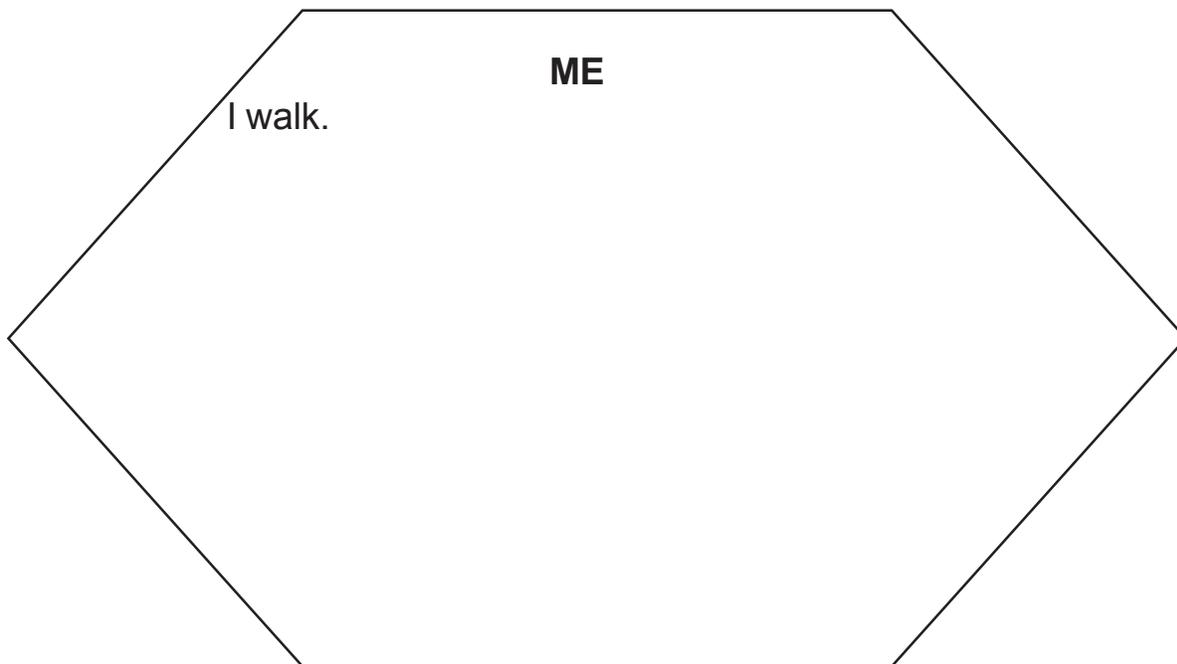
HOW ARE BIRDS DIFFERENT FROM ME

Name: _____ Date: _____

In the boxes below, list as many ways as you can that tell how birds are different from human beings. The first one is done for you.

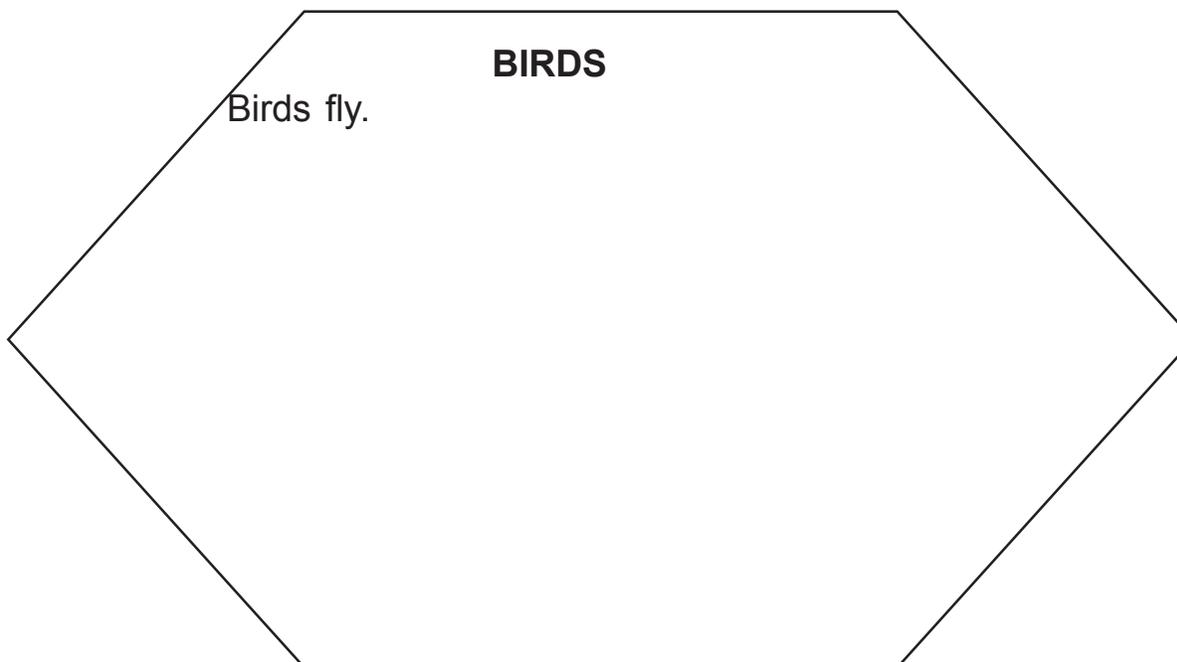
ME

I walk.



BIRDS

Birds fly.



KINDS OF BIRDS

There are almost 9000 different kinds of birds. They can be found living everywhere, in towns, in cities, in the tropical rain forests and in the frozen lands and icy seas. Some of these birds are very large, like the ostrich, which cannot fly and weighs about 330 pounds and is about eight feet tall. The tiny bee hummingbird weighs less than one ounce and is about 2½ inches long.



There are about 163 recognized families of birds in the world. There are sixty-eight families of birds in North America.

Usually all birds of a species look alike and act alike as far as the bird watcher can see. However, on closer observation, it is noted that there are differences among birds in a given species. The bill may be different, a patch of color not quite like the others, or a behavior different from those in the species.



MY FAVORITE BIRD

Directions:

Give each child a large piece of bird nest shaped paper. Have him/her make a picture of his/her favorite bird going in the nest and write a story to accompany the picture.

Laminate and compile all the pages into a book. Use the nest below for the cover, or allow the students to color their own nest as a cover. Let the students decide on a title for the book. Have each child read his or her story to the class.



BIRD A-Z

Name: _____ Date: _____

Create your own bird alphabet. Use the Internet to find out about five of the birds from your alphabet. Write two sentences about each of the five you chose.

A _____

N _____

B _____

O _____

C _____

P _____

D _____

Q _____

E _____

R _____

F _____

S _____

G _____

T _____

H _____

U _____

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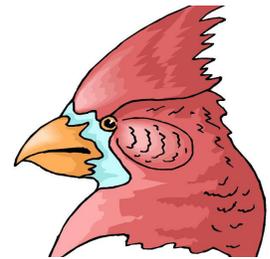


BIRD BEAKS

Birds have no teeth, they have a horny beak. Beaks are different in size and shape. The shape of a bird's beak gives us information on what it eats and how it collects its food. Since birds do not have a good sense of taste or smell, they find food by its color and shape.

Unlike mammals, birds can move their upper jaw without moving the rest of the head. This helps them to open their mouth extremely wide. Below is a description of different kinds of beaks.

1. Hard thick beaks with a sharp point are used for cracking seeds and nuts and picking up very small seeds.



2. This pointed beak is used to pick up objects and is long for grasping larger kinds of food like earthworms.



3. Long straight, hard beaks are used to make holes in trees and also dig out insects from their homes or hiding places.



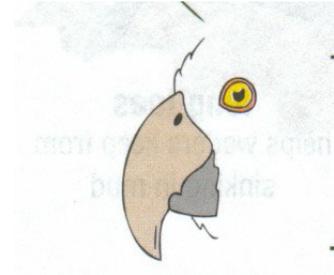
4. Beaks that are wide and flat and have tiny ridges are used to strain food from the bottom of the lake.



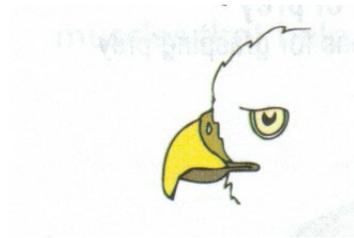
5. Birds with long beaks use it for sipping nectar from deep inside a flower.



6. Birds with a hard hooked beak use it for cracking seeds.



7. Birds that are meat eaters have strong, curved beaks which they use to grab small animals and hold and tear the meat.



HOW DO OUR BEAKS HELP US?

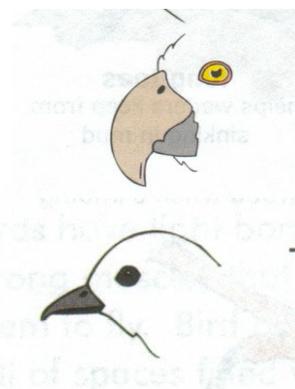
Name _____ Date _____

Directions: A bird has a beak for the food it eats. Match the beak to the correct definition.

This helps me crack seeds.



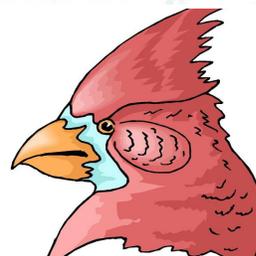
I use this to hammer into trees.



This helps me sip nectar from flowers.



This helps me strain food found at the bottom of the lake.



I use this to grab small animals.



This helps me pick up objects.



HOW DO OUR BEAKS HELP US?

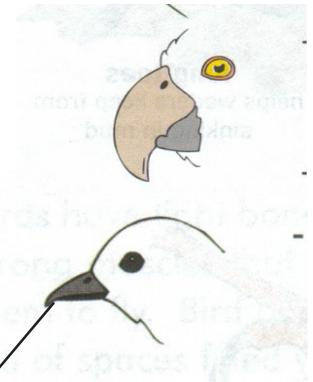
Name: KEY Date: _____

Directions: A bird has a beak for the food it eats. Match the beak to the correct definition.

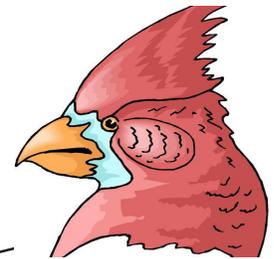
This helps me crack seeds.



I use this to hammer into trees.



This helps me sip nectar from flowers.



This helps me strain food found at the bottom of the lake.



I use this to grab small animals.



This helps me pick up objects.



Beak Shapes

Name: _____ Date: _____

Directions: On the line provided write the name of the bird that matches the definition.

1. _____ have hooked beaks that help them to tear off strips of meat.
2. _____ have small beaks to suit the tiny seeds they eat.
3. _____ use their long beaks to find food buried on muddy shores.
4. _____ have flat beaks that help in searching for food in shallow water.
5. _____ have large beaks with a pouch of skin attached between the end of the lower half of its beak and throat.



Beak Shapes

Name: KEY

Date: _____

Directions: On the line provided write the name of the bird that matches the definition.

1. **Eagles** have hooked beaks that help them to tear off strips of meat.
2. **Hawfinches** have small beaks to suit the tiny seeds they eat.
3. **Curlins** use their long beaks to find food buried on muddy shores.
4. **Ducks** have flat beaks that help in searching for food in shallow water.
5. **Pelicans** have large beaks with a pouch of skin attached between the end of the lower half of its beak and throat.



BIRD BEHAVIORS

When **ostriches** stand they are about 8 feet tall. They travel in groups to protect themselves from predators. Ostriches depend on their long, powerful legs and tough toes to sprint away from danger.

Ostriches can run at fifty miles per hour or faster. They roll in the dust probably to keep ticks away or to get rid of extra oil. They sleep out in the open and keep a keen ear out for predators. If an ostrich wakes up suddenly by disturbance it starts yawning and stretching. When one ostrich yawns, the entire herd follows.

Ostriches are very friendly to each other. This is very obvious when they find water in the dry season. Although they are friendly, they respect those higher in rank. Those higher in rank can be very easily identified. They are the black and white birds standing very tall with tail pointing up. The next bird in rank will hold his tail just horizontal, while the others hold theirs in a drooping position.



Both male and female ostriches take turns sitting on their eggs. The female sits on the eggs during the day time and the male at night. When the eggs hatch, the parents take the chicks to secluded places where they can teach them about insects and plants that can be eaten. Both male and female ostriches work together to protect their babies.

Flamingoes usually rest in a one-legged pose, with their neck curved or folded along their back and their bill tucked into their feathers. Both male and female flamingoes take turns sitting on the eggs for up to 32 days until they hatch.



The young flamingoes explore on their own in groups of up to hundreds sometimes. They are taken care of by a small number of adult flamingoes. When the parents return from food gathering, they make their dinner call and the young run to their own parents.



The male **peacock** cannot fly as far as the female. They spend the morning searching for food. They wash down their food by sucking water into their bill and then raising their head to swallow. Peacocks like to play the game **tag** in which the opponents, usually the young peacocks, chase each other around a bush. They always seem to end the game abruptly causing all the birds to scatter in different directions.

Peacocks lay three to eight eggs each. Sometimes they mix their eggs in with those of other peahens. The different mothers take turns sitting on the eggs to keep them warm. Once the birds hatch the mother keeps them warm and dry by wrapping them around with her feathers. A peahen can be very fierce when her babies are in danger.



The average **eagle** weighs about 9 pounds. It soars high into the heavens. When a high-flying eagle sees something it can eat, it dives down at about 200 hundred miles per hour.



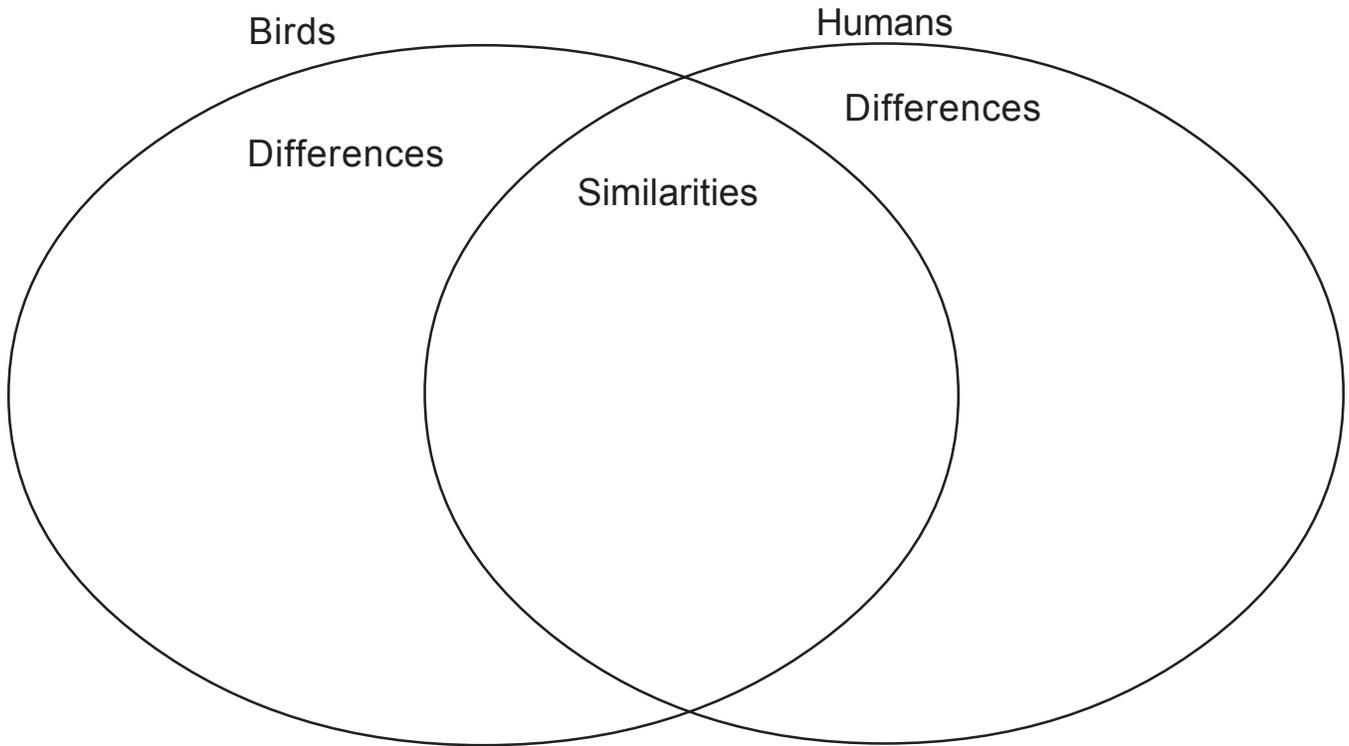
Eagles like to eat fish. They have five basic hunting methods. They hunt in flight, they can hunt from a perch, they can hunt on the ground, they can hunt while wading in water, and they can hunt as a group.

The eagle is an excellent thief. He knows how to take away the food from another animal on the ground, and he knows how to harass a bird carrying a fish in flight.



CLEANING OURSELVES

Compare how birds and humans keep themselves clean. Use the diagram below to help you.



THE DOVE

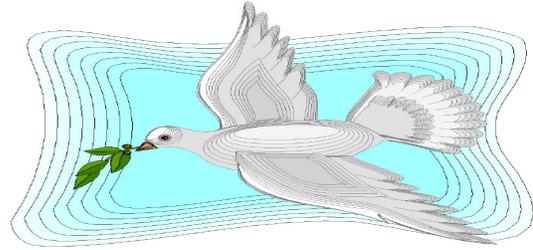
*He saw the spirit of God descending
Like a dove and lighting on Him.
Matthew 3:16, NIV*

In London authorities have urged people eating lunch in the courtyard in front of the British Museum not to feed the pigeons. It is a difficult restriction, though, because sharing food with a friendly, bright-eyed bird is very satisfying. The sweet murmur of flocks of doves cooing softly to one another attracts us. No wonder the Greeks made the dove sacred to Aphrodite, goddess of love.



The dove has other attractive characteristics. Shy and retiring, it hides “in holes in the cliffs or in crannies in the high ledges” (Song of Solomon 2:14, NEB). In sending out His disciples “innocent as doves,” Jesus recognized the bird’s gentleness (Matt. 10:16, NEB). Finally, at Jesus’ baptism the dove wonderfully exemplified the Holy Spirit (Matt. 3:16).

Thus the dove introduces us to a special intimate side of the Holy Spirit’s ministry. To domesticate doves, we build dovecotes, which are multistoried bird houses, to entice them into our gardens. Ambitious owners train



homing pigeons to carry messages—a talent perhaps inherited from the dove that carried the olive branch back to Noah’s ark, promising peace and safety after the Flood.

Our dove picture now has yet another feature. Christ is the resting place, the dovecote, to which we all come home—led by the Spirit. It makes no difference with what wings we fly to Him. We only need to *come*, both the young who are just learning to fly and the old who can already fly. Those who have kept all the commandments from childhood as well as those who have broken them all. We all have different temperaments—excited and weak, impetuous and cool, affectionate and shy. Thus we can not expect the finch to sing like the nightingale or the sparrow to fly like the sea gull. Nor will the dove arrive in eagle’s wings. Instead, we can only come as *ourselves*, imitating no one. Such is the message from the dovecote.

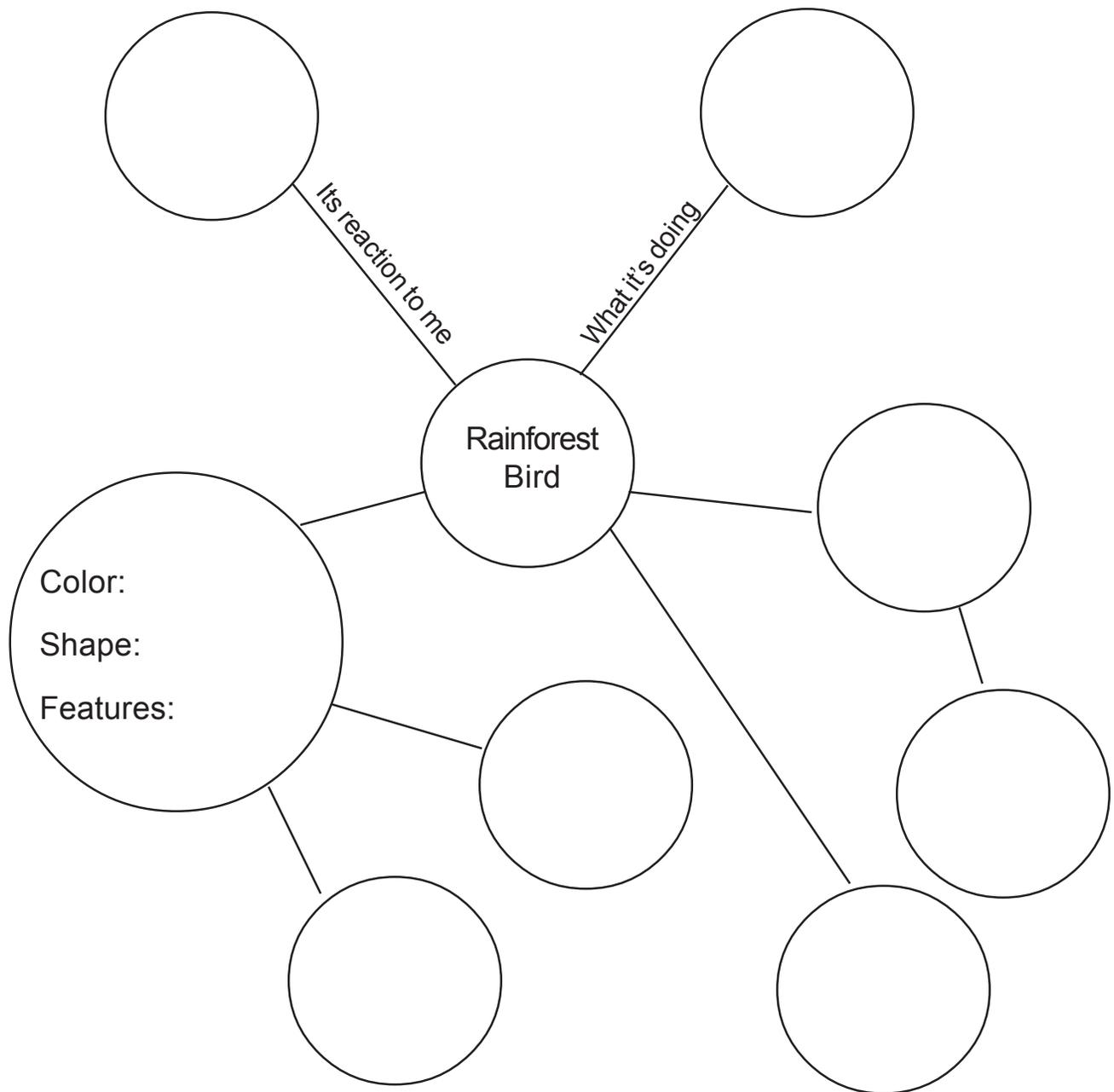
Adapted from Glimses of God, Dorothy Minchin-Comm, Review and Herald, 1998



Adventures in the Rain Forest

Imagine that you are a birdwatcher and you have just spotted a bird that has never been seen by the human eye. Draw your bird and its surroundings.

Use this thinking diagram to help you get started.



BIRD CALLS AND SONGS

Frogs and humans have vocal cords near the top end of their throats. These vocal cords are made to vibrate to produce sounds. The voice box of a bird is at the bottom end of its throat. It is called the syrinx. Muscles around the syrinx can change its shape to make different sounds. Birds that do a lot of singing have very complicated syrinxes. Some birds can even produce two different tunes at once and sing duets with themselves.



Not all birds have a syrinx. Vultures are unable to sing, though they do make noises.

Birds make different sounds for many different reasons. The most familiar bird sound is song. Birds sing to attract a mate and warn other birds to stay away. Baby



birds sing to beg for food. They learn how to sing by copying the sounds made by their parents and the other birds of their species. A few birds like the mina birds, mocking birds, jays, crows, and starlings copy the sounds made by birds of other species. Many parrots can even copy human speech. Among the songbirds, it is most often the male that sings.

Sometimes birds sing alarm notes. Alarm notes warn other birds of danger. The American robin uses one note when he sees a hawk circling overhead and another when it sees a predator on the ground. Bird partners or flocks sing location notes to help them find one another. The reed warbler is able to sing two different songs at the same time. A whistling tree duck uses its whistle-like call to keep in touch with other birds in the flock when feeding in dense reed beds.

Weird Tunes

Some birds make noises that do not sound like bird songs. Woodpeckers sound as if they are drumming. The kookaburra is known as the laughing jackass because its call sounds like a donkey's bray. Snowy owls bark like dogs. Starlings can mimic the sound of a telephone ringing.



BIRD CALLS AND SONGS

Name: _____ Date: _____

Directions to the Teacher: Assign students to listen to the sounds of birds for ten days. Ask the students to tell what each bird sounded like.

DAY	SOUND HEARD
DAY ONE	
DAY TWO	
DAY THREE	
DAY FOUR	
DAY FIVE	
DAY SIX	
DAY SEVEN	
DAY EIGHT	
DAY NINE	
DAY TEN	



JOYFULNESS AS TAUGHT BY THE DIPPER

Oh, sing to the Lord a new song! Sing to the Lord all the earth. Psalm 96: 1

It was a cold dreary November day in the mountainous Northwest. The pouring rain was thick and slushy but not quite cold enough to form snowflakes. Over the last few weeks, heavy rainfall had swollen the rivers and streams. When the foaming torrents raced downstream, many new falls, rapids and cascades were created as the water rushed over and around huge boulders and stones.

A penetrating breeze caused one to feel colder than it actually was. The monotony of the chilling rain and the lifeless appearance of naked vegetation created a gloomy, depressing atmosphere.

Most birds of the area had already migrated south. Those that remained behind sat silent and numb near the protected shelter huddled with their feathers fluffed out for maximum warmth. The area's reptiles and amphibians had entered their homes deep in mud and rocks to rest for the winter. Many other animals had sought shelter—some for the winter, others just until the rain came to an end.

Except for the sound of falling rain and rushing water, it seemed as though all activity had ceased. Everything was silent and motionless. Everything that is except for one small bird which fluttered from rock to rock, surveying the turbulent water way. Suddenly the bird disappeared. It had actually walked into the

icy water. A few minutes later it reappeared on the opposite shore apparently undaunted and unhurt by its frigid plunge.

The amazing thing is that this bird did not seem suited for aquatic life. Its appearance resembled that of an overgrown wren, and yet it maintained its exuberant activity in and along the stream. The more turbulent the water, the more it seemed to enjoy it. Repeatedly, the little bird entered the water and searched among the rocks for food.



This bird, the size of a robin, appeared to have no special features to equip it for this activity. Just looking on, it would appear to be more at home in the forest than in a turbulent stream. Yet it moved in and around the water, easily and effectively navigating the streams despite its size.

Even more significant than this unusual activity is the fact that the dipper constantly has a song. Adverse weather seems not to affect it in the least. Even on the harshest day of winter the beautiful, cheery song of the little bird can be heard breaking the chilling silence of the landscape. Despite the dipper's physical limitations, it joyfully and energetically goes about its business with a song.

Courtesy of: Character Sketches from the pages of scripture illustrated in the world of nature Volume II, Rand McNally & Co. 1981



FEATHERS

The body of the bird is almost completely covered with feathers. Some birds have bare legs. Feathers keep the birds warm, give the birds shape, and help most birds to fly. Some birds have beautiful feathers which they display. Feathers must be kept in good condition because they have many important jobs.



Feathers are light, strong and flexible. They are easily replaced when worn, lost, or damaged. Feathers help birds to travel faster than one hundred miles per hour, to hover and fly backwards, to fly more than forty-eight hours without resting. Falcons and swallows are some of the fastest fliers.

Feathers are made from a tough substance called **keratin**. This is the same thing from which your hair and nails are made. A bird's feathers keep it warm and dry and helps protect it from injury.

Together, all the feathers on a bird are called its **plumage**. A bird has three main types of feathers. They are **flight**, **contour**, and **down feathers**.

The flight feathers are found in the wings and tail. These feathers provide a large area to push the bird through the air. The shape helps to lift the bird in the air and controls the way it twists and turns in flight. The small flight feathers close tightly when the bird wants to fly higher. The large ones allow the bird to change direction.

The contour feathers give the bird its shape and its markings. They look flat and smooth. They are held together by many tiny hooks that fasten onto each other. In most birds the feathers are arranged in regular rows on the body. They overlap each other so that no skin is left uncovered.



The down feathers mostly lie underneath the contour feathers next to the skin of the bird. Down feathers are soft and fluffy. They help to keep the bird warm. Birds that are very young have only down feathers. Their contour feathers do not grow until later.



Feather Facts

- Swans have more than 25,000 feathers.
- Sparrows have about 3,500 feathers.
- Hummingbirds have less than 1000 feathers.
- Mallards have 12,000 feathers.
- Bald Eagles have about 7,100 feathers.
- The male pheasant has the largest tail feathers. They are 5¼ feet long and 5 inches wide.

How Birds Care for Their Feathers

The feathers of a bird must be kept in good condition. They need a lot of care. Birds use the edges of their beaks to smooth their feathers. This is called **preening**. They do this to get rid of the dirt and insects. Preening also makes sure that the tiny hooks that keep the feathers in place are properly joined together. They may also take water or dust baths.

Many birds, like the blue tit, bathe in water. They clean their feathers and skin, and get ready for preening. Most birds bathe and preen often.

Most birds cover their feathers with oil to keep them waterproof. They get the oil from the preen gland near the tail. A bird will cover its head and beak with oil from its preening gland. Then it will spread the oil over the rest of its feathers. Drops of water will roll off well-preened feathers.



FEATHER DUSTER PAINTING



This is a fun way to use feathers during this unit on birds.

Materials needed: feather dusters, foil pie plates (for paint trays), various colors of paint, paper, easel (optional)

Directions:

1. Put paint in the trays.
2. Allow children to dip the feather dusters into the paint.
3. Encourage children to experiment with different motions like dabbing, brushing, twirling, and observe the different prints created.



This activity can be done on large easels or on large paper as a group activity.

When done, wash the feather dusters with a little soap, rinse well, and stand on end in a jar to dry.



COLORFUL FEATHERS

Many birds have colorful feathers and markings. These help them to blend in with their habitat. These colors or markings hide the birds so that **predators** cannot see them.



The feathers of the male of some kinds of birds are bright in color while the feathers of the female are dull and drab. The males with the brightest and most spectacular plumage are most attractive to the female.

The females cannot stand out while they are sitting on eggs in the nest. If they stand out, the enemy will see them more easily and they may get eaten by a hunting animal. Their feathers help to **camouflage** them by making them difficult to see against the background. The feathers of young birds also keep them hidden from hunters.

Sometimes the plumage of a bird is used to send a message to other birds of the same kind. Not only does the plumage of a young bird help to keep it hidden, but it also tells the father that it is harmless and not a competing rival that should be chased off.



CAMOUFLAGE

Name: _____ Date: _____

Answer the questions below.

1. How can you tell which bird in the same species is the male and which is the female.

2. List other animals that use camouflage to protect themselves from predators.



BIRD HABITATS

Different kinds of birds live in different places. Some birds have learned to live close to people. They can feast on the food we give them to eat, the garbage we throw away, weeds, flowers, insects, or farm crops around our homes. These birds also learn to adapt to the artificial habitats we build.

There are some birds that are not afraid to live near people.

1. **House sparrows** nest in buildings close to people.
2. **White storks** often nest on roofs. People often put up platforms to encourage them.
3. **House crows** are aggressive birds that live near busy towns and small villages in India and other parts of Asia.
4. **Pigeons** are tame enough to be fed by hand.
5. **House finches** live in farms, town and cities. They easily adjust to the presence of people. The male sings at any time of year; the female sings only in the spring. They eat almost anything.



Here are some birds that live in parks and gardens.

1. **Black-billed magpies** visit suburban gardens. They eat a range of foods, especially insects and small rodents. They also steal eggs and young from other birds.
2. **European robins** are aggressive. The males usually set up their homes in gardens and sing loudly to keep away other male robins.



3. **Blue tits** are very bold, lively birds. They often visit gardens in the winter to feed on nuts, seeds, and leftover food scraps put out by people. They can easily land on nut feeders and often use the nest boxes that people build and put up for them.



4. **Waterfowl** are attracted to artificial lakes in parks. This provides a feeding, resting, and nesting area for swans, ducks and grebes. Islands in the middle of lakes provide safe nesting places.



5. **Northern cardinals** frequently visit backyard feeders in North America. They often move around in pairs or family groups to feed on seeds that people leave out for them. The male has a brilliant red color with a crest of feathers on its head. It has a black patch around its eyes and a thick red bill. The female is brown or olive grey, but her wings and crest have red on the edges.



6. The **superb starling** can usually be found around campsites and hotels in east Africa. It is a tame bird, and is not frightened by people. It feeds mainly on the ground, pecking up seeds, fruits, and insects.

In many places, farmland has taken the place of woodlands, grasslands, and wetlands. However, some birds have adjusted to this habitat. They feed on the crops and nest in the animal pastures, hedges, orchards, and farm buildings. The number of farmland birds have been reduced because of the use of poisonous pesticides on farms.

Large flocks of birds like the black-headed gulls often follow a tractor plowing a field. These birds feed on the insects and worms exposed by the plow.



Many birds are found on farmlands and hedgerows.

1. **European goldfinches** feed on weeds along the edges of fields. They are light enough to feed on thistle heads and eat the seeds.



2. The **hoopoe** can be found in the Mediterranean areas where there are olive groves. They search the ground in the grasses and weeds for worms and insects.



3. The **dunnock**, sometimes called the hedge sparrow, nests in hedgerows where they build cup-shaped nests. The grey head and under parts help to tell the dunnock from a sparrow.

4. The **ring-necked pheasant** may nest in hedgerows. The female pheasant makes a shallow scrape in the ground in which she lays her eggs. Pheasants wander over farmland, feeding mainly on grains, seeds, berries, and insects.



Forest and Woodland

Forests and woodlands provide a rich habitat for birds. Lots of food can be found from the tree tops to the ground. A greater variety of birds live in the deciduous and eucalyptus woodlands than in the dark coniferous forests because of their preference for the climate. Woodland birds feed on the berries and seeds from the trees and shrubs. Some eat insects and very small animals. Their diet may vary with the change in seasons.

Many woodland birds have short, broad, rounded wings to help them rise quickly into the air and avoid twigs and branches.

Many birds that live in the woodland and forest are well camouflaged to protect them from predators.



Some woodland birds include the following:

1. **Nightingales** have loud songs and calls to attract mates. They build nests in the thick undergrowth.
2. The **redstarts** build their nests in holes in the trunks of large trees.
3. The dull, mottled colors of the **woodcock** hide it against the decaying leaves of the forest floor.



A large number of birds live in the warm moist deciduous woodland. They can live together by feeding at different levels. During the warm weather, the birds nest, raise their young and eat as much as they can. In cold weather, leaves fall off the trees and some birds migrate to warmer places.

Some deciduous woodland birds include the woodpecker, the spotted flycatcher, the whip-poor-will, and the green woodhoopoe.

In the dark coniferous forest, the leaves stay on the trees all year round. The winters are very cold and most birds leave to find warmer places. In the short summer, they feed on berries, leaves, and insects.

Birds like the bald eagle live in forests, near water where they hunt for fish and waterbirds. They do not grow the white feathers on the head and tail until they are four years old.

In the evergreen eucalyptus woodlands of Australia, a variety of unique birds can find food and shelter all year. The birds help to pollinate the trees and shrubs and spread their seeds. During the rainy season, waterbirds can be seen gathered in marshy areas on the border of these woodlands. One bird that lives in the eucalyptus woodlands



is the kookaburra. It is named for its noisy chuckling calls. The kookaburra pounces on reptiles such as snakes, small mammals, birds, and worms.



Owls sleep by day and hunt by night. They have very sharp hearing and keen eyesight. This helps them catch prey such as mice and small birds. Many owls roost in trees and have brown feathers for camouflage. The largest of all owls is the Eurasian eagle-owl. They are powerful hunters, strong enough to attack hares. They have very loud hoots.

The owls have soft, velvety feathers with fringes on the flight feathers. This kind of feather muffles the sound made by the wings in flight.

Rain forests

Tropical rain forests are the richest bird habitats. One fifth of all the kinds of birds in the world live in the rain forest. They provide lots of food and safe nesting places, and a warm wet climate all year. Birds that live in the rain forest usually have short, broad wings. These wings help them

to twist and turn easily when flying through the trees. The rain forest is under threat from mining, forestry, dams, and farming.



The rain forest birds live at different levels in the trees. In this way they share the food and nesting places. This makes it possible for a large variety of birds to live close together. Birds that eat fruit, like the parrots, help to spread the seeds of rain forest trees. They eat the fruits and pass the seeds in their droppings.

Rain forest birds build their nests high in the trees or in dense thickets above the ground. Some of these birds nest in tree holes.

Parrots and toucans live high up in the trees in the rain forest. They have strong feet for grasping branches. There are about 330 types of parrots. They have large, broad skulls with a fairly big space for the brain. Parrots are intelligent birds.

The eclectus parrots are unusual because the bright red female is such a contrast to the green male. Parrots, however have many colors including red, green, yellow, black, blue and grey, both singly and in various combinations.

Rivers, Lakes, and Swamps

Rivers, lakes, and swamps are home to a rich variety of birds. These birds include ducks, coots, rails, herons, flamingoes, and storks. There is a lot of food for these birds to eat, and there are safe nesting places in reeds, and on riverbanks. Many birds rest and feed on lakes, marshes, and swamps during migration.

Many waterbirds, like the Canada goose, have webbed feet. This helps them to push the water aside as they swim. They have long legs to wade in deep water, and long toes to walk over soft mud.

To catch fish, birds like the kingfisher dive into the water to seize their prey. Others, like the heron, stand still and catch fish that swim past.

Seas, Cliffs, and Shores

Some birds spend most of their lives gliding over the open oceans. They nest on shores and in the safety of the hedges of cliffs. Seabirds have long, narrow wings. These help them glide fast over the waves for long distances. They are not very good at walking and are very clumsy on land.



The piping plovers are an endangered species of bird. Because of this, some sections of beaches are closed during the summertime to allow for nesting. One area in New York where the plovers can be found is in Far Rockaway on the Rockaway beach.



Finding food at sea is not always easy. Seabirds spend most of their time looking for the next meal. Seabirds have waterproof feathers, webbed feet for swimming, and sharp bills to catch the slippery prey.

Deserts and Grasslands

Birds that live in deserts and grasslands may have to travel long distances for food and water, or migrate to avoid dry seasons. Their main source of food is seeds and insects and dead animals. During the day when it is very hot, most birds are less active. They rest in the shade.



The tall prairie grasses are the favorite nesting places of many birds. Although much of these original grasslands are now used for farming, these birds still nest in the open areas. These birds include the Brown-headed Cowbird, Western Kingbird, Western Meadowlark, American Kestrel, Horned Lark, and Vesper Sparrow.



Birds like the bee-eaters and warblers feed on the insects that are very



common in the rainy season. In the dry season, insect eaters have to migrate to find enough food to eat.

Birds that live in the desert get their water from the food they eat or by flying long distances. They rest during the day-time and come out to feed at night when it is cooler.

The ostrich is able to survive in very dry conditions. They are currently threatened by hunting and the destruction of their habitat.



Mountains

Mountains can be very cold and windy. Only a few birds live on mountains because of the harsh climate and lack of food in the cold seasons. The Lady Amherst Pheasant lives in the mountain forest of Asia. They move up and down the mountain with the seasons. Many pheasants are threatened by hunting.

The warmer forests on the mountains provide many birds with plenty of food and nesting places. In cold weather, birds may move from the upper slopes down to the forests.



Bird feathers keep them warm when it is freezing cold. Many mountain birds are large and powerful fliers. The raven is a strong bird that patrols mountain slopes searching for food. The sword-billed hummingbird lives high in the Andes Mountains. It has a very long bill which it uses to sip nectar from flowers.



Frozen Polar Regions

These are the coldest and windiest places on earth. Few birds can live there all year round. The albatross and the dovebies live in Antarctica. The dovebies look like the penguins of Antarctica. They have flipperlike wings for swimming. They can also fly.

The Emperor penguin is better adapted to the cold than any other animal on earth. It is the only bird that can survive the Antarctic cold in the winter. They never come on land, but nest on the ice that floats around Antarctica during the winter.



The Antarctic penguin can dive very, very deep in search of fish and squid. They can stay as long as eleven minutes under water during a dive.

Most birds of prey or hunting birds do not like living near people. Some like the kestrel and the sparrowhawk hunt along roadsides and in parks.



BIRD STICKERS

Directions: Brighten your day with colorful stickers. Brush the back of your sheet with adhesive. Let it stand for several hours to dry. Store between sheets of waxed paper. When you are ready to use them, lick and stick.

<p>Blackbilled Magpie</p>  A Blackbilled Magpie perched on a piece of weathered wood. It has a black head and back, a white breast, and a long, pointed black beak.	<p>European Robin</p>  A European Robin perched on a small branch. It has a dark grey head and back, and a bright orange-red breast.	<p>Blue Tits</p>  A Blue Tit perched on a branch. It has a blue head and back, a white breast, and a black cap.
<p>Waterfowl</p>  A waterfowl, possibly a grebe, swimming in water. It has a brown head and back, and a white breast.	<p>Northern Cardinal</p>  A Northern Cardinal perched on a branch. It is entirely bright red with a black face mask.	<p>Starling</p>  A Starling perched on a branch. It has a black head and back, a white breast, and a blue-grey wing.
<p>Goldfinch</p>  A Goldfinch perched on a branch. It has a bright yellow body, black wings, and a black cap.	<p>Woodcock</p>  A Woodcock perched on a branch. It has a long, straight bill and a mottled brown and yellow pattern on its body.	<p>Redstarts</p>  A Redstart perched on a branch. It has a black head and back, a white breast, and a bright red patch on its side.



BIRDS FOUND IN OUR COMMUNITY ALL YEAR

Weather and seasons determine the kinds of birds found in different places. Have students divide an 8½ x 11 piece of art paper into four sections. Label each section for the seasons of the year. Discuss with the students the birds observed in the community from season to season. Get a picture of a bird for each season and paste it in the correct space.

Birds Throughout the Seasons	
Spring	Summer
Fall/Autumn	Winter



BIRDS WE LIKE

Name: _____ Date: _____

Ask the students to answer the following questions and use the answers given to complete the graph.

Which birds do you like best---
cardinal, pigeon, dove, or hummingbird?

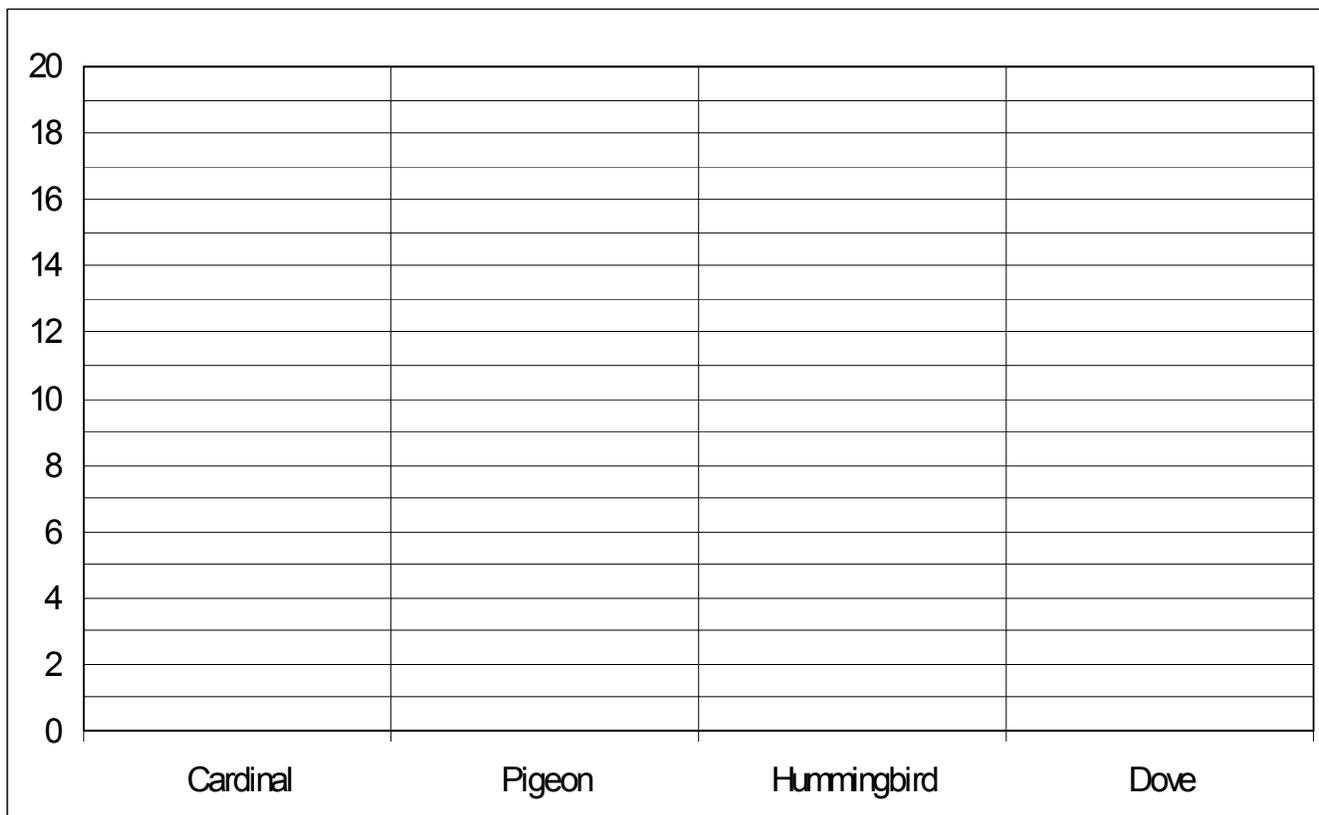


Number who like cardinals _____
 Number who like pigeons _____
 Number who like hummingbirds _____
 Number who like doves _____



Give your graph a name.

Name of Graph: _____



HABITAT TRIVIA

Name: _____ Date: _____

Write the name of the bird that best fits each description.

- 1. I sleep by day and hunt by night. _____
- 2. I have sharp hearing and keen eyesight. _____
- 3. I have a very loud hoot. _____
- 4. We live high up in the trees in the rain forest. _____
- 5. I dive into water to seize my prey. _____
- 6. I stand still and catch fish that swim by. _____
- 7. I help spread the seeds of rain forest trees. _____
- 8. I can survive in very dry conditions. _____
- 9. I live in the mountain forest of Asia. _____
- 10. We live in Antarctica. _____
- 11. I dive very deep in search of fish and squid. _____
- 12. We hunt along roadsides and in parks. _____



HABITAT TRIVIA

Name: KEY Date: _____

Write the name of the bird that best fits each description.

1. I sleep by day and hunt by night. Owl
2. I have sharp hearing and keen eyesight. Owl
3. I have a very loud hoot. Owl
4. We live high up in the trees in the rain forest. Parrots and Toucans
5. I dive into water to seize my prey. Kingfisher
6. I stand still and catch fish that swim by. Heron
7. I help spread the seeds of rain forest trees. Parrot
8. I can survive in very dry conditions. Ostrich
9. I live in the mountain forest of Asia. Lady Amherst Pheasant
10. We live in Antarctica. Dovekies, Albatross, and Penguins
11. I dive very deep in search of fish and squid. Penguin

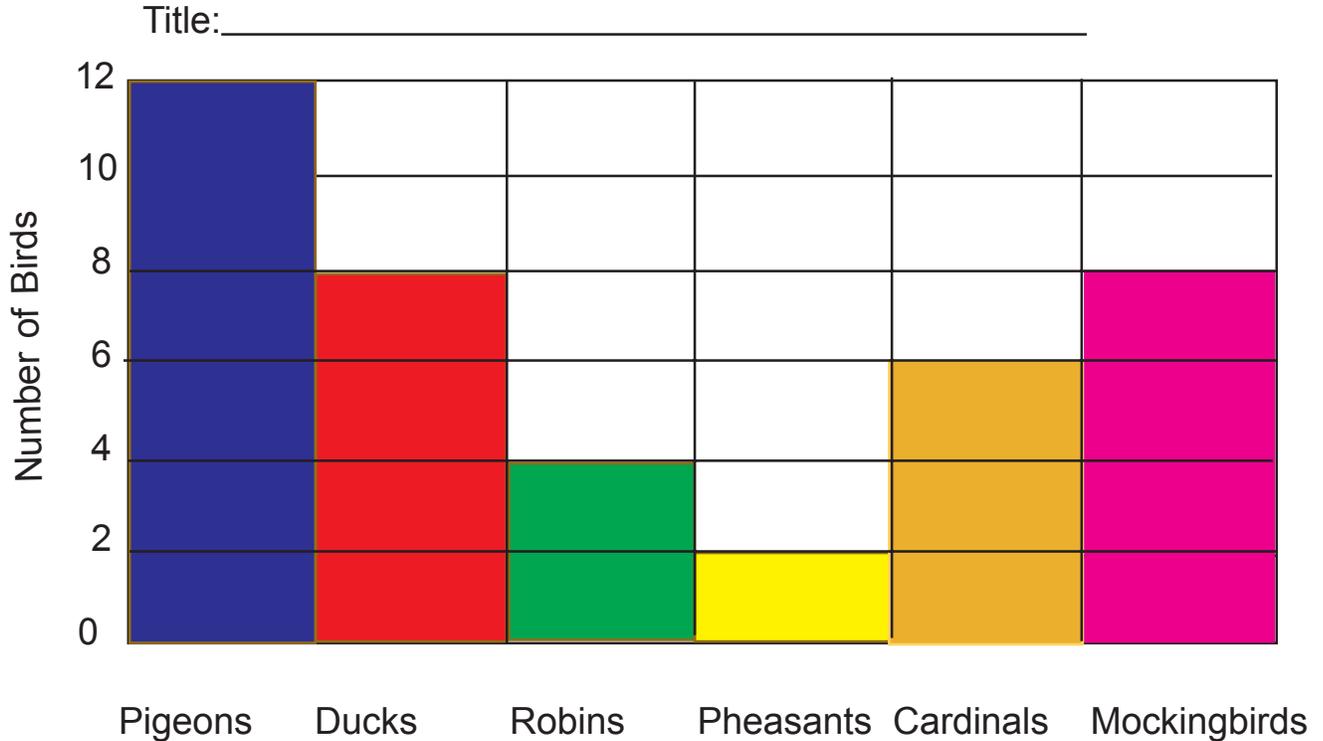


BIRDS OBSERVED

Name: _____

Date: _____

The students in the second grade class went to the park to bird watch. Below is a graph telling how many of each bird they saw. Use the graph to answer the questions below.



Birds that were seen

- How many pigeons did they see?
- How many more pigeons than ducks did they see?
- How many more robins than pheasants did they see?
- How many cardinals, robins, and mockingbirds did the children see altogether?
- How many birds did they see altogether?
- Write a title for the graph.

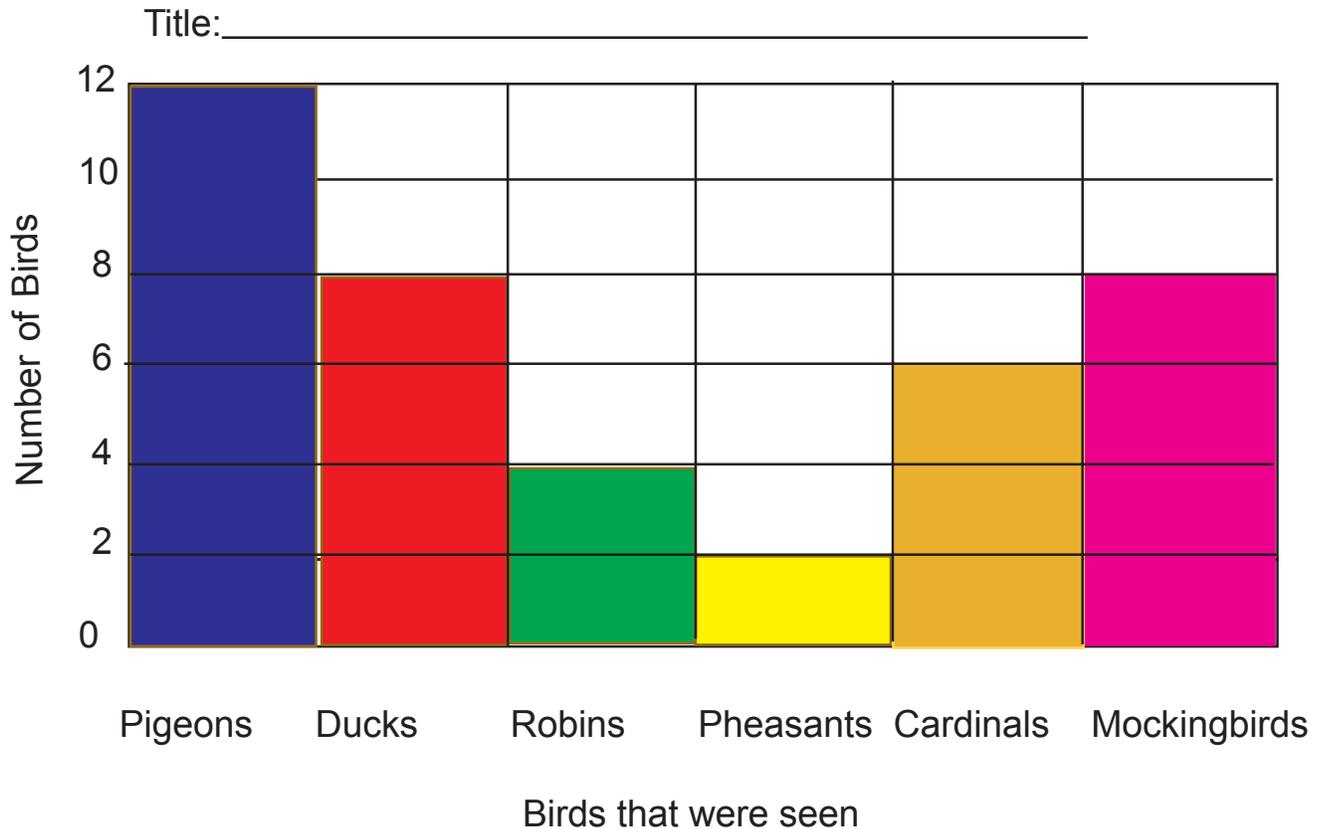


BIRDS OBSERVED

Name: KEY

Date: _____

The students in the second grade class went to the park to bird watch. Below is a graph telling how many of each bird they saw. Use the graph to answer the questions below.



- How many pigeons did they see? 12
- How many more pigeons than ducks did they see? 4
- How many more robins than pheasants did they see? 2
- How many cardinals, robins, and mockingbirds did the children see altogether? 18
- How many birds did they see altogether? 40
- Write a title for the graph. Answers will vary.



THE DIET OF BIRDS

Birds get energy from food. They need energy to grow, breathe and especially to fly. They spend most of their time looking for food or feeding. Most birds eat different kinds of food.

Some birds eat seeds and nuts, others prefer insects. Many birds, however eat both seeds and nuts and insects. Birds of prey like the eagle, the hawk, the owl, and the osprey hunt animals. They eat fish, reptiles, rodents, and other birds. Dead animal flesh is also a part of their diet.

Birds do not have teeth. They have a gizzard, which breaks up the food they eat. Some birds swallow little bits of gravel. The gravel stays in the gizzard and helps crush the food.



THE DIET OF BIRDS

Ask your teacher to help you research the kinds of berries, fruits, nuts, and seeds that birds eat. List the different kinds that you found.

As children, you can be God's helpers by feeding the birds. Hang a bird feeder outside your classroom window. If you have snow in your area, keep the bird feeder filled with seeds in the winter.

Sprinkle some seeds on the ground under the feeder for the first two or three days after you hang it. This will help the birds find the feeder. Ask your teacher to put some bird books and binoculars by the window so you can observe the different kinds of birds that visit your bird feeder.



BIRDS OF PREY

Some birds like the eagles, falcons, and owls share a few common features. Their beaks are hooked and sharp. This helps them to tear their food into bite-sized pieces. All except the vultures have feet that are sharp and strong, with curved talons. All birds of prey have excellent eyesight. Their eyes are in the front of their heads. This position of the eyes give the birds binocular vision for better depth perception which they need for chasing and catching active prey.



Owls have outstanding abilities which help them to hunt in the dark. Their huge eyes allow them to see when other creatures cannot. Owls have a very keen sense of hearing. This is very helpful since the light from the moon and stars is not constant. Rodents are a favorite food for the owl because they can hear them as they run through the leaves at night.

Falcons and hawks have notched beaks. These birds of prey need this type of beak, called a “toothbill” for cutting through tough material such as bone. Another bird of prey with unique behavior is the Northern Harrier, also known as the Marsh Hawk. It is able to hover over prey before diving to make the catch. This hovering ability has been copied by man in a combat airplane that can take off going straight up, without a runway. Then, like the Northern Harrier, it can change direction and fly normally. This airplane is called a Harrier.

In Bible times, the Israelites were forbidden to eat most birds of prey. These birds were unclean because they ate flesh and blood. Some birds mentioned that should not be eaten are eagle, osprey, vulture, raven, owl, nighthawk, and hawk.

Job 39: 28-30 indicates that the eagle dwells on the rock, from where she seeks for her prey. She can spot her prey from a distance because of her excellent eyesight. “Where the slain are, there she is.”



BIRDS OF PREY ACTIVITY

Name: _____ Date: _____

Directions: Read the narrative about "Birds of Prey." Look at the pictures of the birds on this page. These are all birds that we should not eat. On the line below write why we should not eat these birds.



Raven



Owl



Eagle



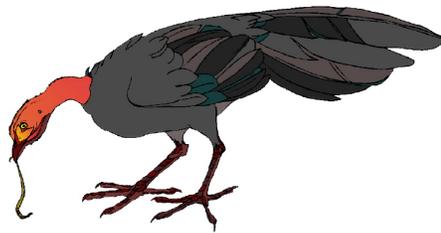
Hawk



Falcon



Osprey



Vulture



Nighthawk



BIRDS OF PREY ACTIVITY

Name: _____ **KEY** _____ Date: _____

Directions: Read the narrative about "Birds of Prey." Look at the pictures of the birds on this page. These are all birds that we should not eat. On the line below the pictures, write why we should not eat these birds.

These birds are unclean because they eat flesh and blood.



Raven



Owl



Eagle



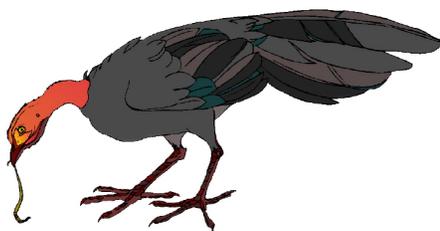
Hawk



Falcon



Osprey



Vulture



Nighthawk



Compare and Contrast

Name: _____ Date: _____

Directions: Answer the following questions in complete sentences.

1. Which ability of the Northern Harrier has been copied by man?

2. What is a combat airplane?

3. Write three sentences telling how you think a combat airplane is useful.

4. How are the Northern Harrier and the combat airplane "Harrier" alike?

5. How are they different?



Compare and Contrast

Name: KEY

Date: _____

Directions: Answer the following questions in complete sentences.

1. Which ability of the Northern Harrier has been copied by man?
Man has made airplanes that can fly like the Northern Harrier.

2. What is a combat airplane?
A combat airplane is used during war to fight the enemy.

3. Write three sentences telling how you think a combat airplane is useful.
Answers will vary.

4. How are the Northern Harrier and the combat airplane "Harrier" alike?
Both the Northern Harrier and the combat airplane can fly.

5. How are they different?

Answers will vary.



THE EAGLE

Dorothy Minchin-Comm

The eagle spreads its wings to catch them and carries them on its pinions. Deuteronomy 2:11

When students are asked to describe the creature they would like to be if they had to cease being a human being about 60 percent of them want to be birds. Of that number, more than half of them want to be eagles. We seem to be attracted to its great size and beauty. But above everything, we admire its freedom. It points us to two of Christ's most exalted attributes.



At least eight kinds of eagles live in Palestine. This could account for the number of references to eagles in the Scriptures. The eagle is an example of God's swift decisiveness. The strong majestic birds have vicious hooked beaks and long curved talons for tearing their prey. The remains of an eagle's kill may be just a few feathers or a few tufts of fur. The eagle is extremely strong. Isaiah 40:31 RSV tells us that "They who wait for the Lord shall renew their strength, they shall mount up with wings like eagles, they shall run and not be weary, they shall walk and not faint."

The eagle is a model parent. Because the bird needs a large hunting range, it lays few eggs and rears only one or two little ones. The babies are so weak that they can barely raise their bald heads. The mother force feeds them until they can hunt on their own.

Scripture pictures God's loving care for his people, together with his dramatic methods of delivering the children of Israel out of Egypt, through one of the eagle's most curious habits. In stirring up the nest, the mother urges her young to try their wings, to become independent. At the same time she watches to see if they are too weak. If they seem to falter, in a flash of power and a mighty rush of wings, she rescues them.

Built in high places, the eagle's nest is beyond the reach of other invaders. Jesus performs both of the eagle's nesting functions. First, He loves and protects us, nurturing us in our weakness and passing over the ugliness of our characters. He prepares us for heavenly mansions, far beyond the grasp of human hands.

Character Sketches from the pages of scripture illustrated in the world of nature Volume II, Rand McNally & Co. 1981



BIRD TRAINING

Dorothy Minchin-Comm

“You have seen what I did to the Egyptians, and how I bore you on eagles’ wings and brought you to myself.” Exodus 19:4, RSV

The now rare bald eagle has always been a symbol of courage and power. Known worldwide, it appears in the great seal of the United States and is the trademark for hundreds of commercial products. Its discipline and intelligence has long fascinated us.

Bible writers, however, were less interested in scientific facts than they were in making the magnificent bird an illustration of spiritual truth. Occasionally they alluded to the considerable amount of folklore surrounding the eagle. Among several curious beliefs about eagles was the idea that every 10 years the great bird disappeared directly into the sun. When you consider an eagle in a faraway cliff top, silhouetted against the sky, you will not be surprised at such a notion. Then, like the sun, he supposedly dropped down into the sea and arose again refreshed—again, the embodiment of renewal and hope.

Also, the eagle reputedly forced her young to look directly into the sun’s



face—perhaps as preparation for “homing in.” Solomon may have referred to this quaint superstition when he warned against the deception of accumulating great wealth: “When your eyes light upon it, it is gone; for suddenly it takes to itself wings, flying like an eagle toward heaven” (Proverbs 23:5, RSV).

The directness of the eagle’s flight images God’s modes of judgment.

“The Lord will bring a nation against you from afar,...as swift as an eagle flies” (Deuteronomy 28:49, RSV). This is the other side of the coin. On one hand we have His enormous patience and mercy. On the other lies the speed and finality of His judgment.

We may pass through long cloudy tunnels of indecision, depressing spells of inactivity, and patches of “woolly thinking.” Still, we need have no doubt about how Jesus will direct our lives—if we allow Him to do so. He would, however, have us clearly see these opposing aspects of His character. When we do, we can face each new day with all the optimism and vigor of the eagle greeting the dawn from its high craggy refuge.

Courtesy of: Glimpses of God, Review and Herald, 1998.



BIRDS IN FLIGHT



There are only a few birds that cannot fly. Some of these birds are the ostrich and penguins. Birds are not the only animals that can fly. Bats can fly, and so can a lot of insects.

Birds are able to fly when air flows over their wings. When birds flap their wings they are not rowing themselves through the air. They move their wings forward to make the air flow over them. This lifts the bird up. A bird holds its wings at an angle to make sure that the flow of air across them will give it as much lift as possible. Once a bird is in the air, it does not need to flap constantly. Flying is tiring work that takes a lot of energy. Sometimes birds save energy by gliding and soaring. They stretch out their wings and let the wind carry them along. The wind does not only lift the bird up, it also slows the bird down as it flies forward. The force that pulls the bird back is called **drag**. The wings of flying birds are built to move smoothly through the air and keep down the drag.



Hummingbirds can **hover** in one spot like a helicopter. When they do this there is no flow of air across their wings to keep them up. They lift themselves up by beating their wings to keep them up. They flap their wings so quickly that the wings seem to disappear. Flying without moving from place to place takes a lot of energy. By tilting its wings, a hummingbird can fly one way or another. It can spin right around, or even briefly, fly upside down.

Birds are built to fly. Instead of having front legs or arms, they have wings. A bird's wing has two main types of feathers, the primaries and the secondaries. The primary feathers are attached to the bones of what in other animals would be called the hand. These move the bird through the air. The secondary feathers are attached to one of the bones of what would be the forearm in other animals. They provide a surface for the air to flow over and keep the bird up.

How Birds Fly

A bird needs to be very strong in order for it to fly. When flying, birds must push against the air with their wings. This pushing up and down is called **flapping**. When they are about to take off, birds flap their wings quickly. Air that is moving under the wings helps lift the bird off the ground. Birds continue flapping to carry them high up into the air. They have strong chest muscles that help push their wings up and down. Heavier birds have a more difficult time taking off and flying.



BIRDS IN FLIGHT

Name: _____ Date: _____

Directions: Read the section titled “Birds in Flight” and answer the following questions in complete sentences.

1. Why do birds flap their wings?

2. How do birds save energy while flying?

3. Write the meaning of gliding and soaring.

4. What is the force that pulls the bird back called?

5. Name the bird that hovers like a helicopter.

6. Name six birds that cannot fly.



BIRDS IN FLIGHT

Name: KEY Date: _____

Directions: Read the section titled “Birds in Flight” and answer the following questions in complete sentences.

1. Why do birds flap their wings?

Birds flap their wings to make the air flow over them.

2. How do birds save energy while flying?

Birds save energy while flying by gliding and soaring.

3. Write the meaning of gliding and soaring.

Gliding is the way the bird holds its wings out straight and floats on the wind.

Soaring is the way the bird rises upward on warm air currents.

4. What is the force that pulls the bird back called?

The force that pulls the bird back is called drag.

5. Name the bird that hovers like a helicopter.

The hummingbird hovers like a helicopter.

6. Name six birds that cannot fly.

Six birds that cannot fly are the cassowaries, emus, galapago, kakapo, rheas, penguin, kiwis, elephant bird, and the ostrich.



Bird Watching

Name: _____

Date: _____

Don's class made a picture of the birds they saw in one week. Each picture means 2 birds.

Monday



Tuesday



Wednesday



Thursday



Friday



1. How many birds were seen on:

Monday _____

Tuesday _____

Wednesday _____

Thursday _____

Friday _____

2. On which day were the most birds seen? _____

3. On which day were the fewest birds seen? _____

4. How many birds were seen altogether? _____



BIRDS THAT CANNOT FLY

There are over twenty kinds of birds that cannot fly. The **cassowaries** have long strong legs and can run very fast. They are usually found in New Guinea and Northern Australia. They stay out of sight during the day time and come out during the early morning and evening. They eat fruits, insects, and small animals. Cassowaries are very fierce fighters. They use their claws to defend themselves against enemies.

The **kiwis** from New Zealand have such tiny wings that they are nearly invisible. The chicken-sized bird has fur-like feathers that cover all of its body except for little bare patches under its wing area. Kiwis can run fast for short distances. They trip very easily because they neither have tails nor wings.



The **emu's** long strong legs and large feet allow it to run quickly. It weighs up to 120 pounds, and is about six feet tall. Emus eat grains, wild fruit and insects.

The emu is a curious and friendly bird. It will follow humans around just to see what they are doing.

The **galapago cormorant** uses its wings to help it balance on land.

The **kakapo** is called the owl parrot because it looks like the snowy owl. It is too heavy to fly. It comes out at night and runs around on the ground looking for food.

Rheas are South American ostriches. They are very fast runners and good swimmers. They live in the South American grasslands. They are sometimes hunted for food or sport.

Penguins spend most of their time swimming. Most of them live south of the equator. They stand upright on very short legs and walk with an amusing clumsy waddle. There are seventeen species of penguins, the largest called the Emperor Penguin, is over three feet tall and can weigh as much as 100 pounds. The smallest is the Little Blue, only about 15 inches high. Each penguin species makes its own unique sounding call.



If the land is sloped, or the penguins are in a hurry, they will often slide across the land on their stomachs, using their toes and flippers to push them forward. This is called tobogganing.

Penguins do have enemies—leopards, seals and killer whales. Penguins can “fly” through the water at great speed to try to escape.

Penguins store their food and water in thick layers of fat and blubber. They mostly eat fish and crustaceans. The blubber helps them survive swimming in icy water and living in cold, windy places.

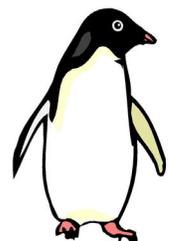
Most female penguins lay two eggs in a shallow nest scooped out of the ground. Both parents take turns nesting, chick rearing, and hunting. Parents chew the food up for their chicks, which makes it easier to swallow. The King Penguins lay a single egg and incubate it on their feet, covered with a loose fold of skin. Emperor Penguins do the same, but it is the male who incubates the egg.

Over 180 million penguins live in Antarctica. Cape Bird, Antarctica is home to one colony of about forty-thousand penguins. A group of penguins live in what is called a rookery.

Macaroni Penguins can be found on many islands north of Antarctica. They have orange-yellow feathers around their eyes, and long crests of orange feathers on their heads.

King Humbolt, Magellan, Rockhopper, Adelie, and Chinstrap Penguins are some of the other well-known species. Of these, the Adelie have been studied in greater detail because of the polar expeditions near their nesting grounds. They are very curious and friendly.

The **elephant bird** that once lived on the continent of Africa was the largest bird that ever lived. It weighed nearly as much as a cow and laid eggs about the size of a big watermelon. The shells were sometimes used to store liquids or grains. Each egg weighed about twenty-four pounds and was equal to about twelve dozen hen's eggs.



The **Ostrich** is the largest bird living today. A big male is about eight feet tall and weighs up to 400 pounds. One ostrich eye weighs two times as much as its brain. The ostrich protects itself from large predators by kicking forward with its heavy feet and slashing downward with its toenails. The ostrich is also a very speedy runner. It is stated that they can run at about forty miles per hour across the plains. In reference to the speed of the ostrich, Job 39:18 tells us that “she scorneth the horse and his rider.” Horsemen cannot usually outrun an ostrich.



The egg of an ostrich weighs about three pounds, and makes enough omelet for ten people. In ancient times people used the eggs for drinking cups.

The male ostrich cares for the flock of young ones for the first few months. They travel with him and rest under his plumes at night until they are able to take care of themselves. The male can be very ill-tempered, especially when taking care of its young.

In the wild, an ostrich may live about fifty years. In captivity, it may live from seventy to one-hundred years. The ostrich farmer says that the birds get uglier and more stupid each year.

In many places ostriches were hunted for their plumes until they were nearly extinct. The male ostrich grows about fifty to sixty white plumes on its wings and tail. In ancient times these feathers were used to make large fans. The fans were used to cool the pharaohs and keep flies away. Later they became more popular as decorations for hats.

The skin of the ostrich is heavy enough for tanning. They produce a fine, soft leather used for making gloves and purses.

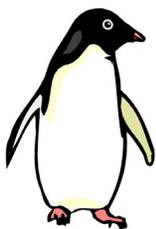


Fact Finding Mission

Flightless Birds

You have been sent on a fact finding mission and you must return with 10 facts about birds that cannot fly. You will find the facts in an encyclopedia, or in this unit. As you search, keep track of your information sources by writing the source you used. Use the information to write a mini report.

Fact	Reference Used
1. _____	
2. _____	
3. _____	
4. _____	
5. _____	
6. _____	
7. _____	
8. _____	
9. _____	
10. _____	



PENGUIN LEARNING CENTER OR BULLETIN BOARD

Make a bulletin Board or Learning Center featuring a world map, encyclopedias, library books about penguins. Also include penguins on an iceberg constructed of Styrofoam, hot glued together and carved into the shape of an iceberg. Write questions on penguin shapes and laminate for durability. Number the questions and activities. Arrange at the learning center or post on bulletin board with instructions.

Some questions for activity cards:

Penguins swim with their **(flippers)**

Which type of penguin likes to be around people? **(Adelie)**

The largest of the Antarctic penguins weighs about _____ pounds. **(100)**

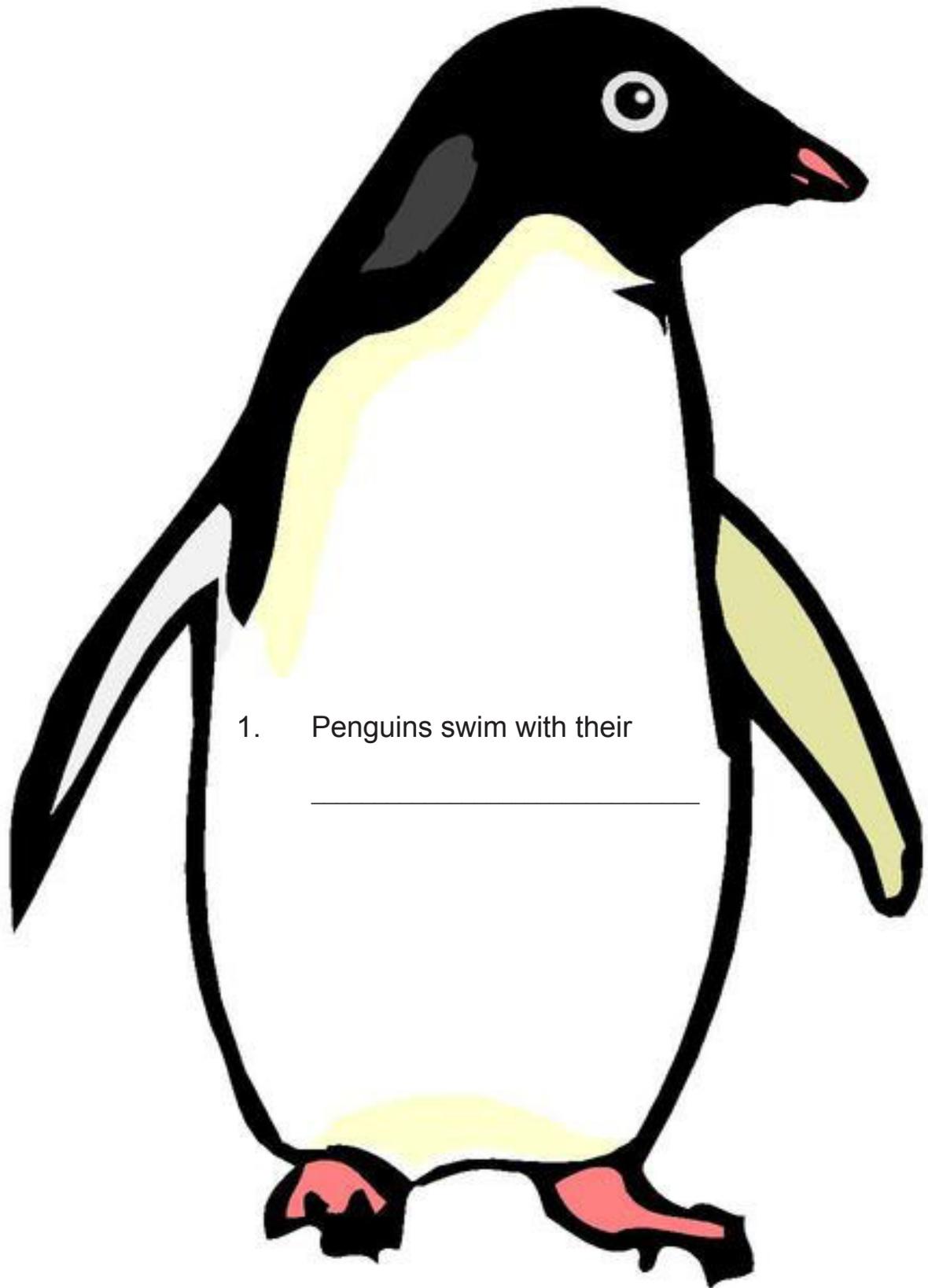
What keeps the penguins warm in winter? **(Thick layers of fat or blubber.)**

Describe the size of a penguin colony.

Write a descriptive story about the trials of a baby penguin.

How are penguins like other birds?

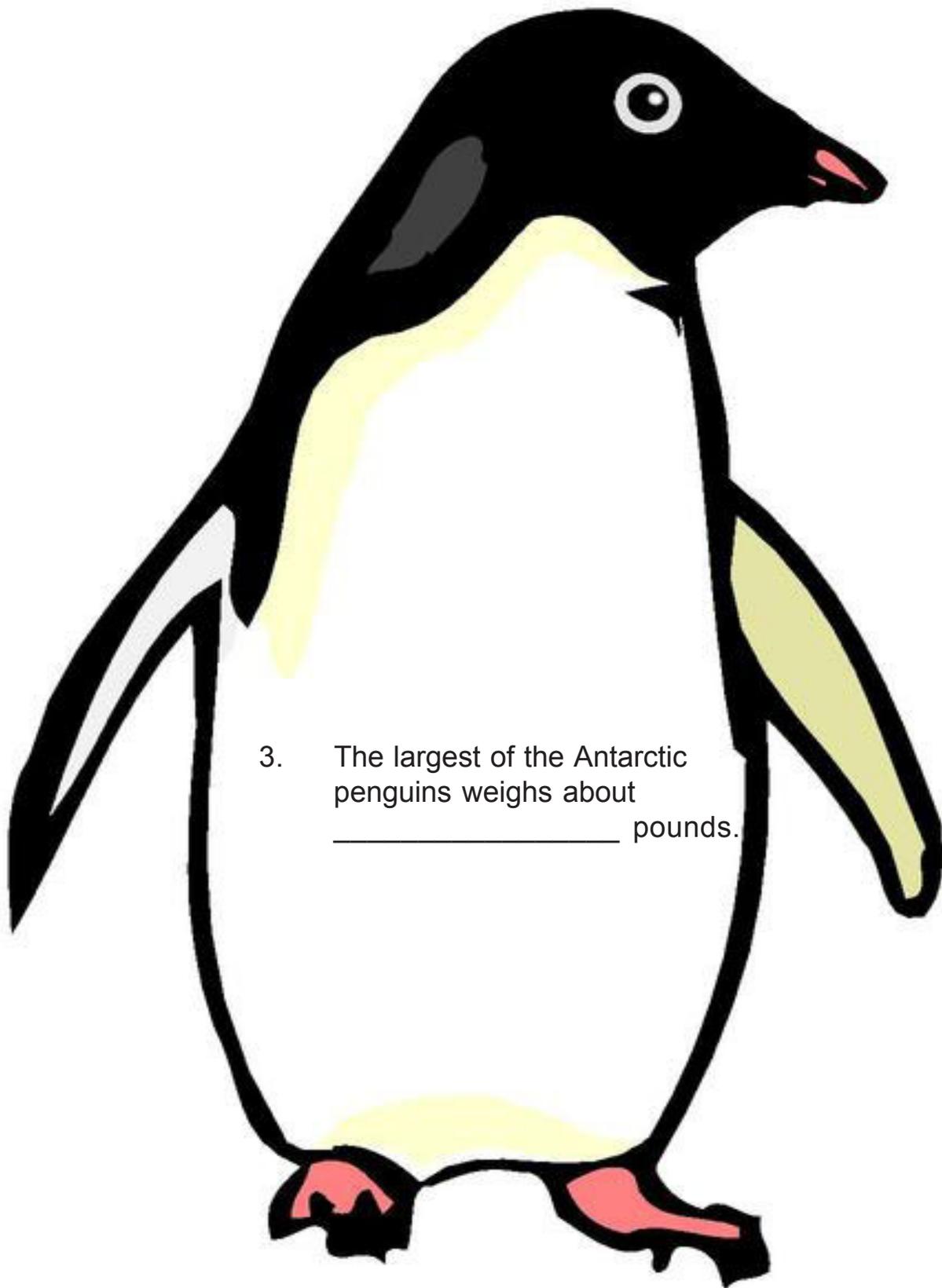




1. Penguins swim with their

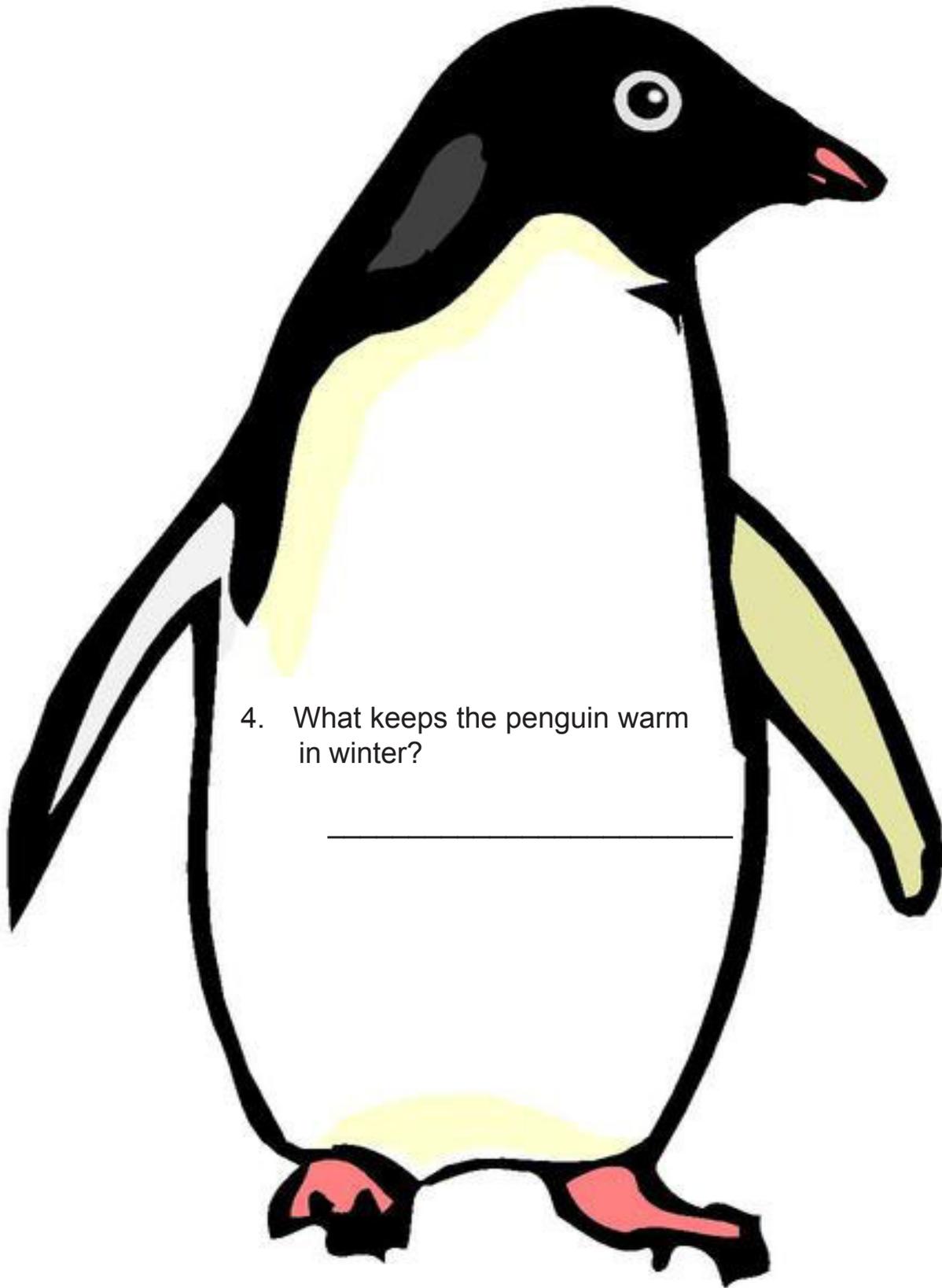


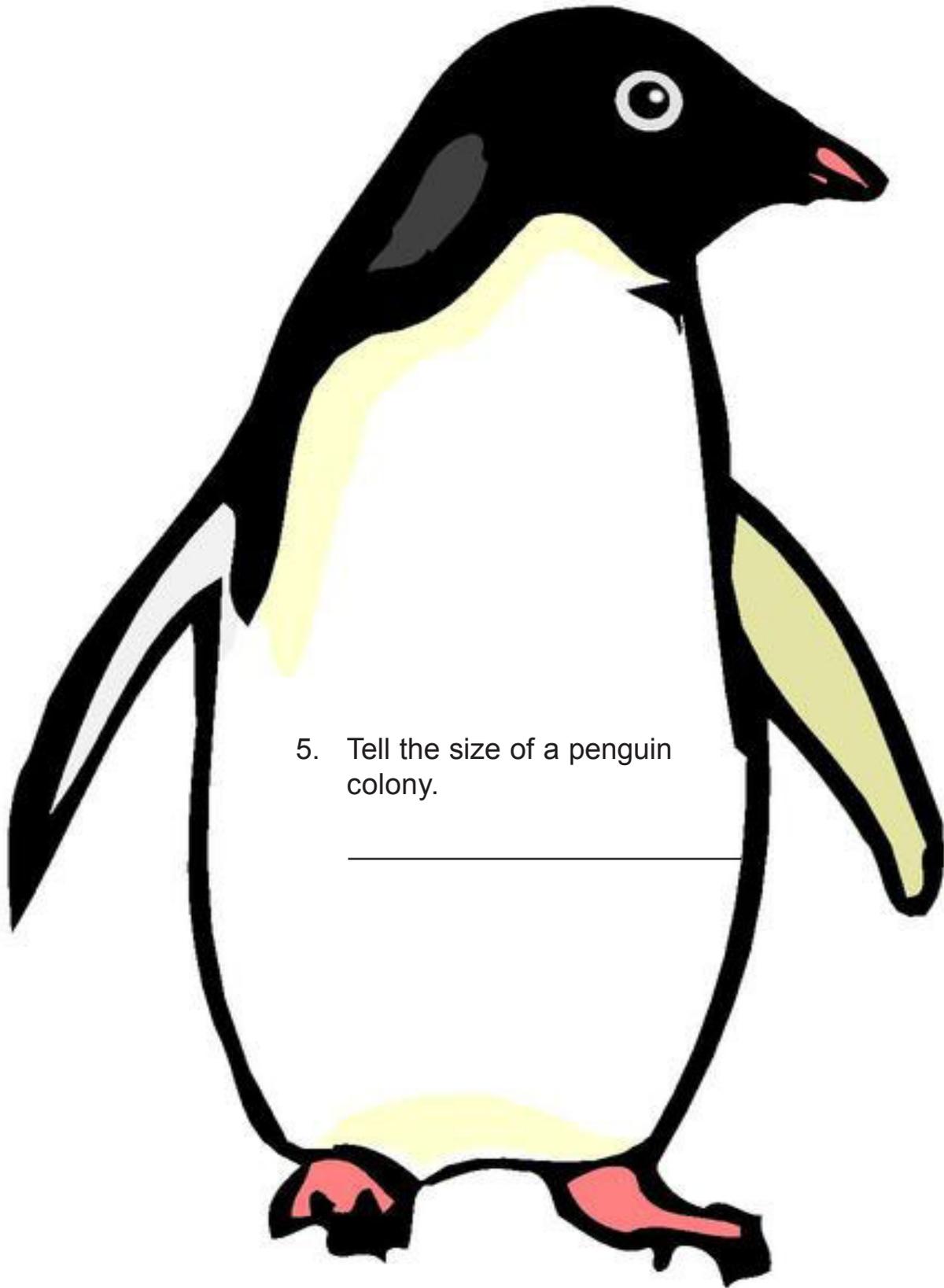




3. The largest of the Antarctic penguins weighs about _____ pounds.







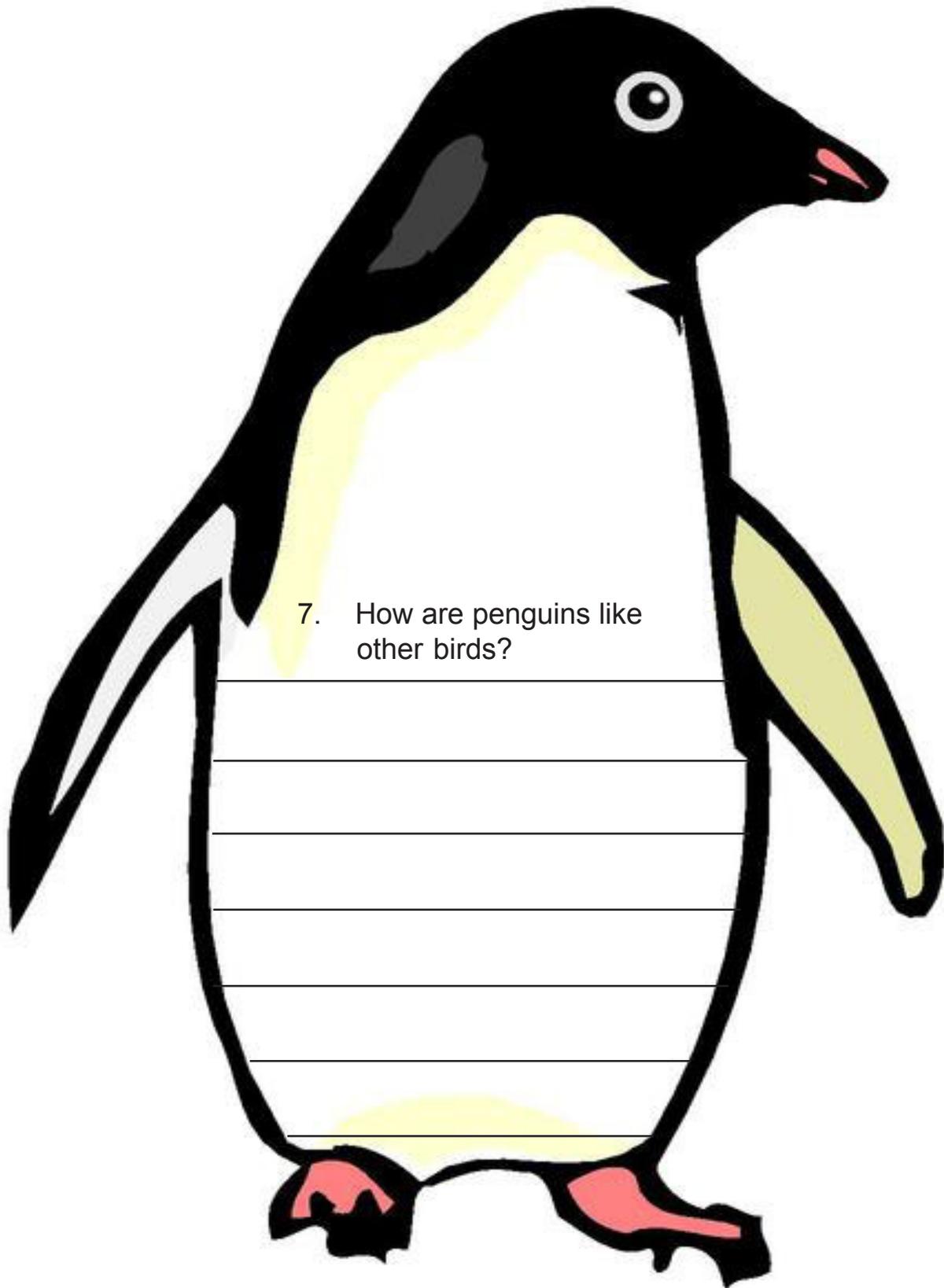
5. Tell the size of a penguin colony.





6. Write a story about the trials of a baby penguin.





BIRDS AND FEATHERS USED AS SYMBOLS TODAY

Many birds and feathers are used as symbols in the world today. Here are a few of these birds and feathers and what they represent.

Bluebird:	Happiness
Cuckoo:	rain prophet
Dove:	gentleness and peace
Eagle:	bravery, courage, and as the emblem of war
Game cock:	aggressiveness
Goose:	stupidity
Kingfisher:	calm seas and still air
Jay:	false pride
Little bird:	carrier of secret information
Ostrich:	self-deception
Owl:	generally wisdom, sometimes ill omen
Pelican:	loneliness (Psalm 102:6, "I am a pelican of the wilderness.")
Peacock:	pride and vanity



A feathered arrow represents war.



A quill pen stands for peace.

Wings are given to angels, and the United States Air Force Men. This is an indication of their mastery of the air.



STATE SYMBOLS

Http: //www.netstate.com/states

Name: _____ **Date:** _____

Directions: Visit the website listed above. Use the internet to find the state that uses each bird listed below as a symbol. Draw and color the bird for four states. If you wish you may print the birds and paste them on your paper.

STATE SYMBOL	STATE
Baltimore Oriole	_____
Black Capped Chickadee	_____
Blue Bird	_____
Brown Thrasher	_____
California Valley Quail	_____
Cardinal	_____
Chickadee	_____
Coves' Cactus Wren	_____
Eastern Goldfinch	_____
Lark Bunting	_____
Mocking Bird	_____
Mocking Bird	_____
Mountain Blue Bird	_____
Nene	_____
Robin	_____
Western Meadowlark	_____
Western Meadowlark	_____
Willow Ptarmigan	_____
Yellow Hammer	_____



STATE SYMBOLS

Http: [//www.netstate.com/states](http://www.netstate.com/states)

Name: KEY Date: _____

Directions: Visit the website listed above. Use the internet to find the state that uses each bird listed below as a symbol. Draw and color the bird for four states. If you wish you may print the birds and paste them on your paper.

STATE SYMBOL

STATE

Baltimore Oriole

Maryland

Black Capped Chickadee

Massachusetts

Blue Bird

New York

Brown Thrasher

Georgia

California Valley Quail

California

Cardinal

Kentucky

Chickadee

Maine

Coves' Cactus Wren

Arizona

Eastern Goldfinch

New Jersey

Lark Bunting

Connecticut

Mocking Bird

Texas

Mocking Bird

Florida

Mountain Blue Bird

Idaho

Nene

Hawaii

Robin

Michigan

Western Meadowlark

North Dakota

Western Meadowlark

Kansas

Willow Ptarmigan

Alaska

Yellow Hammer

Alabama



BIRD BAFFLERS

Name: _____ Date: _____

Many birds are known for their habitats and the food they eat. Match the bird with its habitat.

- | | |
|---------------------------|--------------|
| 1. Black-billed Magpie | farmland |
| 2. European Robin | rain forest |
| 3. Waterfowl | woodlands |
| 4. Northern Cardinal | forest |
| 5. Goldfinch | garden |
| 6. Pheasant | hedgerows |
| 7. Nightingale | deserts |
| 8. Redstarts | Polar Region |
| 9. Woodpecker | lakes |
| 10. Bald eagle | mountain |
| 11. Parrots | garden |
| 12. Ostrich | woodlands |
| 13. Lady Amherst Pheasant | garden |
| 14. Penguin | large trees |



BIRD BAFFLERS

Name: KEY Date: _____

Many birds are known for their habitats and the food they eat. Match the bird with its habitat.

- | | |
|---------------------------|--------------|
| 1. Black-billed Magpie | farmland |
| 2. European Robin | rain forest |
| 3. Waterfowl | woodlands |
| 4. Northern Cardinal | forest |
| 5. Goldfinch | garden |
| 6. Pheasant | hedgerows |
| 7. Nightingale | deserts |
| 8. Redstarts | Polar Region |
| 9. Woodpecker | lakes |
| 10. Bald eagle | mountain |
| 11. Parrots | garden |
| 12. Ostrich | woodlands |
| 13. Lady Amherst Pheasant | garden |
| 14. Penguin | large trees |



BIRD BAFFLERS

Name: KEY Date: _____

Many birds are known for their habitats and the food they eat. Match the bird with its habitat.

- | | |
|---------------------------|---------------------|
| 1. Black-billed Magpie | <i>garden</i> |
| 2. European Robin | <i>garden</i> |
| 3. Waterfowl | <i>lakes</i> |
| 4. Northern Cardinal | <i>garden</i> |
| 5. Goldfinch | <i>farmland</i> |
| 6. Pheasant | <i>hedgerows</i> |
| 7. Nightingale | <i>woodlands</i> |
| 8. Redstarts | <i>large trees</i> |
| 9. Woodpecker | <i>woodlands</i> |
| 10. Bald eagle | <i>forest</i> |
| 11. Parrots | <i>rain forest</i> |
| 12. Ostrich | <i>deserts</i> |
| 13. Lady Amherst Pheasant | <i>mountain</i> |
| 14. Penguin | <i>Polar Region</i> |



Bird Clip Art

Bulletin Board Ideas

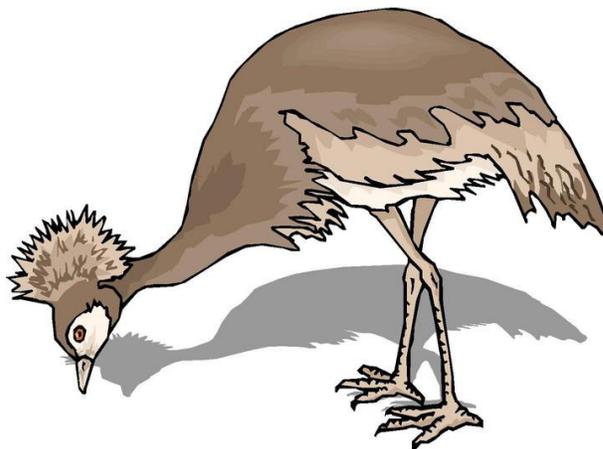
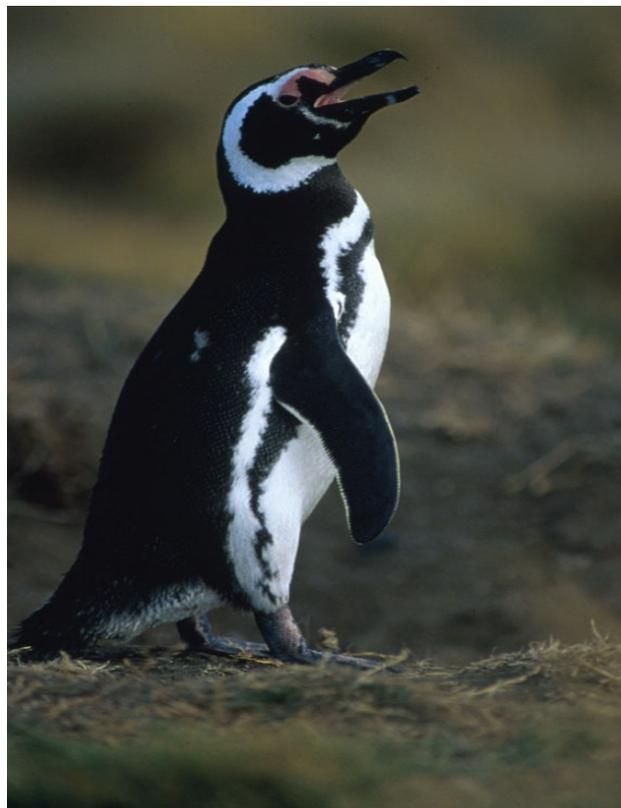
Use these two pages of clip art for a variety of projects. Enlarge the pieces for a bulletin board. Copy the pieces for the students to make individual bird books. Or enlarge the pictures individually and use them to illustrate stories or devotionals. Following are some Bible verses you may want to use with the activity.

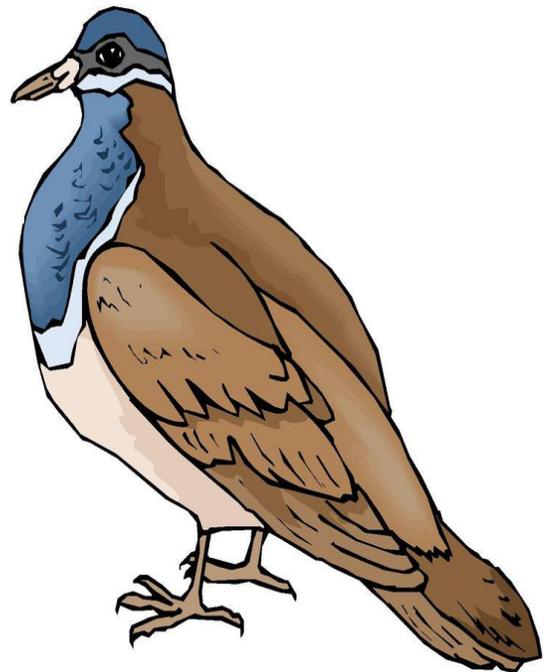
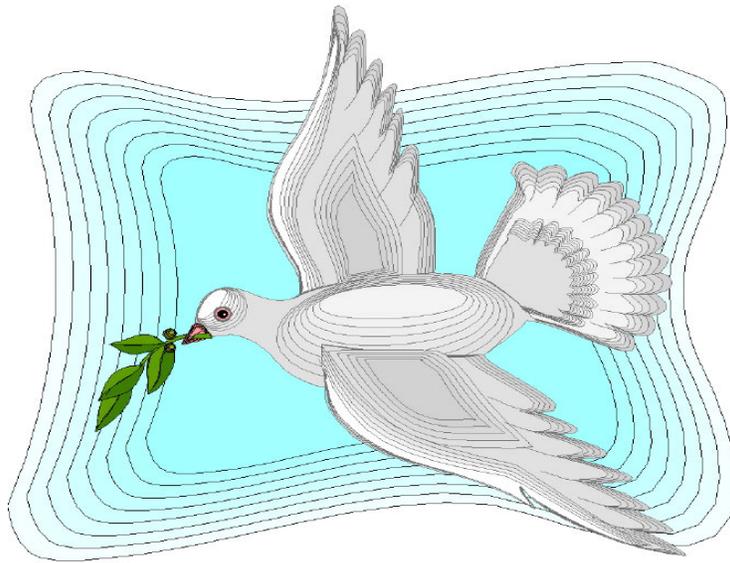
Genesis 8: 10, 11

Deuteronomy 14: 12, 14

Numbers 11: 31, 32

Psalm 103: 1, 5





MAKE A PUPPET

Materials Needed:

1. 1 six-by-nine envelope
2. yarn
3. bits of construction paper
4. craft glue
5. scissors
6. black marker

Directions:

1. Seal the envelope shut.
2. Cut the envelope in half.
3. Open the cut side lengthwise and push the center of the folded side toward the opening to form a mouth.
4. Cut several 2 inch strands of yarn. Glue them to the cut edge of the front top.
5. Use scraps of paper and the patterns below to cut out eyes. Cut out a tongue. Glue them to the face.
6. Use the black marker to draw nostrils and eye lashes on the face.

Use the puppet when reciting the poem below.

Up, Up In The Sky

Up, up in the sky,
Where the little birds fly,
Down, down in their nest,
Where the little birds rest;
With wings on their right,
And wings on their left,
The dearly sweet Jesus
Lay birdies to rest.

White
Cut two

Black
Cut Two



PROBLEM SOLVING

Name: _____ Date: _____

1. Dana saw 12 ducks. 

Mandy saw 5 ducks. 

How many more ducks did Dana see than Mandy? _____
 How many fewer ducks did Mandy see than Dana? _____
 What operation did you use? _____

2. Don saw 6 mockingbirds. 

Faye saw 3 sparrows. 

Vin saw 8 redstarts. 

How many birds did they see in all? _____
 What operation did you use? _____

3. Linda saw 9 starlings. 

Then she saw 7 more starlings. 

How many starlings did she see altogether? _____

4. Kevin counted 12 flamingoes. 

Then he counted 16 more. 

How many flamingoes did Kevin see altogether? _____



PROBLEM SOLVING

Name: KEY Date: _____

1. Dana saw 12 ducks. 

Mandy saw 5 ducks. 

How many more ducks did Dana see than Mandy?

7 ducks

How many fewer ducks did Mandy see than Dana?

7 ducks

What operation did you use?

Subtraction

2. Don saw 6 mockingbirds. 

Faye saw 3 sparrows. 

Vin saw 8 redstarts. 

How many birds did they see in all?

17 birds

What operation did you use?

Addition

3. Linda saw 9 starlings. 

Then she saw 7 more starlings. 

How many starlings did she see altogether?

16 starlings

4. Kevin counted 12 flamingoes. 

Then he counted 16 more. 

How many flamingoes did Kevin see altogether?

28 flamingoes



Glossary



Blubber: A thick layer of fat under an animal's skin.

Camouflage: Colors or marks on animals that help hide them from their enemies.

Coniferous: Forest where the trees remain green all year.

Contour feathers: The long smooth feathers that cover most of the body of a bird.

Deciduous: Forest where the leaves fall off the trees during the fall and winter season.

Down feathers: The soft feathers found between the contour feathers and the skin of a bird.

Gizzard: The part of the stomach in a bird that helps grind up food.

Gliding: The art of holding the wings out straight and floating on the wind.

Habitat: The natural place where a plant or animal is found.

Hovering: The act of the bird to flap its wings and remain in one place without moving.

Keratin: The hard substance that forms beaks, feathers, and nails.

Perch: To sit on a branch and hold on to it with claws.

Plumage: All the feathers of a bird together.

Predator: A bird that hunts and eats other animals.

Preening: The way the bird smoothes its feathers with its beak to clean and straighten them.

Prey: An animal that is hunted and eaten by another animal.

Soaring: The act of rising upward on warm air currents.

Species: A group of similar birds.

Talon: The claw of a bird of prey.



KEEP THE FAITH

by Jacqueline Schiff

Cast:

A child representing Commandment 1
A child representing Commandment 2
A child representing Commandment 3
A child representing Commandment 4
A child representing Commandment 5
A child representing Commandment 6
A child representing Commandment 7
A child representing Commandment 8
A child representing Commandment 9
A child representing Commandment 10

Props:

Ten sandwich boards painted to resemble stone tablets. On each sandwich board print one of the ten commandments. Make replicas of exteriors of a cinema, museum, school, church, house, hospital, toy store, courthouse and a video game store, or print the names on large posters and attach around the stage on the walls.

Setting:

Main Street, Children wearing the ten commandments sandwich boards walk down the street, singing the tune of "Oh, Susanna."

All Commandments:

We come from Mount Sinai
On the tablets that you see,
We're going through town
To show you how
To live obediently.

It rained all night the day we left,
The mountain it was high,
The smoke so thick, the flames so quick;
But Moses didn't cry.

Oh! God's children,
Won't you follow me?



For I come from Mount Sinai
On the tablets that you see.

(The commandments stop in front of a cinema, Commandment 1 takes center stage.)

Commandment 1

*(pointing to letters on sandwich board) Read my script! **You shall have no other gods before me.** And to help you remember that, (tapping head once) here's my poem*

Don't worship anyone but God---
The friend who's near, not far.
A football hero isn't God,
God's not a movie star.
(Commandment 1 rejoins the group.)

All Commandments: *(singing chorus)*

Oh! God's children,
Won't you follow me?
For I come from Mount Sinai
On the tablets that you see
(The commandments walk on down the street. They stop in front of a museum. Commandment 2 takes center stage)

Commandment 2:

*(pointing to letters on sandwich board) Read my script! **You shall not make any idols.** And to help you remember that, (tapping head twice) here's my poem:*

Don't make a figure out of clay
And say, "Hey, God, it's You!"
No artists' tools can duplicate,
For only one God's true.
(Commandment 2 rejoins the group.)

All Commandments: *(singing chorus)*

Oh! God's children,
Won't you follow me?
For I come from Mount Sinai
On the tablets that you see.
(The commandments walk on down the street. They stop in front of a



school. Commandment 3 takes center stage.)

Commandment 3:

(pointing to letters on sandwich board) Read my script! You shall not use God's name in a wrong way. And to help you remember that, (tapping head three times) here's my poem:

Don't swear to God to God you don't cheat.
It's not right to protest;
God saw you rest your very own eyes
On your bright classmate's test.
(Commandment 3 rejoins the group.)

All Commandments: *(singing chorus)*

Oh! God's children,
Won't you follow me?
For I come from Mount Sinai
On the tablets that you see.
(The commandments walk on down the street. They stop in front of a church. Commandment 4 takes center stage.)

Commandment 4:

(pointing to letters on sandwich board) Read my script! **Keep the Sabbath day holy.** And to help you remember that, (tapping head four times) here's my poem:

Go to church and worship God
Today's His holy day.
Don't make a face and tell Aunt Grace,
"You worship, I will play!"
(Commandment 4 rejoins the group.)

All Commandments: *(singing chorus)*

Oh! God's children,
Won't you follow me?
For I come from Mount Sinai
On the tablets that you see.



(The commandments walk down the street. They stop in front of a house. Commandment 5 takes center stage.)

Commandment 5:

(pointing to letters on sandwich board) Read my script! Honor your father and mother. And to help you remember that, *(tapping head five times)* here's my poem:

Your parents give you lots of love
Every single day,
They feed and dress and shelter you,
So love them and obey.
(Commandment 5 rejoins the group.)

All Commandments: *(singing chorus)*

Oh! God's children,
Won't you follow me?
For I come from Mount Sinai
On the tablets that you see.
(The commandments walk on down the street. They stop in front of a hospital. Commandment 6 takes center stage.)

Commandment 6:

(pointing to letters on sandwich board) Read my script! **You shall not kill.** And to help you remember that, *(tapping head six times)* here's my poem:

God gives life to each of us,
To live and work and play.
So respect life, for only God
Has the right to take it away.
(Commandment 6 rejoins the group.)

All Commandments: *(singing chorus)*

Oh! God's children,
Won't you follow me?
For I come from Mount Sinai
On the tablets that you see.
(The commandments walk on down the street. They stop in front of a bridal shop. Commandment 7 takes center stage.)



Commandment 7:

(pointing to letters on sandwich board) Read my script! **You shall love and respect your husband or wife.** And to help you remember that, *(tapping head seven times)* here's my poem:

Some day you will get married, Kids,
A vow you two will speak.
You'll make a promise to your love—
That promise please do keep.
(Commandment 7 rejoins the group.)

All Commandments: *(singing chorus)*

Oh! God's children,
Won't you follow me?
For I come from Mount Sinai
On the tablets that you see.
(The commandments walk on down the street. They stop in front of a toy store. Commandment 8 takes center stage.)

Commandment 8:

(pointing to letters on sandwich board) Read my script! **You shall not steal.** And to help you remember that, *(tapping head eight times)* here's my poem:

Don't take things from your favorite store.
To steal is not okay.
You hurt the owner when you take,
So save till you can pay.
(Commandment 8 rejoins the group.)

All Commandments: *(singing chorus)*

Oh! God's children,
Won't you follow me?
For I come from Mount Sinai
On the tablets that you see.
(The commandments walk on down the street. They stop in front of a courthouse. Commandment 9 takes center stage.)

Commandment 9:

(pointing to letters on sandwich board) Read my script! **You shall not lie.** And to help you remember that, *(tapping head 9 times)* here's my poem:



Don't say your brother broke the glass;
 Tell Grandma what is true.
 God's hoping you will tell the truth—
 He's listening to you.
(Commandment 9 rejoins the group.)

All Commandments: *(singing chorus)*

Oh! God's children,
 Won't you follow me?
 For I come from Mount Sinai,
 On the tablets that you see.
(The commandments walk on down the street. They stop in front of a video game store. Commandment 10 takes center stage.)

Commandment 10:

(pointing to letters on sandwich board) Read my script! **You shall not want what belongs to others.** And to help you remember that, *(tapping head 10 times)* here's my poem:

Be thankful for the things you have
 And count your blessings twice.
 Don't want the things that others have;
 They'll share them if you're nice.
(Commandment 10 rejoins the group. The commandments walk back to the church and stand outside the building.)

All Commandments: *(reciting)*

We are the Ten Commandments, Kids,
 And this we have to say:
 Count to ten, then follow us.
 We'll help you to obey.

(singing to the tune of "Oh! Susanna")

We came from Mount Sinai
 On the tablets that you see,
 We strolled through town



To show you how
To live obediently.

It rained all night the day we left,
The mountain it was high,
The smoke so thick, the flames so quick;
But Moses didn't cry.

(All commandments join hands and enter the church singing)

Oh! God's children!
Follow me, me, me,
For I come from Mount Sinai
On the tablets that you see.

Shining Star, 1995, Issue 41



THE HEN

“O Jerusalem, killing the prophets and stoning those who are sent to you! How often would I have gathered your children together as a hen gathers her brood under her wings, and you would not!” –Matthew 23:37, RSV

Since childhood my attitude toward chickens has remained ambivalent. They are serviceable, harmless creatures, and certainly I’ve never wished them any ill. Indeed, a friend of mine breeds exotic chickens and has a yard full of strutting roosters and plump hens, all in a blaze of technicolor designs, wearing plumed headdresses and fluffy leg coverings and trailing long tail feathers. They are gorgeous, to be sure. On the other hand, chickens have always struck me as singularly stupid and foolish—possibly the most witless of all of God’s birds.

As a 4-year-old living on my grandpa’s farm in Iowa, I loved visiting the henhouse. The interminable scratching, the vulgar cackling, and the flapping about in the roosts fascinated me. And when I was alone with them, I took great delight in creating little disturbances among those simple-minded birds just for the pleasure of



seeing them explode into a panic of feathers and squawks.

Yes, chickens are commonplace. So very ordinary. Thousands of years of using the birds for our domestic purposes have conditioned us to see them in highly practical terms. A broiled pigeon in a peasant’s cottage, a roasted peacock on the table of a Roman emperor, fried chicken dinners—we have eaten the birds and gathered their eggs until they have little glory left.

Yet Christ chose a hen to create a picture of Himself.

If He hadn’t, we might otherwise have overlooked something very beautiful in chickens. Hens have a powerful instinct to shelter their chicks under their wings—a joy denied to incubator chicks. Whether speckled balls of fluff or downy yellow, the little ones find perfect safety hiding under their mothers’ wings. Helpless and endowed with little intelligence, the chicks do have a wonderful, life-preserving provision—the mother will defend them to the death. She understands how to give shelter, and her children understand obedience. What more does any creature need?

Glimpses of God, Review and Herald, 1998



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