

SONGS FOR JUNIOR RANGERS

The plans and activities below can be accessed through the links given. In some cases the complete lessons are in this document.

All songs are from the cd *Songs for Junior Rangers*, produced by the New Orleans Jazz National Historical Park.

Lessons and activities have been created by each individual park.

LINKS, LESSON PLANS, AND ACTIVITIES

SONG #1: HUMPS, HOOVES, AND HORNS YELLOWSTONE NATIONAL PARK

Animated activity "Where Bison Roam" at the link below.

<http://www.windowstowonderland.org/bison/index.html>

SONG #3: LA GRAN GARZA AZUL EVERGLADES NATIONAL PARK

See activity "FISH RELAY" at link below.

www.nps.gov/ever/forteachers/upload/Fish%20Relay.pdf

SONG#5: SPELUNKA FUNKA
CARLSBAD CAVERNS NATIONAL PARK

LESSON: Bat Wings

BAT WINGS

Pre-Visit or Post-Visit Activity

Primary/Elementary Level

Math(Symmetry and Congruent), **Reading** (context clues), **Speaking and Listening** (listen to directions for a guided discussion), **Language Arts** (VENN Diagram)

1 hour 15 minutes

Anticipatory Set: Play Spelunka Funka. Inform the students to listen to the context clues in the song to try to produce a definition for Spelunking. While the song is playing have a stuffed bat in your hand and pretend it is flying around.

I Can Statements:

- I can demonstrate how bat wings are symmetrical.
- I can demonstrate how human hands are symmetrical.
- I can explain how bat wings are congruent.
- I can explain how human hands are congruent.
- I can differentiate human hand characteristics from bat wing characteristics.
- I can produce similarities of human hand characteristics to those of bat wings.
- I can speak and listen as instructed by the teacher or ranger.

NM Common Core State Standards (NMCCSS)

- <http://www.corestandards.org/ELA-Literacy/SL/2/3/>
- <http://www.corestandards.org/ELA-Literacy/RI/2/9/>
- <http://www.corestandards.org/ELA-Literacy/SL/2/2/>
- <http://www.corestandards.org/ELA-Literacy/RI/2/3/>
- <http://www.corestandards.org/Math/Content/4/G/A/3>

Lesson Overview:

Students will place hands palm-side together to demonstrate their understanding of **symmetry** with human hands. Students will construct a simplified model of the bat wing structure that is symmetrical in shape. They will use this knowledge to explain how their hands and a bats wing are both **congruent**.

Then, they will complete a **VENN diagram** where they can record the differences and **similarities** of a human hands vs. bat wings.

Finally, they will take the large white construction paper, fold it in half and label one side with Bat Wings and the other side with Human Hands. They will need to paste their bat wings to the Bat Wing side. They will then need to trace their hands on the skin color paper and cut and paste to the Human Hand side. They will then take their finished VENN diagram and glue it centered on the white construction paper directly under Bat Wings and Human Hands.

Materials

Spelunka Funka song, finished model of bat wings/human hand to show students, copies of bat wing pattern on black or brown construction paper, skin colored construction paper, large white construction paper, VENN diagram, scissors, glue, and a pencil

Key Vocabulary

symmetrical, symmetry, congruent, VENN diagram, compare and contrast, similarities, differences

Introduction

First, students will listen to song and try to produce a definition to the new term Spelunking. Teacher will guide discussion to promote deeper clarification of the unknown word as students discuss the context clues. As the students produce a definition to the unknown word, begin talking about the Carlsbad Caverns. Ask them what lives in the cave. Once they get on the topic of bats, begin with introducing background information on the bats. *(For example, there are 16 different types of bats that live at the Carlsbad Caverns National Park. 3 of the species actually live in the Carlsbad Caverns. They are the Mexican Freetail, the Fringed Myotis, and the Pallid. The Mexican Freetail bat weighs about as much as 3 nickels. Two interesting facts about the Mexican Freetail bat it that is eats 500-600 mosquitoes in an hour and it usually eats up to half of its own body weight each night!)*

Show them a picture of a Mexican Freetail bat. Discuss its features: See **background** section and “Just the Facts: about the Bats of Carlsbad Caverns and Elsewhere” attached at the end of the lesson.

Suggested Procedure

1. Facilitate a class discussion about how a bat's wing is like a human hand to assess what students already know. Let them share ideas. Have students put their own hands together to demonstrate symmetry. Show students the bat wing pattern. Bats have many more bones in their wings than the pattern shows. Because a bat is symmetrical, it will usually have the same number of bones on both sides of the body at approximately the same location.
2. Make copies of the bat wing pattern on a sheet of black or brown construction paper, have students cut out bat wings.
3. Using the finished model of the bat wings for reference and to self-correct, students glue the *arm* and *finger* bones on the wings in their proper locations.
4. Give each student a piece of large white construction paper, and fold it in half. Then open it and label one side with Bat Wings and the other side with human hands. They will then paste their bat wings to the Bat Wing side.
5. Then they will then need to trace their hands on the skin color paper. Then cut them out and paste them to the Human Hand side on the white construction paper.
6. They will complete a VENN diagram where they can write the similarities and differences between a human hands vs. a bat wings.
7. They will then take their finished VENN diagram and glue it centered on the white construction paper directly under Bat Wings and Human Hands.

Background

Bats are unique animals; they are the only true flying mammals. Bat wings are actually modified arms. The bones are like those in a human arm and hands, except a bat has very long fingers. The wing's front edge is supported by the upper arm, forearm, second and third fingers. The rest of the wing is supported by the fourth and fifth fingers. The wing has two thin layers of flexible skin stretched between these fingers. The skin is so thin that you can almost see through it. The thumb of a bat is like a claw; it is used to help the bat move across rough surfaces of cave walls or tree bark.

JUST THE FACTS

about

The Bats of Carlsbad Caverns and Elsewhere

Please Protect Pest Controllers, Planters and Pollinators!

It's a bird; it's a plane; **it's a bat!** A bat is the only mammal that can fly. Its scientific name is Chiroptera (Ki-ROP-ter-ah), meaning *hand-wing*. I guess you can say a bat is handy to have hanging around. After all, bats are great for the ecosystem. Most eat tons and tons of harmful insects. Some species help plant rainforests, while others pollinate plants. The thousand species of bats are divided into two main groups - Megachiroptera (big hand-wing) and Microchiroptera (small hand-wing). We will call them megabats and microbats.

EYES, EARS, ECHOES AND EATABLES

Most bats are microbats. They live just about everywhere but the polar regions. That's because there isn't much food to munch on at the poles.

Microbats are known for their sound system-echolocation. They produce high-pitched sounds that humans cannot hear. These sounds bounce off objects. By listening to their echoes, these bats are able to judge size, distance and movement of everything in their path. Flaps of extra skin on their ears and noses help microbats catch their echoes.

The bats in the United States are mostly insectivores. Using echolocation, they identify moths, mosquitoes and various flying insects. Bats usually catch prey in their mouths, but sometimes use the skin flap between their legs to catch insects.

Megabats have large eyes and long noses. Some megabats live in the tropics and eat fruits—frugivores. They swallow the fruit juices and spit out the flesh and seeds of the fruit. The fruit bat is believed to be nature's most important seed-dispersing animal. Plants that are dependent upon the fruit bats include bananas, breadfruit, carob avocados, dates, figs, peaches, cloves, mangos, cashew nuts, and agaves.

One megabat species echolocates. It makes a non-ultrasonic clicking sound that echoes off cave walls. Once the bat is outside its dark roost, it uses its eyes to look for food.

A few bats are carnivores. They eat meat-small mammals, frogs, other bats and fish. Fish eating bats are piscivores. They use echolocation to detect ripples on the water's surface made by fish. Nectivores pollinate flowers as they feed on pollen and nectar. These bats have long tongues that can reach down into flowers and lap up nectar.

Less than one percent of bats feed on blood. These vampire bats are called sanguivores. They live in Mexico, Central America and South America. There are only three species of vampire bats. Two of the three species feed on the blood of birds, and the other species drinks the blood of mammals-mostly cattle.

If you are worried about a vampire bat sucking your blood, better keep your toes covered! That's right. A bat is more likely to suck the blood from your toes than from your neck.

But should you go through life worried about catching rabies? No, not from bats. Relatively few bats are rabid. If you don't touch a bat, you won't get rabies from it. However, your cats and dogs need their rabies shots. Your own pets are more likely to carry rabies.

SLEEP IN PEACE!

Many bats are nocturnal, flying in darkness searching for food. During the day, they sleep hanging upside down. Bats huddle closely together. Hundreds can hang out together in a single, square-foot space!

Only bats that live in temperate climates hibernate. Hibernation allows their body temperature to cool down. To conserve body fluids, bats hibernate in cool, damp places like caves. However, Mexican free-tailed bats at Carlsbad Caverns do not hibernate, they migrate south.

Hibernating bats should not be awakened before they are ready. The thirty-minute waking process causes bats to use much of their stored fat. If they cannot find food to replace their lost energy, they die.

PAPA BAT, MAMA BAT AND BABY BAT

Papa bats and mama bats have baby bats—pups. Female bats of the same species gather in nursery colonies to give birth to and raise their pups. Colonies of bats often gather in caves. Mexican free-tailed bats and most other bats have only one pup a year. Any more than two pups would weight down the mother, making flying very difficult.

Pups usually develop quickly, taking only six to nine weeks to become adult bats. They usually fly for the first time when they are three or four weeks old. By this time, they have permanent teeth, having already lost their milk teeth. Pups keep the Tooth Fairy busy!

Five hundred pups can roost in a one-square-foot area of a cave ceiling. These crowded conditions keep the babies warm. The warmer the pups, the faster they grow.

Mother bats leave their babies behind to find food. At sunrise, do you think a mother bat can return to the roost and locate her own pup, among thousands all huddled together? The answer is yes! We aren't positive HOW, but perhaps the nose knows. It is commonly thought that a mother bat identifies her own pup by recognizing its odor. Perhaps the mother also recognizes her pup's clicking sounds.

YUCKY GUANO!

Some caves have million of bats living in them. At Carlsbad Caverns National Park research is being done to determine just how bats are living in the cave. Park rangers estimate that there are currently between three and five hundred thousand bats. All these bats translate into deep piles of guano!

Jim White, who explored Carlsbad Caverns a hundred years ago, estimated that a hundred-thousand tons of guano (bat droppings) were mined from the cave back in the early 20th Century. The guano was used to fertilize citrus groves in Southern California. Since becoming a National Park site, no guano has been mined.

Guano is more than a fertilizer. Many tiny creatures live and feed on the guano. Larger creatures eat the tiny creatures. It's part of a food-chain.

Who in their right mind would wade through tons of guano for the sake of education? Students might ask their teachers. Some Carlsbad teachers have braved the odor of bat guano. And for what? Just to go back to their classrooms and share first-hand knowledge of Bat Cave.

A BAD RAP!

Bats don't deserve a bad reputation; they deserve a bat reputation. Bats don't get tangled in hair; they aren't flying mice; they aren't dirty; they aren't blind; and they aren't evil.

Bats have only a few natural enemies. Their predators include owls, hawks, and snakes. People are bats' worst enemies. People ruin bat habitats when they clear forest and pollute. They kill hibernating bats by waking them. And some people even deliberately kill bats because they believe the bat myths.

However, bats have a fast growing number of friends. Many countries have laws to protect these beneficial creatures. Often cave entrances are covered with grating through which bats can go, but people cannot. Bat houses are becoming so popular throughout the world, that highway departments are building bridges that attract bats.

The City of Carlsbad, New Mexico is a bat friendly community. It is home to the International Bat Festival where bat education is fun for the whole family.

One way to remember WHY people today are protecting bats, is to think **P**. Bats are **p**est controllers, **p**lanters and **p**ollinators.

BATTY FACTS

- At least 16 species of bats inhabit Carlsbad Caverns National Park.
- The bat is the symbol of happiness in many parts of the world.
- Some bats reach speeds of 60 miles (97 kilometers) per hour.
- Some bats live 32 years or longer, although most live fewer than 20 years.
- In the United States, rabid bats are rare; less than 1/2 of 1% carry rabies.
- Bats are the only major predators of night-flying insects.
- The smallest bat species weighs less than a penny and is about the size of a bumble bee.
- The largest bat species has a wing of 5'5" and weighs about 2 pounds.
- The total population of bats is estimated to be more than ten billion.
- Some bats reach an altitude of 10,000 feet (3,048 meters.)
- A bat's knees bend backwards.
- Most North American bats can be mailed with a 46¢ stamp.

- Baby bats' claws are so sharp they can hang on the imperfections of a light bulb.
 - The 20 million Mexican free-tails from Bracken Cave in Texas eat the weight of 63 elephants in insects each night.
-

A BATTY POEM

Bats are mammals
like you and me
Some live in caves
and some live in trees.
Bats are nocturnal
they are active at night.
No bats are blind,
some have good sight.
They use echolocation
to find insects they eat.
They can fly at 60 miles per hour
and at 10,000 feet!
When the weather turns cold
and there's no food to eat
Some bats migrate or hibernate in a
deep sleep.
Some bats are pollinators
and some eat fruit.
Just look at their noses or ears,
they are adapted to suit.
So, don't be afraid
next time you see a bat.
They are part of nature
and belong just where they're at.

—*Arizona Game and Fish Department, WILD Kids, Number 15*

FOR MORE ON SONAR-EQUIPPED BATS READ ON . . .

Not all bats use echo ranging. Some nectar-sippers have sonar, but most large fruit bats and the "flying foxes" do not have sonar. They usually search for food by sight or smell. They have good vision, especially night vision. Although their eyes are specialized for night vision, they can see well during the day. Like other mammals with good night vision, bats are color blind.

With its larynx, a sonar-equipped bat makes short pulses of very high-frequency sound. With its nose and mouth, it may channel the wave pulses into a broad beam of sound. The bat uses its relatively large and extremely sensitive ears to detect sound. Its ear canal closes when pulses are produced and opens to receive the echo. Bat brains process sound well. Even when hundreds of thousands of same-species bats are flying in close quarters, like at Carlsbad Cavern, each bat is able to recognize and analyze its own echoes.

The resolution of bat sonar is truly astonishing. Bat sonar can detect wires that are nearly as wide as a human hair. Some species of bats can track a 3 mm fruit fly, and snatch it out of the air in 0.5 second.

Many animals can hear frequencies that are inaudible to people. Most people cannot hear sounds with frequencies higher than about 20,000 Hz. Cats can hear sounds up to about 25,000 Hz; dogs can hear sounds up to 35,000 Hz. But bats can hear sounds with frequencies between 12,000 Hz and 150,000 Hz!

For greater accuracy, most bats emit several frequencies at once, and many slide the frequencies up or down during the pulse. This technique is known as frequency modulation (FM). Because different frequencies are reflected in different ways by different materials, a bat can differentiate an insect from a leaf by sound alone. And you thought people were the only ones who stayed tuned to FM!

The bat evaluates frequency shifts in the echoes in order to determine the speed and direction of the target. One theory states that a bat is able to determine its target's location in relation to itself, by comparing the echo received by each ear. The bat also evaluates other characteristics of the target, such as its size, texture and orientation in space. Unwanted noise is filtered out of the echo by its ears and brain.

Bat sonar has three basic modes of operating -- search mode, target mode and terminal mode. When in cruising flight, a bat uses its sonar in a search mode emitting five to ten short pulses every second. Search mode allows a bat to detect obstacles or potential prey at a distance.

If a bat detects an object of interest, say a moth, it switches its sonar to the target mode. The bat focuses its sonar on a particular object, shortens the individual pulses and increases the number of pulses to between thirty and fifty per second. The bat then reads the echoes for information about the target's size and density, texture, speed, direction and altitude.

In the final tenth of a second, the bat switches its sonar to the terminal mode, increasing the pulse rate to as much as 200 per second. With great precision, the bat snatches its prey out of the air. The bat then returns its sonar to the search mode and continues its flight.

FOR COMMENTS ABOUT THE BATS OF NEW MEXICO, READ ON . . .

Western Pipistrelle—often the first bat out, sometimes even in daylight

Big Brown Bat—prefers human-made structures for roosting sights

Spotted Bat—black fur with three white spots and large pink ears, a late night flier

Pallid Bat—stalks scorpions, centipedes and small reptiles, nickname is "Rambo bat"

Townsend's Big Eared Bat—ears nearly as long as body

Allen's Big Eared Bat—audible calls

Mexican Free-Tailed Bat—largest concentrated groups of mammals in the world, can tolerate ammonia as high as 5000ppm

Pocketed Free-Tailed Bat—long, narrow wings

Big Free-Tailed Bat—likes moths, ants and crickets; communal in small groups of about 100

Western Mastiff Bat—largest bat in NM and USA; must free-fall at least 10 feet to begin flight

Southwest Myotis—daytime roosts still unknown

California Myotis—some hibernate, others do not

Long-Eared Myotis—hunts in tangled vegetation for insects

Little Brown Bat—common throughout USA

Western Small-Footed Myotis—may hibernate under rocks

Fringed Myotis—can rescue fallen pups

Cave Myotis—migratory, ears can touch tip of nose

Long-Legged Myotis—hunts in open country using one prominent harmonic tone

Yuma Myotis—desert hunter that lives close to water

Western Red Bat—red fur, male more colorful than female

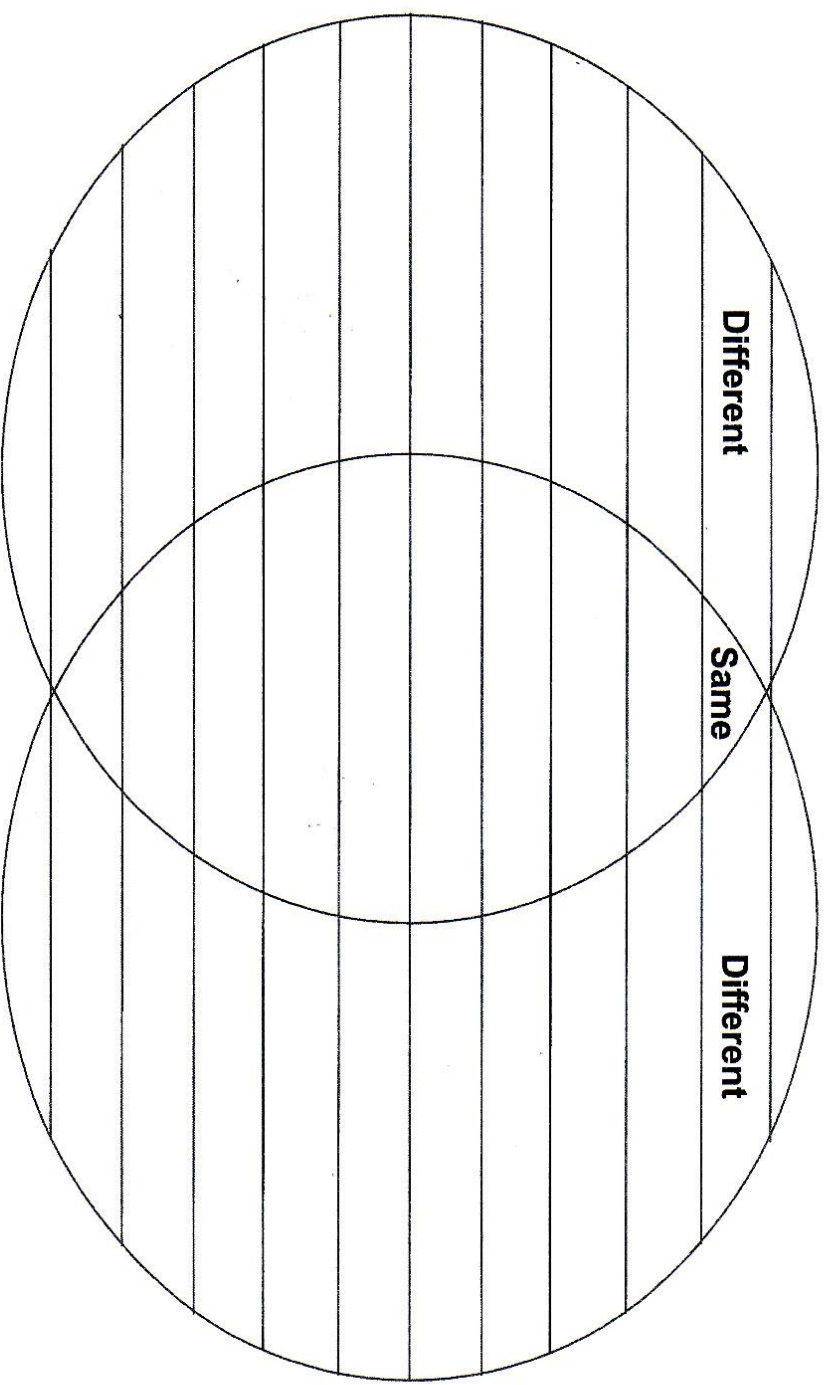
Eastern Red Bat—red fur

Hoary Bat—varied vocalizer, CF-FM both

Yellow Bat—fur a dusky yellow

Silver-haired Bat—frosted black fur; roosts and hibernates in trees, forages close to ground

Venn Diagram Topic: _____





SONG #8: NEW ORLEANS JAZZ

NEW ORLEANS JAZZ NATIONAL HISTORICAL PARK

OVERVIEW

In this lesson students will learn the basics of jazz. They will listen to selection #8 *NEW ORLEANS JAZZ* from the compact disc *SONGS FOR JUNIOR RANGER*. The lesson becomes a brief reading assignment as lyrics introduce them to various aspects of the art form known as jazz, and they refer to the lyrics when answering questions about jazz. They will then listen to selected songs from another cd produced by the Jazz Park, *NEW ORLEANS JAZZ, VOLUME ONE, 1925-1936, THE EARLY YEARS* featuring the Park's own Arrowhead Jazz Band, under the direction of Barry Martin, a jazz drummer who has performed in New Orleans for over 50 years. This music is also available on the Park's web site, and a complete copy of the disc may be obtained from the park. The lesson then moves into the subjects of art and social studies when by students play a game in which they identify various jazz instruments by ear. No previous musical knowledge is required. The lesson is designed for use in any classroom, though the optimum age level would be elementary grades.

BACKGROUND

This lesson utilizes selection #8, *NEW ORLEANS JAZZ*, from the musical compact disc *SONGS FOR JUNIOR RANGERS*. The disc may be obtained from the New Orleans Jazz National Historical Park, as well as from many other National Parks across the nation. The music for the lesson can also be downloaded from the New Orleans Jazz website. The mission of the Park is to preserve and promote the uniquely American indigenous art form known as jazz. Many other lessons and learning activities related to the disc and created by various parks are available on the site, as well as links to the relevant parks, videos, etc. The lesson subjects include history, science, music, and more. All are free to use. Please inform your students that the activities come to them through the work of the Rangers, Teachers, and Volunteers affiliated with the National Park Service.

OBJECTIVES

This lesson is suitable for any age. Some of the related Common Core objectives are below, as well as themes devised from those of the National Council on the Social Studies.

READING/LITERACY

- ❖ **CCSS.ELA-Literacy.RI.K.1** With prompting and support, ask and answer questions about key details in a text.
- ❖ **CCSS.ELA-Literacy.RI.K.4** With prompting and support, ask and answer questions about unknown words in a text.
- ❖ **CCSS.ELA-Literacy.RF.K.2a** Recognize and produce rhyming words.
- ❖ **CCSS.ELA-Literacy.RL.1.1** Ask and answer questions about key details in a text.
- ❖ **CCSS.ELA-Literacy.RI.1.4** Ask and answer questions to help determine or clarify the meaning of words and phrases in a text

- ❖ **CCSS.ELA-Literacy.RL.2.1** Ask and answer such questions as *who, what, where, when, why,* and *how* to demonstrate understanding of key details in a text.
- ❖ **CCSS.ELA-Literacy.RI.2.4** Determine the meaning of words and phrases in a text relevant to a *grade 2 topic or subject area.*
- ❖ **CCSS.ELA-Literacy.RL.3.1** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- ❖ **CCSS.ELA-Literacy.RL.4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- ❖ **CCSS.ELA-Literacy.RL.5.1** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

THE ARTS AND SOCIAL STUDIES/CULTURE

- ❖ Students will gain a basic understanding of the chief characteristics of jazz
- ❖ Students will recognize and identify the most common traditional jazz musical instruments.

THE STUDENTS WILL:

- ❖ Correctly identify key components of jazz as given in the lyrics
- ❖ Correctly identify rhyming words in the lyrics.
- ❖ Complete a worksheet or participate in a group game in which they identify particular jazz instruments from their sound.

MATERIALS:

- Computer and projector or printed copies of the provided pictures.
- Projected or printed lyrics, or written lyrics on board or post it sheet.
- Worksheet/Game sheet for each student.
- A means of playing the music
- A minute and second timer.

TIME REQUIRED: Approximately two hours. The lesson can be easily divided into two units by competing steps 1-2 in one period, and playing the game describes in step 3 in another period.

PROCEDURE

STEP 1: INTRODUCTION/DISCUSSION (Adjust based on age of students.)

- ❖ Ask students the following:
 - What kind of music they like
 - To name some of their favorite performers.
 - To name some of their favorite songs
 - If any of them play and instrument or know someone who does.
 - To name musical instruments.

- ❖ Project or otherwise show the provided pictures of the various instruments
 - Ask students to name the instruments.
 - The first two are trumpets
 - The next two are trombones
 - The next is a clarinet
 - The next two are drum sets
 - The next is a saxophone
 - The next is a banjo, which is a major time keeping instrument in traditional New Orleans jazz
 - The last is the piano.
 - These are the instruments featured in the cd the students will hear.
 - Tell them the name of each if they do not know.
- ❖ Ask them if they know about “jazz”?
- ❖ Tell them that today they will learn about jazz, listen to some music, and play a jazz game.

STEP 2: SONG AND LYRICS. Use selection #8 from the Junior Rangers cd, “New Orleans Jazz”. SEE LYRICS AT END OF THIS DOCUMENT AND ON SEPARATE DOCUMENT

- ❖ Display lyrics
 - Have students read the lyrics aloud one line at a time, or read them to the students.
 - Have students identify words they do not understand.
 - Provide explanation of particular words to students.

- ❖ Focus on Stanza 2
 - “It’s Dixieland left, rag to the right, blues on back, swing all night
Boogie Woogie, and BeBop too, second line, let’s rock on through.
That’s New Orleans, that’s New Orleans, that’s New Orleans jazz...”
 - Six forms of jazz are identified in this stanza. Ask students to identify those forms.
 - DIXIELAND
 - RAG
 - BLUES
 - SWING
 - BOOGIE WOOGIE
 - BEBOP

- ❖ Focus on Stanza 3.
 - “Improvisation, syncopation, African rhythm and blues
Ragtime and marching bands, European tunes too
It’s mixed together melting pot of culture makes a harmonic stew
Gumbo with a banjo, trumpet or trombone, let’s try a taste or two”
 - Seven characteristics and influences on jazz are identified in this stanza. Ask students to identify them. (See separate document for definitions of each.
 - IMPROVISATION
 - SYNCOPATION
 - AFRICAN RHYTHMS
 - BLUES
 - RAGTIME
 - MARCHING BANDS
 - EUROPEAN TUNES
- ❖ Ask students to identify the rhyming words. See key at end of this document.

❖ **STEP 3: WHAT DO YOU HEAR?**

In this game, students become familiar with the main jazz instruments.

They will listen to music from the cd *NEW ORLEANS JAZZ, VOLUME ONE, 1925-1936, THE EARLY YEARS*, which can be found on this site

- Get them started by playing the selection entitled *PECULIAR RAG* (second selection on the original cd). At the times given below, identify the instruments so they can later identify them in the game.
 - Second 38 to 1:13 **clarinet** leading
 - Second 1:13 to 1:50 **trumpet** leading
 - Second 1:51 to 2:26 **trombone** leading with trumpet in background
 - Second 2:27-3:08 **piano** leading
- Play selection *RED MAN BLUES* (first selection on the original cd). This will allow them to hear the instruments again, but will keep them from merely remembering the order of the instruments in *PECULIAR RAG*. Tell them to listen for the clarinet and trumpet that are featured in *RED MAN BLUES*.

❖ **STEP 4: PLAYING THE GAME**

Give each student a game sheet

You will then play a number of the songs. It is best to use a player that has a timer. You may also use a stopwatch. Exact timing is not necessary, but be as close as you can. LISTEN TO THE MUSIC AHEAD OF TIME TO ENSURE YOUR OWN FAMILIARITY.

At the given times, say “**WHAT DO YOU HEAR?**”. Students then circle the picture of the instrument that is heard leading or soloing at the time.

When the game is over, add up the points and declare a winner.

NOTE: At times you will hear an alto sax (*Wylie Avenue Blues*, second 30 to 1:05). It is often difficult to differentiate between the alto saxophone and the clarinet. You can draw students’ attention to this by naming the alto sax at the beginning of *Wylie Avenue Blues*. They might notice the change to clarinet at second 1:06.

- **PECULIAR RAG** (Track 2 on original cd. Same song as used in introduction)
 1. **WHAT DO YOU HEAR?**. Second 38 to 1:13 **clarinet** leading
 2. **WHAT DO YOU HEAR?**. Second 1:13 to 1:50 **trumpet** leading
 3. **WHAT DO YOU HEAR?**. Second 1:51 to 2:26 **trombone** leading with trumpet in background
 4. **WHAT DO YOU HEAR?**. Second 2:27-3:08 **piano** leading

- **MEAT ON THE TABLE** (track 8 on original cd)
 - 5 **WHAT DO YOU HEAR?**. 0-06 seconds DRUM BEAT
 - 6 **WHAT DO YOU HEAR?**. Second 45-48, trumpet (remains in lead to second 1:06)
 - 7 **WHAT DO YOU HEAR?**. Second 1:10-1:29 clarinet
 - 8 **WHAT DO YOU HEAR?**. Second 1:30-1:50 trumpet
 - 9 **WHAT DO YOU HEAR?**. Second 1:51-2:11 trombone
 - 10 **WHAT DO YOU HEAR?**. Second 2:22 to 2:28 trumpet lead
 - 11 **WHAT DO YOU HEAR?**. Second 2:44-2:49

- **WYLIE AVENUE BLUES** (track 12 on original cd)
 - 12 **WHAT DO YOU HEAR?** Second 1:06-1:44 clarinet
 - 13 **WHAT DO YOU HEAR?** 1:44-2:20 trombone
 - 14 **WHAT DO YOU HEAR?** 2:20-2:40 trumpet

- **ASTORIA STRUT** (track 13 on original cd) This selection introduces a very important rhythm instrument in early jazz, the banjo. Tell kids to be prepared for a new instrument that they might recognize. It plays in the background at the beginning of the piece, but then has an extended solo.
 - 15 **WHAT DO YOU HEAR?** Second 49-1:10 banjo
 - 16 **WHAT DO YOU HEAR?** Second 1:34-1:55 clarinet
 - 17 **WHAT DO YOU HEAR?** Second 1:56-2:17 piano

GAME OVER:

Add up the points and choose a winner.

If they liked the music, a fun song to play for them is “*Throwin’ the Horns*”, selection #9 on original cd. BUT BEWARE: “*Throwin’ the Horns*” refers to stealing somebody’s girlfriend. The “horns” refer to the English idea of a cuckold (a man whose wife has been unfaithful) as “wearing horns”. It might be best not to explain this to students, but to allow them to think of them as devil horns and musical horns, which is part of the joke of the song.

WHAT DO YOU HEAR?

- To play this game, listen to the songs that your teacher plays.
- When you hear your teacher say "What instrument do you hear now?", circle the correct picture
- 1 point for each correct instrument. Let's see who has the best ears.

1.



2.



3.



4.



5.



6.



7.



8.



9.



10.



11.



12.



13.



14.



15.



LYRICS
NEW ORLEANS JAZZ

Down in New Orleans near Jackson Square and Bourbon Street
There's a national historical park that's quite unique
It tells the story of a musical style that's American made
It's called jazz and it's got a lot of forms, so let's promenade.

It's Dixieland left, rag to the right, blues on back, swing all night
Boogie Woogie, and BeBop too, second line, let's rock on through.
That's New Orleans, that's New Orleans, that's New Orleans jazz...

Improvisation, syncopation, African rhythm and blues
Ragtime and marching bands, European tunes too
It's mixed together melting pot of culture makes a harmonic stew
Gumbo with a banjo, trumpet or trombone, let's try a taste or two.

It's Dixieland left, rag to the right, blues on back, swing all night
Boogie woogie, and Bebop too, second line, let's rock on through
That's New Orleans, that's New Orleans, that's New Orleans jazz...

RHYMING KEY

NEW ORLEANS JAZZ

Down in New Orleans near Jackson Square and Bourbon **Street**
There's a national historical park that's quite **unique**
It tells the story of a musical style that's American **made**
It's called jazz and it's got a lot of forms, so let's **promenade**.

It's Dixieland left, rag to the **right**, blues on back, swing all **night**
Boogie woogie, and BeBop **too**, second line, let's rock on **through**.
That's New Orleans, that's New Orleans, that's New Orleans jazz...

Improvisation, syncopation, African rhythm and **blues**
Ragtime and marching bands, European tunes **too**
It's mixed together melting pot of culture makes a harmonic **stew**
Gumbo with a banjo, trumpet or trombone, let's try a taste or **two**.

It's Dixieland left, rag to the **right**, blues on back, swing all **night**
Boogie woogie, and Bebop **too**, second line, let's rock on **through**
That's New Orleans, that's New Orleans, that's New Orleans jazz...

Song #10 BEACH PARTY AT HIGH ALTITUDE
GREAT SAND DUNES NATIONAL PARK

Use link to access a lesson plan on their site:

www.handsontheland.org/grsa/resources/curriculum/mid/dunes/act.htm

Song#11 THADDEUS KOSCIUSZKO POLKA
THADDEUS KOSCIUSZKO NATIONAL MEMORIAL PARK

Use the link below to access the Park's Junior Ranger Activity Book.

- <http://nps.gov/thko/forkids/upload/THKOjuniorrangerbooklet2008.pdf>

SONG #15 NEW BEDFORD WHALING
NEW BEDFORD WHALING NATIONAL HISTORICAL PARK

New Bedford Whaling National Historical Park was established by Congress in 1996 to help preserve and interpret America's nineteenth century whaling industry. The park, which encompasses a 13-block National Historic Landmark District, is the only National Park Service area addressing the history of the whaling industry and its influence on the economic, social, and environmental history of the United States. The National Park visitor center is located at 33 William Street in downtown New Bedford. It is open seven days a week, from 9 AM-5 PM, and offers information, exhibits, and a free orientation movie every hour on the hour from 10 AM-4 PM. The visitor center is wheelchair-accessible, and is free of charge

Quote:

"The town itself is perhaps the dearest place to live in, in all New England..nowhere in all America will you find more patrician-like houses, parks and gardens more opulent, than in New Bedford...all these brave houses and flowery gardens came from the Atlantic, Pacific, and Indian oceans. One and all, they were harpooned and dragged up hither from the bottom of the sea."

H. Melville, "Moby-Dick"

Whaling games:

<http://www.nps.gov/nebe/forkids/parkfun.htm>

Shore side app:

<http://www.nps.gov/nebe/photosmultimedia/index.htm>

ALL LYRICS

HUMPS, HOOVES, AND HORNS

(Yellowstone)

CHORUS:

**HUMPS, HOOVES, AND HORNS, BISON BISON
HUMPS, HOOVES, AND HORNS, THAT'S NO BUFFALO
HUMPS, HOOVES, AND HORNS, BISON BISON
HUMPS, HOOVES, AND HORNS, THAT'S NO BUFFALO
HUMPS, HOOVES, AND HORNS, HUMPS, HOOVES, AND HORNS, HUMPS, HOOVES, AND HORNS**

Thousands of years ago in the Ice Age, Bison antiquus roamed all over the place
Standing 8 feet tall, his horns were 6 feet long, livin' in the Pleistocene you had to be strong
They developed adaptations they passed them to their kin, today we know this animal...as a bison
They got a...

CHORUS

Hundreds a years ago almost sea to sea, millions of bison roamin' wild and free
Travelin' in their herds sometimes a mile wide, sacred to many their lives were intertwined
They provided food more than a general store
Their medicine was power, story and lore...they got a...

CHORUS

Not so long ago our country moved out west
bison were overhunted almost none were left
They needed some protection before they disappeared.
Lucky for the bison a refuge did appear
Yellowstone was set aside so we could see, the bison roamin' wild and free, they got a

CHORUS

EXPLORE, LEARN, AND PROTECT

(HERBERT HOOVER, BROWN VS THE BOARD, LITTLE ROCK CENTRAL HIGH SCHOOL, FIRST LADIES,
APPOMATTOX COURHOUSE, MARTIN LUTHER KING JR, STATUE OF LIBERTY)

CHORUS:

EXPLORE, LEARN, AND PROTECT

JUNIOR RANGERS, EAST AND WEST

EXPLORE, LEARN, AND PROTECT

AS JUNIOR RANGERS WE'LL DO OUR BEST

LET'S TAKE CARE OF THE TREASURES THAT BELONG TO YOU AND ME

NATIONAL PARKS WERE SET ASIDE FOR ALL TO SEE

In 1872, the national park idea was born
Yellowstone was set aside to protect and to enjoy
"America's Best Idea", that's what some would say
So get out your map, load your pack, and visit one today and

CHORUS

Alligators, moose, and bison, beaches by the sea
Caves, canyons, deserts, fjords, and Sequoia trees
The best of nature's splendor from A to Z
Is waiting to be discovered by
You and your family, so let's

CHORUS

People, places, sacred spaces, Statue of Liberty
Struggles we've overcome to become a democracy
Ellis Island, trails and houses, Martin Luther King
National parks tell our story, so let us sing...

CHORUS

LA GRAN GARZA AZUL
(EVERGLADES, FLORIDA)

Yo fui a los Everglades con mi familia
Para ver caimanes y cocodrilos
Pero yo vi algo mas extraño
Un ave cavadora con un pico largo

CHORUS

LA GRAN GARZA AZUL, LA GRAN GARZA AZUL
WAIT PATIENTLY, FOR THAT FISH,
SPEAR IT WITH YOUR BEAK, IT'S A TASTY DISH

I went to the Everglades with my family
To see alligators and crocodiles
But I saw something more exciting
A hunting bird with a big long mouth

CHORUS

Flip it up, flip it up, way up in the air
Lanzalo arriba para comer
Cabeza primera es el modo
Eat it head first it's the way to go...

Yo fui a los Everglades con mi familia
Para ver caimans Y cocodilos
Pero yo vi algo mas extraño
Una ave cavadora con un pico largo

CHORUS

Wait patiently, for that fish
Spear it with your beak, it's a tasty dish,

FOUR PRESIDENTS
(MOUNT RUSHMORE)

CHORUS:

FOUR PRESIDENTS ON A HILL IN SOUTH DAKOTA
PRESIDENTS OF THE UNITED STATES
FOUR PRESIDENTS ON A HILL IN SOUTH DAKOTA
DO YOU KNOW THEIR NAMES?

First president on a hill in South Dakota
First president of the United States
Some call him Father of our Country
George Washington was his name.

CHORUS

Second president on a hill in South Dakota
Third President of the United States
He helped us to declare our independence
Thomas Jefferson was his name.

CHORUS

Third president on a hill in South Dakota
Twenty-sixth of the United States
A friend of National Parks and conservation
Teddy Roosevelt was his name.

CHORUS

Fourth president on a hill in South Dakota
Sixteenth of the United States
He helped us to preserve the Union
Abe Lincoln was his name.

Four Presidents on a hill called Mount Rushmore
Now you know their names.

SPELUNKA FUNKA

(CARLSBAD, JEWEL CAVE, TIMPANAGOS, WIND CAVE, MAMMOTH CAVE)

Grab your light and your helmet too, find three friends to go with you
Ya gonna need kneepads, ya gotta have a map, put all your gear in a little back pack
We're going down, way underground, we're going spelunkin'

Crawlin' through a tunnel, on your hands and knees, 3d textbook in geology
Squeezing through the layers, of Earth's deep time, you got fun and learnin' at the same time
We're goin' down, way underground, we're going spelunkin'

**Let's go down, down underground, that's where the adventure is found
We'll see lots of cave formations...stalactites, stalagmites, and cave bacon.**

Mammoth Cave, in Kentucky, longest cave that you're ever gonna see
Now that's a lot of dark, it's a national park, set aside for us all to see
We're going way down, way underground, we're goin spelunkin'

Wind and Jewel Cave out in Dakota, now that's a great place to fill your fun quota
Timpanogos, up on a hill, and the bats at Carlsbad will give you a thrill
We're going down, way underground, we're goin spelunkin'

**Let's go down, down underground, that's where adventure is found
We'll see lots of cave formations...stalactites, stalagmites, and cave bacon.
Cave bacon...it's not good to eat...it'll break your teeth...cave bacon
Cave bacon...cave bacon...cave bacon.**

RUN FISH RUN
(Olympic)

Here come the salmon, in from the sea
On their way to spawn, swimming up stream
Salmon got eggs, a tasty dish
Packed with nutrients, it's nature's gift

Chorus

RUN, FISH, RUN
RUN, RUN, FISH, RUN
RUN, RUN, RUN, FISH, RUN
AND FEED THE ECOSYSTEM

Animals and plants, connected by a web
Depending on the fish, to keep them all fed
Bears, eagles, dippers, and streamside trees, aquatic bugs, beavers and mink

Chorus

A long time ago, the rivers did flow
Hundreds and thousands of fish, yeah, fins and tails go swish
Cultures and traditions time to renew
Restore the river, come on and let those fish through

Chorus (2X)

DOWN ON THE MALL
(National Mall and Memorial Parks)

In 1963, Dr. Martin Luther King
Stood on the Lincoln steps and said he had a dream
He said one day, we'd all come together and play
And treat each other like sister and brother and here we are today and now we're

Chorus

DOWN ON THE MALL, WE'RE STANDING TALL
DOWN ON THE MALL, WE'RE STANDING TALL
IT'S FOR US ALL, WE'RE STANDING TALL
DOWN ON THE MALL, WE'RE STANDING TALL

Presidents and soldiers, they paved the way
So we could enjoy the freedoms that we're
Thankful for today
Let's not forget the sacrifice that they made
So visit a memorial and remember what they gave and we're

Chorus

Look into that reflecting pool, and I hope that you will see
You are the future, you've got the answers that our country needs
As you walk along and pass all your history
Let's learn the lessons and make a better world, it's up to you and me...let's start now

Chorus

NEW ORLEANS JAZZ

(New Orleans Jazz National Historical Park)

Down in New Orleans near Jackson Square and Bourbon Street
There's a national historical park that's quite unique.
It tells the story of a musical style that's American made
It's called jazz and it's got lots of forms, so let's promenade.

CHORUS

**IT'S DIXIELAND LEFT, RAG TO THE RIGHT, BLUES ON BACK, SWING ALL NIGHT.
BOOGIE WOOGIE, AND BEBOP TOO, SECOND LINE, LET'S ROCK ON THROUGH.
THAT'S NEW ORLEANS, THAT'S NEW ORLEANS, THAT'S NEW ORLEANS JAZZ...**

Improvisation, syncopation, African rhythm and blues,
Ragtime and marching bands, European tunes too.
It's mixed together, melting pot of culture makes a harmonic stew
Gumbo with a banjo, trumpet or trombone, let's try a taste or two.

CHORUS

**WAPITI HOPPITY
(GRAND TETON)**

Elk really like hip hop music, elk really like hip hop music

Let's go walking, megafauna stalking , out in the forest, tip toe and no talking
Looking for the elk , putting on A sneak ,do not crush the leaves that's under your feet
Majestic mammals, the bulls are the males , little baby calves, and the cows the females
White patch on the back of their rump, they smell out your scent and they do a jump jump

CHORUS

**WAPITI HOPPITY, THEY'RE HIDING IN THE TREES,
FORTY POUND ANTLERS GOWIN' ON THE TOP,
RUB TO THE TREE, BREAK IT DOWN, DON'T STOP
WAPITI HOPPITY, THEY'RE HIDING IN THE TREES,
FORTY POUND ANTLERS, GROWIN' ON TOP,
RUB TO THE TREE BREAK IT DOWN DON'T STOP**

They got big ears so they can hear you when you're coming , that's what they fear
Alert to the herd and they're gone in a flash, white rump in the forest and they do a deer dash
Dusk to the dawn the feeding's on, grazing browsin', grind the food down
Digest it later, ruminator, they got great guts, four stomach chambers.

CHORUS

Cervus elephus scientifically, historically they lived sea to sea
Habitat loss cut their numbers down, through conservation they making a rebound
Don't delay the day you get to see one up in the Rocky Mountains, Yellowstone or the Tetons
In the fall, y'all all will hear the call of the wild, elk bugle make me smile.

CHORUS

Elk really like hip hop music, elk really like hip hop music...

BEACH PARTY AT HIGH ALTITUDE
(GREAT SAND DUNES)

In southern Colorado there's a place I know
It's kind of like the beach but there's peaks with snow
I bring my board and skis and a bucket and shovel, too.
Play in the waters of Medano Creek,
The surge waves are something to see
Then I climb North America's tallest dunes to a

CHORUS:

BEACH PARTY AT HIGH ALTITUDE
LET'S ALL GO TO THE GREAT SAND DUNES
PLAY ALL DAY IN THE SAND WITH MY FAMILY
IT'S A BEACH PARTY AT HIGH ALTITUDE
LET'S ALL GO TO THE GREAT SAND DUNES
EIGHT THOUSAND FEET ABOVE THE SEA

Three hundred square miles of sand, it's a high desert wonderland
With its own unique geohydrology
Winds carry sand across the valley then it falls down when it hits the peak
It gets washed down and it happens all over again...it's a

CHORUS

Now I know that sand looks really tough, but the ecosystem is fragile stuff
So you gotta have a protection attitude
This place really rocks, it's our national park sand box
But we gotta make sure that others get to see it too...at a

CHORUS

THADDEUS KOSCIUSZKO POLKA
(THADDEUS KOSCIUSZKO)

Every town in Poland has a street with his name...
Thaddeus Kosciuszko
A Polish patriot but he came to our aid...
Thaddeus Kosciuszko
He helped us win the revolution and fought for liberty
I think we owe him some gratitude, so,
Come on and polka with me...hey it's the

CHORUS:

**THADDEUS KOSCIUSZKO POLKA, NOW WE KNOW HIS NAME...IT'S THE
THADDEUS KOSCIUSZKO POLKA, HE'S GOT A NATIONAL PARK IN PA**

Now he and Thomas Jefferson shared the same views...Thaddeus Kosciuszko
Were created equal a self evident truth...Thaddeus Kosciuszko
The Declaration of Independence spells it very clear
And it is said that when Thaddeus read it, he was brought to tears...hey it's the

CHORUS

All across the US, DC to LA...Thaddeus Kosciuszko
Cities and streets all with that name...Thaddeus Kosciuszko
Now it's our turn to carry the torch and follow Thaddeus' lead
Fight for freedom and be a son or a daughter of liberty...hey it's the

CHORUS

He's got a national park in PA
He's got a national park in PA
Actually it is a national memorial, it's in Philadelphia

JUNIOR RANGER
(CANYON DE CHELLY)

Al'chini yazhi- (2X) Chaco Vanyon, Mesa Verde, Saguaro National Park gi. Chanting
Navajo, El Morro, Canyon De Chelly, National Monument. Chanting
(The children at Chaco Canyon, Mesa Verde and Saguaro National Park. Also at Navajo, El Morro
And Canyon De Cheyyl National Monument)

Ayonn' da'Inish- (2X) Naa'glo'shi'baa'da'hal young'ah. Chanting
Junior Rangers da'ho'le. Chanting.
(They work hard, by helping take care of the animals. They are the Junior Rangers)

Tsidi da'ha ate'gi, Naash'duwi da hol'le'ahgi, Javalina da'ate'gi biki'dasassi. Chanting
Junior Rangers da'ho'le. Chanting.
(They help preserve the birds, Mountain lions and the Javalinas. They are the Junior Rangers)

Bil'da'eeli'go Dine' yil' da'ahl'nish. Chanting. Bil'da'eeli,go bike'ao'iina ye'da'hol'ahh. Chanting
Da'bi yaa'cho Badge da'yo'ssba'. Chanting.
Junior Ranger da'hass'le. Chanting.
(They enjoy working with others and learning the Park's history. They are happy they have earned
Their badge. They are the Junior Rangers)

Naa'hass'zaan bika'ji cha'ol ahh'dass'ah. Chanting. Biyaa'gi biih ba'hozhongo' da'al' cho'zz
Chanting
(There are beautiful trees on Mother Earth; the Deer are happy eating the grass under it)

Naa'hass'zaan bika'gi hozhoni'ye, Hozhoni'ye-
Junior Ranger bi'ne'naa. Chanting.
(Mother Earth is beautiful, Oh how beautiful. With the help of the Junior Rangers)

SKYSCRAPER PLANTS
(REDWOOD, SEQUOIA AND KINGS CANYON)

All across the northern hemisphere millions of years ago
Redwood trees lived with ease, the climate was warmer you know
Then along came a massive cooling and the whole Earth changed
Now these prehistoric trees live in a limited range.

CHORUS:

SKYSCRAPER, SKYSCRAPER, SKYSCRAPER PLANTS
SKYSCRAPER, SKYSCRAPER, SKYSCRAPER PLANTS
SKYSCRAPER, SKYSCRAPER, SKYSCRAPER PLANTS
WALK UNDER A REDWOOD TREE AND DO A LIMBO DANCE

Sequoia sempervirens, you can call them coast redwoods
Live along the Pacific coast where the habitat is so good
Tallest trees in the world, nearly four hundred feet
That's like a forty story building, it's something you've got to see.

CHORUS

Up in the Sierras the giant Sequoias grow
Sequoiadendrum giganteum as the scientists know
Largest single stem organism measured by cubic feet
General Sherman is the biggest, it's something you've got to see.

CHORUS

Walk under a redwood tree and do a limbo dance.

LET'S MOVE OUTSIDE

CHORUS:

**LET'S MOVE OUTSIDE, WALK , HIKE ,RUN, OR PADDLE A CANOE, OR GO ON A BIKE RIDE
LET'S MOVE OUTSIDE, GO TO A PARK, CAMP OR FISH, OR FIND A MOUNTAIN TO CLIMB**

Sun's up, wake up everybody, it's a brand new day
Time to think about whatcha gonna do and where ya gonna play
The key to healthy living is waiting out the door
No child should be left inside when we go explore

CHORUS

Bring your friends and family, you can bring your neighbors, too
Sharing good times is half the fun when you get into nature's groove
Your heart's pumpin', feet are thumpin' muscle and bones grow strong
Splash and swim, dive on in, you know that you can't go wrong.

CHORUS

You won't have to go far to find the right place.
All you need is a little bit a green, some kind of natural space
Don't matter if you're in the city, country, or somewhere in between
It's time to unplug from the inside world, turn off the tv

CHORUS (2X)

NEW BEDFORD WHALING
(NEW BEDFORD WHALING)

I went to New Bedford with my wife and little girls
To seek a better life in the "City that Lit the World"
So I signed onto a whaling ship, though the farm is all I knew
And I wrote this little shanty to remind me what to do.

CHORUS:

**CLIMB THE RIGGING, HAUL THE SHEETS, LEARN THE ROPES, SAYS I
WHEN YOU FACE THE BOW THE PORT IS LEFT, THE STARBOARD'S ON THE RIGHT
BOX THE COMPASS, UP THE MAST, THE CROWS' NEST YOU GO
AND THERE I SEARCH FOR SPOUTING WHALES AND YELL "THAR SHE BLOWS"**

We headed out into the sea, dropped anchor in the Azores
We met with different cultures on the distant shores
I learned to speak three languages and eat exotic foods
Some of the foreigners came about and joined onto our crew.

CHORUS

Cape Horn to the Pacific, and the Arctic, too
We hunted whales with natives, I saw my first igloo
But the whales were few and fewer and I knew there'd be a day
When there would be no whales to hunt, no oil, and no pay

CHORUS

After three years we returned to our home and family.
And I'd had enough of rancid meat, scurvy, rats, and fleas.
So back to the Berkshires, the farming life I knew.
And when I think of the sea, I sing this little tune.

CHORUS

**ARMS UP
(SAGUARO)**

Get out of the city where it's noisy and hectic, out into the desert, see the cacti majestic
Headin' to a place scientists call Sonoran, Arizona, Mexico, and a bit of California.
Saguaro is a cactus, it's not like other plants, it's got spiny leaves that is uses for defense
It's got parts called pleats that expand and contract, and a woody rib skeleton holding it intact.

CHORUS:

**ARMS UP IN THE SKY, SAGUARO CACTUS FORTY FEET HIGH
ARMS UP IN THE SKY, SWELL UP WITH WATER AND YOU HOLD INSIDE
ARMS UP IN THE SKY, SAGUARO CACTUS FORTY FEET HIGH
ARMS UP IN THE SKY, SWELL UP WITH WATER AND YOU HOLD INSIDE**

Out in the desert the climate's hot and dry
All the plants compete for water, if they don't they won't survive
Saguaro send out roots not so deep in all directions
And when it rains it sucks it up and maxes its retention
Slow growing, not much showing under shady nurse trees
At sixty-five they're making flowers feeding birds and bats and bees
From seventy to ninety their arms could start to grow
It's possible they live to be two hundred fifty years old

CHORUS

Levanten los brazos al cielo, levanten los brazos al cielo
(lift up your arms to the sky)
Levanten los brazos al cielo, al cielo al cielo
Levanten los brazos al cielo, Levanten los brazos al cielo
Levanten los brazos al cielo, al cielo al cielo

Creamy white flowers give way to fleshy fruit,
A thousand seeds coyote eats and with its scat distributes
A flicker will investigate and find a place to excavate
The cavity becomes a home for others when they vacate
For thousands of years desert dwelling people have known
Yummy fruit jelly and woody ribs for their home
Six tons of spines, cacti divine, sunset silhouette
Your beauty's on my mind.

CHORUS (2x)

FROZEN BULLDOZIN'
(GLACIER, MOUNT RAINIER, DENALI)

I'm a frozen bulldozin' valley carvin' glacier baby, yeah
I'm a mile deep ice sheet, flatten out the landscape baby, yeah.
I'm high up in the mountains and I flow down to the sea
People climb on me on Mount Rainer and Denali
I carved Glacier and Yosemite
So pick up a house sized boulder and grind it down so easily.

I'm a frozen bulldozin' valley carvin' glacier baby, yeah
I'm a mile deep ice sheet, flatten out the landscape baby, yeah.
I made the Great Lakes and river valleys
Deposited some soil where you grow your veggies
Paved the way for great plains and the prairies
So pick up a house sized boulder and grind it down to easily.

Grab your ice axe and helmet, too, get on belay, I'm waiting for you
You might go climbing, you might glissade, time to celebrate the ice age.

I'm a frozen bulldozin' valley carvin' glacier baby, yeah
I'm a mile deep ice sheet, flatten out the landscape baby, yeah.
I'm an icy indicator of Earth's complexity
'cause when the climate changes you'll see the change in me.
The scientists are watching with curiosity
So pick up a house sized boulder and grind it down so easily.

I'm a frozen bulldozing valley carvin' glacier baby yeah.

THE AIRMEN OF TUSKEGEE
(TUSKEGEE AIRMEN)

Down in Alabama is Tuskegee
The institute started by Booker T.
Where African Americans they reached new heights
And some of those men they learned to fly.

CHORUS
SPREAD YOUR WINGS, REACH TO THE SKY
BARREL TO LEFT, BANK TO THE RIGHT
CLIMB AND WE DIVE INTO HISTORY
THE AIRMEN OF TUSKEGEE

When the war started they answered the call
They went overseas and proved to them all
They had the skills and the will to win
And it had nothing to do with the color of their skin.

CHORUS

Navigating the storms
Some high, some on the ground
Take those Red Tails, beyond the angry clouds

Down in Alabama is Moton Field
Where the Tuskegee Airmen first felt the thrill
Of breaking through barriers and finding a way
To fight for their rights by flying an airplane

CHORUS

The Airmen of Tuskegee, the Airmen of Tuskegee, the Airmen of Tuskegee
Yeah, sounds so good to me.
Black soldiers standing at attention, the poor fellas never got mentioned
But now they're flying into history, the Airmen of Tuskegee

TURTLE UP, TURTLE DOWN
(GULF ISLANDS, PADRE ISLAND)

Along the Gulf coast there's a story in the sand
A long line of tracks made by flippers on the land
A peaceful turtle that returns every year
To make sure her species doesn't disappear.

CHORUS:

TURTLE UP, TURTLE DOWN, ANCIENT LIFE CYCLE GOES AROUND AND ROUND
TURTLE UP, TURTLE DOWN, THEY GO TO THE HOME THAT THEIR ANCESTORS FOUND
MAMA COMES UP, BUILDS A NEST ON THE BEACH
BABIES ARE BORN AND GO DOWN TO THE SEA.

They storm the beach, it's a reptile armada
When they arrive it's called the "arribada"
Maybe it's the wind, or the moon, or a mood
That causes Kemp's Ridleys to lay down her brood

CHORUS

Hurry, scurry, to the water you go
A nice bed of seagrass
Is what you need to grow
Jellyfish and crabs so good to eat
Unless you become a predator's treat.

Tangled by nets and pollution in the sea.
They've lost some habitat
Where they used to breed
Let's give them some protection
So that they have a chance
To ride out the rhythms
Of mother nature's dance.

CHORUS

Down to the sea, down to the sea.

NATIONAL FOSSIL DAY
(HAGERMAN FOSSIL BEDS)

All across the earth you can find
The evidence of ancient life.
Prehistoric puzzle made out of stone
Fossils tell us stories about our home.

CHORUS:

HEY, HEY, WHAT DO YOU SAY?
LET'S HAVE A NATIONAL FOSSIL DAY
THINK ABOUT THE EARTH'S PREHISTORY
STUDY PALEONTOLOGY

It takes a special recipe
To preserve the remains of living things
Most life on Earth dies and decays
So if you find a fossil you should celebrate.

CHORUS

Dinosaur, ancient horse, short faced bear
Ancient reef, cycads, mammoth hair
Leaves and burrows, tracks and cones
Bugs, fish, feathers, teeth and bones.

Fossils are rare, now you know
There're places to collect and places that you don't
A non-renewable curiosity
So go and discover, but treat them gently

CHORUS (2X)

Hey, hey, what do you say? National Fossil Day
Hey, hey, what do you say? National Fossil Day
Hey, hey, what do you say? National Fossil Day
Hey, hey, what do you say? National Fossil Day