

BILLY JONAS

SINGER / SONGSMITH / INDUSTRIAL RE-PERCUSSIONIST

IS BRIDGING DIVIDES



Arts In Education: **STUDY GUIDE**

HOW TO USE THIS STUDY GUIDE

BEFORE Billy's visit:

Arts in education programs can have a lasting impact when students and staff are prepared ahead! This guide includes useful links to songs and videos, as well as topics for discussion and related exercises.

AFTER Billy's visit:

These materials can also be used to extend the curricular relevance, deepen the educational impact, and help students process their experience.

Table of Contents

Overview: Who Is Billy Jonas, And What Does He Do?!	3
Concert Etiquette	4
Links to Songs and Lyrics for School Shows	5
Before Billy Jonas Visits	6
Songs: Lyrics and engagement questions	7-12
Projects & Other Activities	13-23
Recycling Mobile	13
What is Stuff Made Of?	15
Recycling Vocabulary Word Search	15-16
Science/Ecology Vocabulary	17
Reduce, Reuse, Recycle! Repurpose, Repair, Reconstitute!	18-19
How Long Does Trash Last?	20
Landfill Waste Ranking Sheet	21-22
Make Your Own Instrument	23
Study Guide Feedback Form	24

Internet Resources

Billy Jonas www.BillyJonas.com

Environmental Protection Agency www.epa.gov/

Earth 911 www.earth911.com/



OVERVIEW

Who is Billy Jonas, and what does he do?

Billy Jonas believes that creating a bright future starts with singing along. Using voice, guitar, homemade and recyclable “re-percussion” instruments, and a generous dose of audience participation, his songs celebrate community, as well as personal and planetary ecology.

For over 30 years, his think-outside-the-box educational performances have occurred at festivals, theaters, churches and synagogues, schools, colleges, universities and libraries around the country. Each concert is a soul-spelunking, heart healing, joy-filled journey of spirited music that is accessible to anyone and everyone, regardless of age or cultural background. Because EVERYBODY’S IN THE BAND!

ELEMENTARY SCHOOLS (K-5)

CURRICULUM CONNECTIONS: Arts Ed. (Music/Art/Creativity), ELA (English/Language Arts), SEL, Healthful Living, Science/Ecology, Social Studies

SCHOOL WORKSHOPS:

Which workshop(s) has your school chosen?

Music From Anything:

Recyclable Object Instruments

Participants create one-of-a-kind instruments, or ‘sonic sculptures’ from recyclable objects.

Bangin’ & Sangin’ 101

Explores communal music making with homemade, recyclable-object instruments, found sound sources, and the participants’ imaginations. Accessible to students of any ability.

Songwriting/Songmaking

Students will refine their natural ability to create and present songs or melodic / rhythmic poems. They’ll learn standard brainstorming and editing methods, as well as skills for sharing their creations.

Performance Tools and Techniques

Teaches students how to transfer inspiration and raw energy into staged presentations.

CONCERT:

Earthbeat - Heartbeat - Drumbeat - Sing!

Participation is the name of the game. Sing-alongs, bang-alongs, and an improvised song with audience suggestions. Every participant will recognize that they are indeed a musician. Themes: planetary awareness, community connection, personal responsibility.



Concert Etiquette

TEACHERS: *please discuss this with your students!*

A successful live concert can be very exciting, and depends on BOTH the audience and the performer, as well as the stage crew. It's the job of the audience members to help the performer give the best performance possible. Let's learn and practice the rules of concert etiquette:

BEFORE THE EVENT

- Follow the directions of your teachers and the M.C. prior to the performance.
- Pay attention to announcements made before and after the show.
- Cell phones off, or on vibrate, please.
- Please visit the restroom BEFORE the performance begins.

DURING THE EVENT

- Please remain in your seat for the entire performance. It is rude to get up in the middle of a quiet moment... rude to the performers and to your fellow audience members.
- If you need to go out during the performance, please wait until the end of a song.
- Please don't speak during the performance...whispering is still speaking, so only in an emergency or if the performer asks you to participate.
- Please eat and drink outside of the theater.
- Please keep feet off of the seats or balcony and do not kick the seat in front of you.
- Don't put or throw anything on the stage.
- Please applaud when it is appropriate during the performance.

AFTER THE EVENT

- Please applaud when the performance is over...this tells the performers and crew that you appreciate their work.
- Stand and applaud if you really thought the show was great.
- Stay seated until your class (or school) is called to leave the concert.

Billy Jonas Music

Links to Songs and Lyrics for School Shows

Billy may not play every song due to time allotted, and the ages of those in attendance.

You can find most of these songs at billyjonas.com/scores/

More Love (Karleigh's Song): k-2 [just the chorus mp3](#); grades 3-5 [full song mp3](#) [link to pdf of lyrics](#)

Tongo: [link to mp3](#) [link to pdf of lyrics](#)

Who's Gonna Make Our Music?: [link to mp3](#) [link to pdf of lyrics](#)

Fireworks of Applause: (<https://www.youtube.com/watch?v=vyMomQgu8Vk>)

What kind of Cat Are You?: [link to mp3](#) [link to pdf of lyrics](#)

Some houses: [link to mp3](#) [link to pdf of lyrics](#)

Open All the Doors and Windows: [link to mp3](#) [link to pdf of lyrics](#)

To Be One: [link to mp3](#) [link to pdf of lyrics](#)

Pharaoh Pharaoh: [link to mp3](#) [link to pdf of lyrics](#)

Lean on Me: [link to mp3](#) [link to pdf of lyrics](#)

Get There: [link to mp3](#) [link to pdf of lyrics](#)



Before Billy Jonas Visits

Who is Billy Jonas?

OBJECTIVE: Classroom discussion, led by the teacher, to inform students about Billy Jonas's program and what they'll be learning.

PROCEDURE: After explaining the program, lead a classroom Q&A session using the following questions:

a. What does Billy Jonas do?

K-2 - **Example answer:** Billy Jonas is a teacher; a musician; he sings; he plays many different instruments

3-5 - **Example answer:** Billy Jonas is a singer/songwriter, industrial re-percussionist, multi-instrumentalist, composer, performer

b. What kind of instruments will he be playing?

K-2 - **Example answer:** his voice; a guitar; and instruments made of recycled stuff, bottles, cans, buckets, frying pans...anything!

3-5 - **Example answer:** 6 string acoustic guitar, world percussion including: frame drum from North Africa, and gungarung bells from India; homemade re-percussion including: magic music moccasins, bucket bongos, garbage can bass drum, and fusenklanger

c. What does he sing about?

K-2 - **Example answer:** He sings songs, stories, poems, things he made up and things you'll make up!

3-5 - **Example answer:** Planet care, self care, community building, the environment, plant ecology

d. What is he going to do at our school?

K-5 - **Example answer:** He'll play a concert, and/or lead one of these workshops (make sure to confirm which): 1. instrument making from recyclable stuff that you bring; 2. songwriting; 3. music making; 4. stage performance

e. How are we going to do all that?

K-5 - **Example answer:** The same way Billy Jonas writes songs and learns to play them. We will start small and keep on going one step at a time!

LYRICS & QUESTIONS:

“SOME HOUSES” • [mp3](#) • [video](#)

ENGAGEMENT QUESTIONS

GRADES K-2

1. What materials do we use to build houses?
2. Where does wood come from?
3. Where does plastic come from?
4. Where does metal come from?

GRADES 3-5

1. What is a steel drum band?
2. What is your house made of? Wood? Concrete? What else?
3. What is a kalimba?
4. What is a marimba?
5. What is the singer referring to when he mentions the “house that’s spinning ‘round and ‘round”?
6. What are petrochemicals?
7. Where is Saudi Arabia? What countries share a border with Saudi Arabia?
8. Can you make up a verse about some other material that houses are made from?

CURRICULUM CONNECTION: Science/Ecology, Arts Ed., Social Studies

Lyrics: SOME HOUSES

From the album *What Kind of Cat Are You?!*

© 1996 by Billy Jonas (Bang-A-Bucket Music/BMI)

SOME HOUSES! SOME HOUSES! SOME HOUSES! SOME HOUSES!

Some houses are made of wood; bang on them and they sound good!
I live in a big kalimba; bang on them like a big marimba!
They come from trees, which came from seeds, which grow out of
THE GROUND!
Which lives in a house that’s spinning ‘round and ‘round
If you get dizzy, get out into the sun
And bang on the door of the house where your house comes from!

Some houses are made of metal; bang on them they sound incredible!
I live in a big tin can; bang on them like a steel drum band!
They come from iron, which came from ore, which came from mines,
which came from rocks, which came from THE GROUND!
Which lives in a house that’s spinning ‘round and ‘round
If you get dizzy, get out into the sun
And bang on the door of the house where your house comes from!

SOME HOUSES! SOME HOUSES! SOME HOUSES! SOME HOUSES!

Some houses are made of plastic; bang on them they sound fantastic!
I live in a styrene dome; bang on them and call ‘em home!
They come from plastic, which came from petrochemicals,
which came from oil, which came from Saudi Arabia, which came from
THE GROUND!
Which lives in a house that’s spinning ‘round and ‘round
If you get dizzy, get out into the sun
And bang on the door of the house where your house comes from!

SOME HOUSES! SOME HOUSES! SOME HOUSES! SOME HOUSES!

Some houses are made of cloth; rub on them they might fall off!
I live in a cotton weave; rub on them like the rustling leaves!
They come from cotton, which came from plants,
which came from seeds, which came from THE GROUND!
Which lives in a house that’s spinning ‘round and ‘round
If you get dizzy, get out into the sun
And bang on the door of the house where your house comes from!

SOME HOUSES! SOME HOUSES! SOME HOUSES! SOME HOUSES!

Some houses are made of flesh; bang on them and speak gibberish!
I live in a house of skin; squeeze yourself like an accordion!
You came from your parents, who came from their parents,
who came from their parents, who all came from THE GROUND!
Which lives in a house that’s spinning ‘round and ‘round
If you get dizzy, get out into the sun
And bang on the door of the house where your house comes from!

SOME HOUSES! SOME HOUSES! SOME HOUSES! SOME HOUSES!

LYRICS & QUESTIONS:

“WATERMELON” • [mp3](#)

ENGAGEMENT QUESTIONS

GRADES K-2

1. Do you know what weeds are? (PLANT GROWING WHERE ITS NOT WANTED)
2. What color is a watermelon (GREEN AND PINK)
3. In the song what parts of the body got covered in watermelon?! (CHIN, ELBOWS, TOES)
4. Can you spell “watermelon”?
5. What are you supposed to do with watermelon seeds (SPIT THEM OUT OR PLANT THEM!)

GRADES 3-5

1. What activity was the singer doing at the beginning of the song and why? (WEEDING GARDEN TO CLEAN IT UP)
2. Have you ever gone hiking? What snacks did you take?
3. What is the primary season for watermelons in many places? (SUMMER)
4. What’s the word for the green part of the watermelon? (RIND)
5. Where do watermelons grow – vines, bushes, or trees? (VINES)
6. What does watermelon mostly consist of? (WATER! THEY ARE ABOUT 90% WATER)
7. What nutrients are found in watermelon? (POTASSIUM AND VITAMINS C, B5, AND A)
8. There is a Guinness World Record for the heaviest watermelon ever grown. Guess how much it weighed. (350.5 POUNDS)
9. Some people consider watermelon a vegetable. It’s even the state vegetable of Oklahoma. Can you guess which vegetable family the watermelon belongs to? (GOURD FAMILY WHICH IS RELATED TO CUCUMBERS, SQUASH & PUMPKINS)
10. Guess which world country is the biggest producer of watermelon. (CHINA)

CURRICULUM CONNECTION: Science/Ecology, Healthful Living

Lyrics: WATERMELON

From the album [What Kind of Cat Are You?!](#)

© 1992 by John McCutcheon & the Charlottesville Summer Enrichment Program (CSEP/Appalsongs/ASCAP)

Additional words by Billy Jonas

CHORUS

Sssssslurp!!! Pppt!!! Sssssslurp!!! Pppt!!!

Sssssslurp!!! Pppt!!! Ahhhhhhhh!!!!

W-A-T-E-R-M-E-L-O-N, what’s that spell?

WATERMELON!!!!

I was gardening in my garden, I was weeding out the weeds
I passed by the place where I had planted my seeds
I found the biggest thing that I’d ever seen
It was like a giant football -- except it was green!

CHORUS

Hiking on a hike, I wanted to snack a snack
So I pulled a piece of watermelon out of my pack
I got it on my chin, I got it on my clothes
A little on my elbows, a little between my toes!

CHORUS

Green on the outside, it’s pink on the in
Your tummy’s gonna ache if you eat that skin
You better spit the seeds out, sisters and brothers
They’re coming out one end or the other!

CHORUS

LYRICS & QUESTIONS:

“OLD ST. HELEN” • [mp3](#) • [video](#)

ENGAGEMENT QUESTIONS

GRADES K-2

1. Mount St. Helens is a special kind of mountain that erupts. Do you know what we call a mountain that erupts? (VOLCANO)
2. What happened when Mt. St. Helens erupted? What came out of the top? What happened to the trees around it? (ASHES; TREES FELL DOWN)
3. How long had Truman lived on the Mt. St. Helens? (50 YEARS)
4. Draw a picture!

GRADES 3-5

1. In what state is Mt. St. Helens? (WASHINGTON)
2. Did anyone live on the mountain when she erupted? (HARRY TRUMAN, NO RELATION TO PRESIDENT HARRY TRUMAN)
3. What was the date of the eruption mentioned in Billy's song? (MAY 18th, AT 8:32... 1980)
4. Why does Billy end by saying “I see she has a brand new dome”? (LAVA HAS RISEN AND HARDENED FROM INSIDE THE MOUNTAIN, MAKING A NEW DOME)
5. Draw a picture!
6. What type of volcano is Mount St. Helens – stratovolcano, shield volcano, or cinder cone? (STRATOVOLCANO)
7. What caused the eruption of Mount St. Helens in 1980? (MAGMA BUILDUP AND COLLAPSE OF NORTH FLANK)
8. How did the eruption of Mount St. Helens impact the surrounding landscape and environment? (LOSS OF FOREST, CREATION OF LAVA DOMES, ALTERATION OF RIVERS AND LAKES)
9. What were some of the immediate effects of the eruption on the local wildlife and ecosystem? (DESTRUCTION OF HABITATS, THE LOSS OF VEGETATION, AND THE DISPLACEMENT OF ANIMALS)
10. How did the eruption of Mount St. Helens affect air travel and weather patterns? (CLOSURE OF REGIONAL AIRSPACE, ALTERED VISIBILITY, TEMPERATURE, AND PRECIPITATION PATTERNS)

CURRICULUM CONNECTION: Science/Ecology, History, Social Studies,

Lyrics: OLD ST. HELEN

From the albums [What Kind of Cat Are You?!](#) and [The Time Has Come](#)

© 1993 by Billy Jonas (Bang-A-Bucket Music/BMI)

She got mad and lost her head (OLD ST. HELEN)
Sky turned black and the trees fell dead (OLD ST. HELEN)
Cleanup crews were working hard (OLD ST. HELEN)
They had to change that postcard (OLD ST. HELEN)

CHORUS:

Oh, oh, oh, the mountain's gonna blow!
Oh, oh, oh, the lava's gonna flow!
Oh, oh, oh, the ash is gonna rise!
Oh, oh, oh, there were pieces of the mountain in your eyes!
Up your nose and down your chest!
A little bit deeper on every breath!
She don't care your point of view!
Now the mountain's part of you!
RUMBLE!!!

Truman lived by Spirit Lake (OLD ST. HELEN)
They told him to leave, he said, “Give me a break!” (OLD ST. HELEN)
“I’ve lived on this mountain fifty years!” (OLD ST. HELEN)
“Ain’t nothing moving me from here!” (OLD ST. HELEN)

CHORUS

May 18th, at 8:32 (OLD ST. HELEN)
In 1980 that's when she blew (OLD ST. HELEN)
Old man Truman did not dodge (OLD ST. HELEN)
She covered him up inside his lodge (OLD ST. HELEN)

CHORUS

Ten years later I came by (OLD ST. HELEN)
Looking at the sights and the things to buy (OLD ST. HELEN)
In between the mobile homes (OLD ST. HELEN)
I see she's got a brand new dome (OLD ST. HELEN)

LYRICS & QUESTIONS:

“WHAT KIND OF CAT ARE YOU?!” • [mp3](#)

ENGAGEMENT QUESTIONS

GRADES K-2

1. What kind of cat is really scared? (SCAREDY CAT)
2. What kind of cat has a thousand legs? (CATERPILLAR)
3. What kind of cat is actually a fish? (CATFISH)
4. What kind of cat hangs out with batman? (CATWOMAN)
5. What kind of cat are you?

GRADES 3-5

1. Can you define all these crazy cat words?! Use the song to help you.
 - Catastrophe (A BIG DISASTER)
 - Cataclysm (AN EVEN BIGGER DISASTER)
 - Catalyst (HELPS CREATE A CHEMICAL REACTION)
 - Catapult (DEVICE FOR LAUNCHING/HURLING OBJECTS)
 - Catacomb (UNDERGROUND PASSAGEWAYS)
2. What is the capital of Nepal? (KATHMANDU)
3. What kind of cat are you?
4. Can you think of any other types of cats that weren't mentioned in the song? (CATNIP, CATNAP, CATTAIL, CONCATINATION)
5. What does a catalytic converter do on a car? (MAKES TOXIC EMISSIONS LESS POLLUTING)
6. Can you find Nepal on a world map? (JUST NORTHEAST OF INDIA IN HIMALAYAN MOUNTAIN REGION)
7. How do catamarans differ from other types of boats? Can you draw or describe what a catamaran might look like? (CATAMARAN HAS TWO HULLS)
8. Can you make up new verses to this song using other animals, like cows (COWBOY, COWGIRL, COUCH), dogs (WATCHDOG, DOGGIEBAG, SNOOPDOGG), pigs (PIGTAILS, PIGGYBANK), bears (POOH BEAR, EMBARRASSED), flies (SHOOFLY, HORSEFLY), and monkeys (MONKEY WRENCH, MONKEYBARS, CHUNKY MONKEY)?

CURRICULUM CONNECTION: ELA, Arts Ed./Creativity, Social Studies

Lyrics: WHAT KIND OF CAT ARE YOU?!

From the album *What Kind of Cat Are You?!*

© 2002 by Billy Jonas (Bang-A-Bucket Music/BMI)

What kind of cat hangs out in your house? HOUSE CAT!
What kind of cat hangs out in the alley? ALLEY CAT!
What kind of cat is a chocolate candy bar? KIT KAT!

CHORUS:

What kind of cat are you?

What kind of cat are you?

Tell me tell me true, what kind of cat are you?

I'll give you some clues. What kind of cat are you?

What kind of cat has the first name of Tom? TOM CAT!
What kind of cat is really, really scared? SCAREDY-CAT!
What kind of cat hangs out at the copy shop? COPYCAT!
What kind of cat is actually a fish? CATFISH!
What kind of cat breaks into places at night? CAT BURGLAR!
What kind of cat hangs out with Bat Man? CAT WOMAN!
What kind of cat has a thousand legs? CATERPILLAR!
What kind of cat is a big expensive car? CADILLAC!

CHORUS

What kind of cat is a great big disaster? CATASTROPHE!
What kind of cat is an even bigger disaster? CATAclysm!
What kind of cat rhymes with that and is a long religious recitation? CATECHISM!
What kind of cat is connected to the engine of your car? CATALYTIC CONVERTER!
What kind of cat facilitates a chemical reaction? CATALYST!
What kind of cat comes in the mail from Sears? CATALOGUE!
What kind of cat is a group of things that are similar? CATEGORY!
What kind of cat is a whole bunch of cows? CATTLE!

CHORUS

What kind of cat throws stuff over the wall of a castle? CATAPULT!
What kind of cat tunnels under the castle? CATAcomb!
What kind of cat floats on two pontoons? CATAMARAN!
What kind of cat takes a picture of the inside of your body? CAT SCAN!
What kind of cat obscures your vision? CATARACT!
What kind of cat is being followed by a moon shadow? CAT STEVENS!
What kind of cat is the capital of Nepal? KATMANDU!
What kind of cat carries your golf clubs? CADDY!

LYRICS & QUESTIONS:

“MORE LOVE (KARLEIGH’S SONG)”

[mp3 for k-2](#) • [mp3 for grades 3-5](#)

ENGAGEMENT QUESTIONS

GRADES K-2

1. Did you put more love in the world today?
2. How do you put more love in the world?
3. How do other people in your life show love?
4. Can you draw a picture of different ways to put love in the world?

GRADES 3-5

1. Did you put more love in the world today? How?
2. How do you show love to your family? What about your friends?
3. How do you show love to adults and new people that you meet day-to-day?
4. How can you treat people with love when you’re feeling angry or upset?
5. How can we work together to create an environment where everyone is encouraged to put more love in the world?
6. Can you draw a picture of different ways to put love in the world?

CURRICULUM CONNECTION: SEL, ELA

Lyrics: MORE LOVE (KARLEIGH’S SONG)
From the album White Moon by Abraham Jam
© 2015 by Billy Jonas (Bang-A-Bucket Music/BMI)

For grades K-2, we only sing the chorus, together

**Did you put more love in the world today?
More love on your way
To the setting sun, there is only one measure
When you can honestly say: I put more love**

For grades 3-5, we sing the full song

I’ve been wandering and I don’t understand
Stumbling around, blind and thirsty, towards some promised land
But I remember, once, a whispering in my ears
“Everything you do from your heart will surely echo here”
So I dance and sing that tune
Pour my water on the ground and watch as roses bloom

**CHORUS: Did you put more love in the world today?
More love on your way
To the setting sun, there is only one measure
When you can honestly say: I put more love**

I remember when we had to leave our home
Middle of the night, running scared, we were so alone
But we were grateful for the little that we had
Cherishing the gifts, and the care from every helping hand
Over time we came to see
There’s a simple path that leads to true prosperity

CHORUS

Well, today I found a place I could not mend
Sitting on the bed, holding hands with a faithful friend
And I told her that the whole thing shook my faith
Wondering aloud if our striving was really all a waste
She said, “There is just one task --
“And all that matters is your answer when the question’s asked”...

CHORUS

LYRICS & QUESTIONS:

“Open All the Doors and Windows” • [mp3](#)

ENGAGEMENT QUESTIONS

GRADES K-2

1. What does the singer say will happen if you “hold on too tight”?
2. Can you identify three rhymes in the song?
3. Why is it important to open all the doors and windows?
4. Can you draw a picture describing what you look like and how you feel when you have opened all your doors and windows?

GRADES 3-5

1. What does the singer mean by “open all the doors and windows”?
2. What is a metaphor?
3. What is the primary metaphor used in this song?
(OUR BODIES ARE LIKE HOUSES: OUR EYES, EARS, MINDS, AND HEARTS ARE LIKE DOORS AND WINDOWS)
4. Do you ever feel like your mind or soul is messy or unorganized?
5. How do you “let the world move through you”?
6. This song has a “bridge” - a stanza that is not a verse and not a chorus, but adds a little extra meaning. Can you find the “bridge”?
(CALLING ON THE WINDS OF CHANGE, THE WINDS OF HOPE
TO BRING THE HEALING RAIN — MAY WE ALL GET SOAKED)
7. How does the bridge affect the meaning and tone of the song?
8. What is the “cold, wet truth”?
9. Can you draw a picture and write some words describing what you look like and how you feel when you have opened all your doors and windows?

CURRICULUM CONNECTION: SEL, ELA

“OPEN ALL THE DOORS AND WINDOWS”

©2022 by Billy Jonas / Bang-A-Bucket Music (BMI)

Co-Missioned, in honor and support of the work of the Maria Montessori Language and Cultural Center (MMLCC).

It's a brand new day, great to see your brand new place
I love the way you found your way, made yourself a sacred space
Standing on solid ground, fit into the frame just right
But it's gonna tumble down, If you're holding on too tight
— you know that's right, so...

**CHORUS: Open all the doors and windows
Let the world move through you
Open all the doors and windows — comin' on through!**

When the joy begins, how you gonna sort it through?
As you let the world come in, so you let the leaves in too
Now you go clean and sweep, try to find the precious ones
There's wisdom in the things you keep to put up in the morning sun
— so much fun to...

CHORUS

Calling on the winds of change, the winds of hope
To bring the healing rain — may we all get soaked

Here's the cold wet truth: hard to warm it on your own
Welcome in a friend or two, now you've made your self a home
They can help fill the gaps, add a little extra room
Show you when to look out back, in time to see the garden bloom
— none too soon to...

CHORUS

K-2nd Grade Activity:

Recycling Mobile

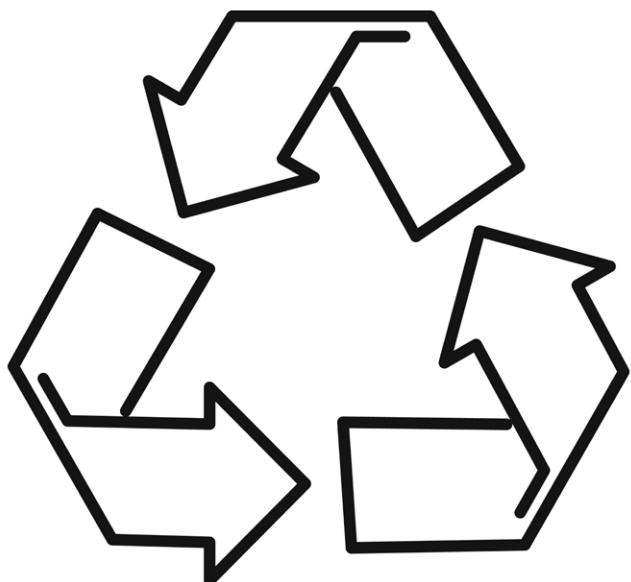
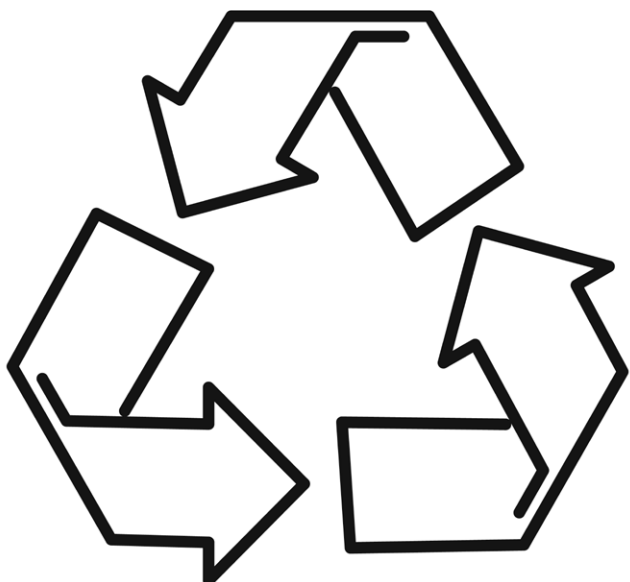
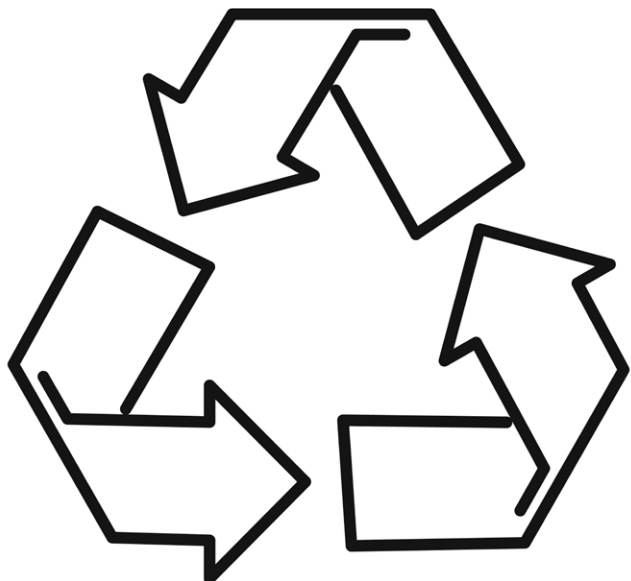
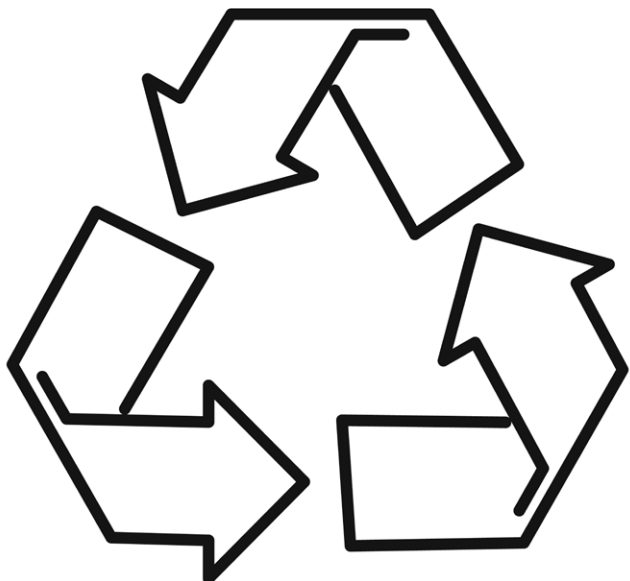
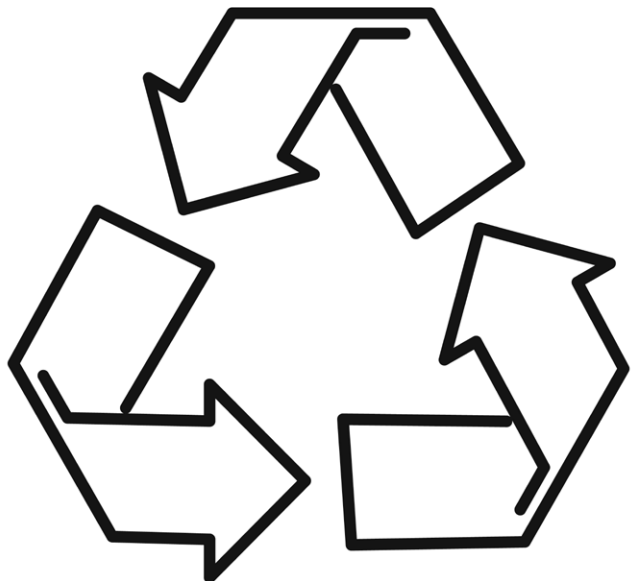
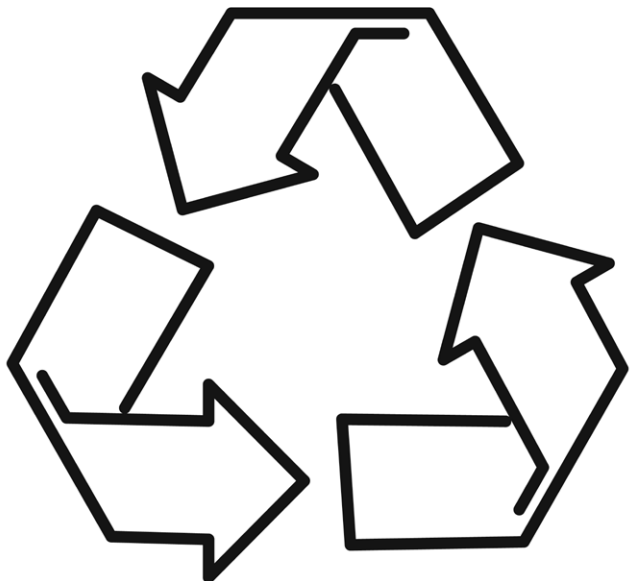
OBJECTIVE: Create a mobile that demonstrates different ways to protect the environment, using the recycle symbol handout provided.

MATERIALS: A heavy wire coat hanger; string, ribbon or yarn; a paper punch; pens or pencils; crayons or markers; scissors; and recycle symbol handout (attached in the guide).

PROCEDURE:

1. Have the students color and cut out each of the recycle symbols provided in the handout (one sheet per child).
2. Ask the students to come up with different ways they can save the environment and protect the world. (Recycle, plant a tree, turn off water, etc.).
3. Have the students draw or write their ideas on the other side of the recycle symbol boxes.
4. Gather their cutouts and hole punch each one. Use the string, yarn, or ribbon to put one end through the hole and tie the other end to the hanger.

ASSESSMENT: Display mobiles in the classroom. Let several students tell the class about their mobile and how they plan on protecting the environment.



3rd - 5th Grade Activity: What is Stuff Made of?

OBJECTIVE: Students will determine what their favorite things are made of and where they came from.

MATERIALS: Paper, pens or pencils, and a picture of the student's favorite non-animal / non-human item.

PROCEDURE:

1. Instruct students to bring, draw, or find a picture of their favorite non-animal / non-human item (Ex. their house, a toy, article of clothing, etc.).
2. Pair students up that have similar items.
3. Using writing utensils and paper, have the student pairs figure out what their objects are made of.
4. Allow students to investigate and research in order to determine what their objects are made of and where those materials came from.
5. Instruct pairs to come up with ways they can preserve or conserve the raw materials that make up their favorite objects. (Ex. reducing, reusing, recycling, repurposing/"upcycling," reconstituting).
6. Allow pairs to share their items and what they discovered with the class.

ASSESSMENT: Have each student write a brief paragraph on what they learned about their item.

3rd - 5th Grade Activity: Recycling Vocabulary Word Search

OBJECTIVE: Students will complete the word search puzzle and discuss the definitions of vocabulary terms.

MATERIALS: Pens or pencils; Recycling Vocabulary Word Search handout and Vocabulary Definitions sheet (attached in the guide).

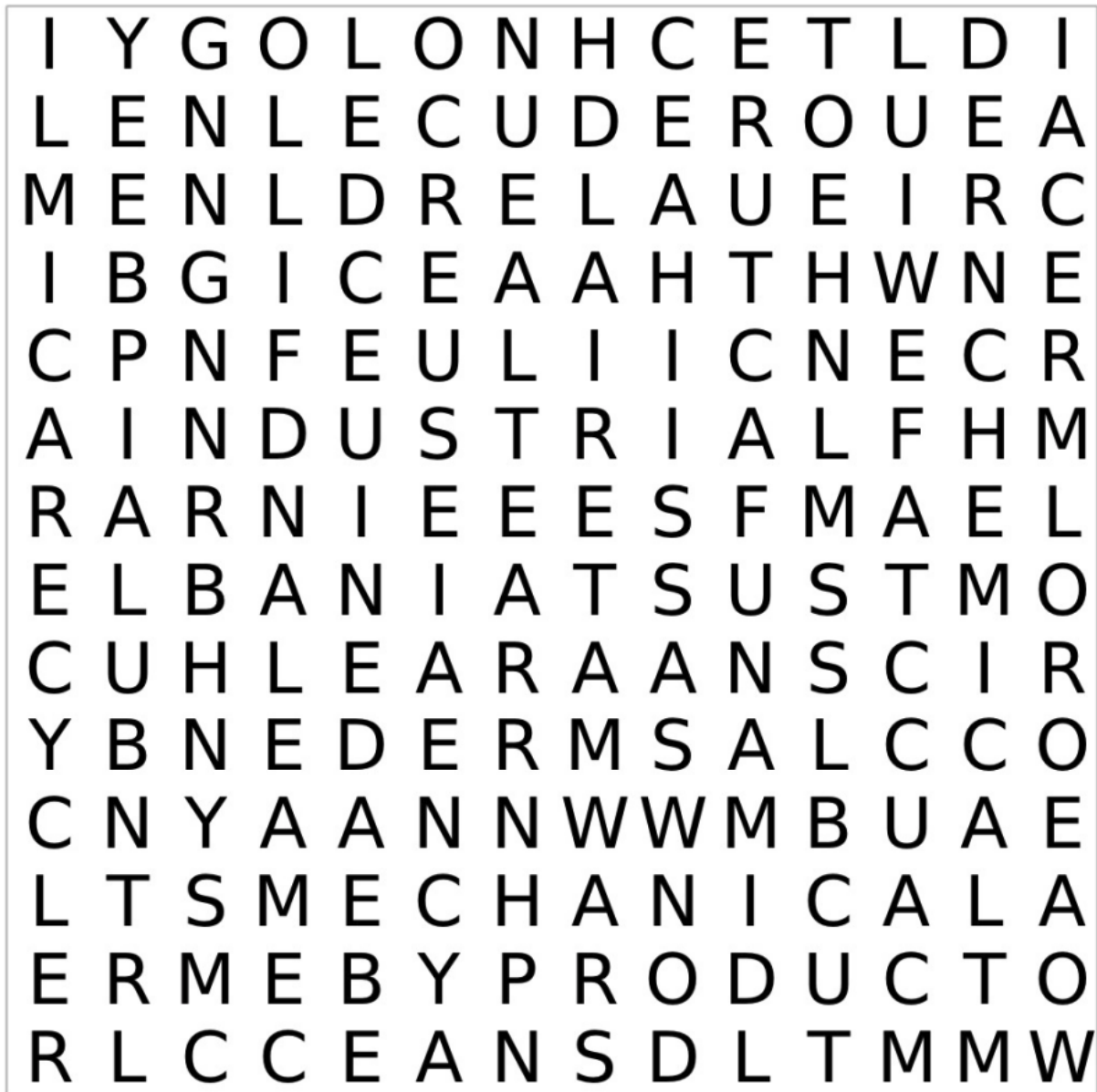
PROCEDURE:

1. Distribute a Recycling Vocabulary Word Search sheet to each student.
2. Instruct students on how to complete the word search.
3. After the activity is completed, have a classroom discussion on what each word means, emphasizing the use of the common prefix re-.
4. Answer any questions the student may have on meaning of vocabulary words.

ASSESSMENT: Check each word search puzzle for completeness and accuracy.

Recycling Vocabulary Word Search

Grades 3-5



reduce
sustainable
landfill
chemical
raw material

reuse
waste
industrial
manufacture
byproduct

recycle
stream
mechanical
technology

Science/Ecology Vocabulary

Byproduct — something produced in an industrial or biological process.

Chemical — powders and liquids and gases we use to make things

Environment — the natural area around you

Factory — a place that makes things out of raw materials

Industrial — used in or developed for use in factories

Industrial Re-Percussion — Billy's homemade recycled-object instruments

Invention — a brand new creation

Innovation — a creation or invention that is based on someone else's invention

Landfill — a system of trash and garbage disposal in which the waste is buried between layers of earth.

Manufacture — to make from raw materials by hand or by machinery

Mechanical — made or operated by a machine or machinery.

Prototype — the first version or model of an invention

Raw materials — the things we use to make other things; like using oil or petrochemicals to make plastic, or using trees to make lumber.

Reduce — to make smaller in size, amount, or number.

Reuse — to use again especially in a different way.

Recycle — to process in order to regain materials for human use again.

Reinforce — to make something stronger

Stream — a river or brook flowing on the earth.

Supply chain — a series of facilities that convert raw materials into products, and then distribute them to factories, stores, and consumers

Sustainable — able to be maintained at a certain rate or level.

Structural Integrity — strength to maintain a shape and avoid falling apart

Technology — the use of science and math for solving problems.

Waste — material left over, rejected, or thrown away.

3rd - 5th Grade Activity:

Reduce, Reuse, Recycle! Repurpose, Repair, Reconstitute!

OBJECTIVE: Have students distinguish between the three primary R's, and establish their own plan for enacting them in their life and community. Also discuss secondary methods of recycling, including repurposing ("upcycling"), repairing, and reconstituting.

MATERIALS: Pens or pencils; Paper; and the Reduce, Reuse, Recycle Worksheet (attached in the guide).

PROCEDURE:

1. Divide students into small groups.
2. Explain to the groups the three R's and what they mean.
3. Give each group writing utensils and the three R's worksheet. 4. Have each group complete the worksheet provided to them. 5. Once completed, have each group discuss what they're going to actively do to use the three R's at home and in the community.

ASSESSMENT: Check each group's worksheet for specificity and accuracy.

Reduce, Reuse, Recycle! Repurpose, Repair, Reconstitute!

DEFINE THE FOLLOWING:

REDUCE:

REUSE:

RECYCLE:

REPURPOSE:

REPAIR:

RECONSTITUTE:

1. List as many materials as possible that can be recycled, in the traditional sense, at a recycling facility or factory:
2. List as many items as possible that can be recycled, in a non-traditional sense, through repurposing or reusing in a new way:
3. What does recycling do for the environment? Is it helpful or a waste of time and energy?
4. What can YOU do to reduce waste, as well as reuse, recycle, repurpose, repair, and reconstitute items at home or in your community?

3rd - 5th Grade Activity: How Long Does Trash Last?

OBJECTIVE: Students will work together in groups to formulate their best estimate of how long trash items might last in a landfill, and learn about environmental consequences of not recycling.

MATERIALS: Pens or pencils; Landfill Waste Ranking Sheet; and Answer Sheet (attached in the guide).

PROCEDURE:

1. Divide students into small groups.
2. Give each group a handout and have them discuss how long they think each item takes to decompose in a landfill.
3. After discussion, have the groups rank in order according to how long they think an item might last in a landfill. Have the groups use numbers to show their ranking, with #1 being the item they think will degrade fastest and #12 being the item that will last the longest.
4. Have the groups share their lists with the class. Call on one group to share their answers first. Have them tell you the sequence they decided on. Compare and contrast the differences between groups by keeping track of the sequences on the board.
5. After all groups have presented their lists, provide them with the correct order and the amount of time it takes for each item to decompose. Direct an open discussion on what the data tells you about landfills. Do items continue to degrade and make room for new garbage? Or will those landfills eventually fill up? What does this say about the importance of recycling?

ASSESSMENT: Have students write a paragraph on what they learned about landfills and what they can do to prevent landfills from filling up.

Landfill Waste Ranking Sheet

Rank each waste item in order:

#1 being the fastest to decompose and #12 taking the longest to decompose

Waste	Ranking	Waste	Ranking
 Tin can		 Plastic jug	
 Paper bag		 Banana	
 Styrofoam cup		 Aluminum can	
 Cigarette butt		 Wool sock	
 Plastic 6-pack rings		 Glass bottle	
 Cotton rag		 Leather boot	

Landfill Waste Answer Sheet

Answers in ranking order:

- 1 - Banana..... 2-4 weeks
- 2 - Paper bag 1 month
- 3 - Cotton rag..... 5 months
- 4 - Wool sock..... 1 year
- 5 - Cigarette butt 2-5 years
- 6 - Leather boot 40-50 years
- 7 - Tin can..... 80-100 years
- 8 - Aluminum can 200-500 years
- 9 - Plastic 6-pack rings 450 years
- 10 - Plastic jug..... 1 million years
- 11 - Styrofoam cup Unknown? Forever?
- 12 - Glass bottle Unknown? Forever?

Waste	Ranking	Waste	Ranking
 Tin can	7	 Plastic jug	10
 Paper bag	2	 Banana	1
 Styrofoam cup	11	 Aluminum can	8
 Cigarette butt	5	 Wool sock	4
 Plastic 6-pack rings	9	 Glass bottle	12
 Cotton rag	3	 Leather boot	6

Home Activity

Make Your Own Instrument!

OBJECTIVE: Students will create their own instruments at home with a variety of recycled materials.

MATERIALS: Unsharpend pencils to use as drum sticks, cardboard products, metal cans (rinsed), plastic bottles, rubber bands, balloons, wax paper, beans or rice, tape, pencils and decorating material (crayons, markers, construction paper, etc.)

PROCEDURE:

1. Provide children with the various materials.
2. Get creative. For example: children can place beans or rice in a dry plastic bottle to create shakers, an empty oatmeal box to create a drum, or a kazoo out of a paper towel roll and wax paper.
3. Have children decorate their instruments with the decorating materials you provide.
4. Play the instruments! Let your child experiment with the different sounds their instrument(s) make.

**Special Note: Do not use anything more robust than unsharpened pencils as drumsticks!
Also, you may want to have extra on hand.*

Study Guide Feedback Form

The following questions are intended for teachers and group leaders who make use of the Billy Jonas study guide.

1. In what grade are your students?

2. Which show did you see? When?

3. Was this your first time at a Billy Jonas performance?

4. Was this the first time you used the Billy Jonas Study Guide?

5. Did you download/use the guide before or after the concert?

6. Did you reproduce activity sheets for your class?

7. Do you think the study guide and activity helped your students better understand the material?

8. Do you think the study guide and activity helped you meet state teaching standards?

9. Additional information, suggestions, and/or comments?