


PRINTABLE SPEAKER'S NOTES for HUMAN IMPACT SESSION 2C: STORIES OF CHANGE - TACKLING LIGHT AND NOISE POLLUTION

Link to PDF classroom presentation:


http://www.LEGO.com/cdn/cs/sustainability/assets/bltddb9d461321fa3647/Hi_BtC_2C_SoC_Noise_and_Light_Pollution.pdf

Italics = suggested speaking script. Standard text = notes to educator.

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in partnership with



Build THE Change

Stories of Change Tackling Light and Noise Pollution

supported by The LEGO Foundation

Printable speakers notes

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Welcome back!

In this session we look at ways human have impacted modern day dinosaurs around the globe.

Can anyone remember which dinosaurs are still alive today?

Birds!

We will also be looking at ways that humans can have a positive impact on nature.

Our Topic



Human Impact Tackling Noise and Light Pollution



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Today's topic is the problem of light and noise pollution.

The air plays host to countless bird behaviors and activities – but humans and how we live has started to interfere with how birds live their lives.

In this session we will explore some of these but also ways in which humans are positively impacting these distinct types of pollution.

Please note: We have deliberately kept this slide very high level as following slides introduce the topic in more detail, including definitions of some of the key words.

But before we hear more, let's look at a few poll questions...

Poll

1



Definitely not.

2



Not sure.

3



Yes, lots!

Do you feel humans do enough to keep air spaces safe for animals around the world?

Build the Change

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ONLINE POLL – Question 1

Click the link on this slide (<http://www.LEGO.com/sustainability/buildthechange/polls/hi-poll-2ca?CMP=EMC-LCE>) to open the poll in your browser.

Ask the group which option best represents their view – remind them that there are no wrong answers.

Use a show of hand to find out the class's top choice, enter it, and move on to the results screen where you can compare the class's view to those expressed in other Build the Change sessions around the world.

Your classes' answer will be combined with the answers from other sessions around the world, anonymously, adding your children's voices to the poll.

Poll

[Link to online poll](#)



Definitely not.



Not really.



Yes.

Do you think that cities and other urban areas are too bright for animals?

ONLINE POLL – Question 2

You should be able to click through to this next poll question at the end of the previous one but if you lose it, the direct link is here:

<http://www.LEGO.com/sustainability/buildthechange/polls/hi-poll-2cb?CMP=EMC-LCE>

Awesome Words



**Light
pollution**



**Noise
pollution**



Communication

AWESOME WORDS

*OK class, here are some of the key words we will need for today's session.
Does anyone know what these words mean?*

Light pollution -----

This describes all the additional or unwanted light that we humans create, mainly at night.

Think of all those streetlamps, highway signs, car lights or even lighthouses on the coast.

These all create light at night that can have an impact on wildlife, especially birds.

Can you think of any other things that create light pollution?

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AWESOME WORDS (CONTINUED)

Noise pollution -----

This word describes the noise that humans create which has a bad impact on wildlife (and people). It is measured in something called decibels (dB).

Types of human-made noise pollution include cars, airplanes, machinery, busy streets.

Noise pollution can even happen under water through oil drilling in the sea impacting whales and dolphins.

Can anyone think of any other sources of noise pollution?

How do you think noise pollution might impact wildlife, in particular birds?

Communication -----

This is the sharing of information or messages from one thing to another.

Humans communicate through language in a variety of ways including speaking, writing, braille, sign-language and even art, music and film.

But for wildlife, communication is also incredibly important.

Why do you think birds need to communicate?

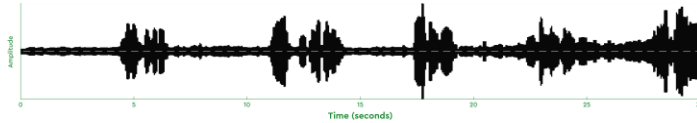
That's right. Birds need to communicate to:

- *Find a mate*
- *Alert other birds of danger*
- *Mark their territory (where they live) so other birds don't set up their homes too nearby.*

Birdsongs from the Natural History Museum

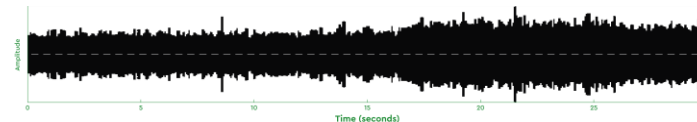


NATURAL HISTORY MUSEUM



During the pandemic

[Link to Natural History sound recordings](#)



After the pandemic

[Link to Natural History sound recordings](#)

bird Birdsong recordings © Trustees of the Natural History Museum.

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WARM-UP ACTIVITY

As you may have guessed, we'll be looking at noise and light pollution in this session.

Our friends at the Natural History Museum will help us learn about nature in this course!

They have audio recordings of nature in their collections. Let's listen in to some of those recordings, recorded in the Museum's wildlife garden.

I'd like you all to close your eyes and listen to a recording of bird song during the pandemic – a time when people had to stay home to avoid a virus.

Use link on slide or here:

http://www.LEGO.com/cdn/cs/sustainability/assets/blt4cf458a1ed2f249e/wg_2020_03_first_lockdown.wav

Beautiful right?

Now, close your eyes again and listen to a recording of bird song from after the pandemic. This is when people were not staying at home anymore.

Use link on slide or here:

http://www.LEGO.com/cdn/cs/sustainability/assets/blt0fc487168706bfcf/wg_2021_08_most_restrictions_gone.wav

What differences did you notice between the two recordings?

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WARM-UP ACTIVITY (CONTINUED)

Notes about these recordings for teachers: The Museum has been recording audio from their busy Wildlife Garden in London. From studying these closely, scientists can learn how different human noises impact birds and other living things. Scientists have learned that:

- It was quieter when people had to stay home during the pandemic.
- There was more noise from traffic and other things after the pandemic, when people were not staying at home.
- It was easier to hear the birds singing when people had to stay home during the pandemic.
- It was harder to hear the birds singing against the traffic and other background noise after the pandemic.

How might these human noises affect birds?

Potential answers/prompts

- birds can't hear each other to communicate.
- birds get scared and fly away (may not be able to get enough food.)



VIDEO: Stories of Change: Tackling Noise and Light Pollution

CASE STUDY VIDEO

Now let's dive into the case study video on the impact noise and light pollution has on birds around the planet and how people are trying to resolve these challenges.

*Play the video, "Stories of Change: Tackling Noise and Light Pollution"
([http://www.lego.com/cdn/cs/sustainability/assets/blt1d6cf175dbb6b9a5/
Hi_BtC_2C_SoC_Noise_and_Light_Pollution_16x9_EN.mp4](http://www.lego.com/cdn/cs/sustainability/assets/blt1d6cf175dbb6b9a5/Hi_BtC_2C_SoC_Noise_and_Light_Pollution_16x9_EN.mp4))*



CASE STUDY: The Western Bluebird

This beautiful and much-loved American bird has been studied a lot in recent years to observe the impacts of noise pollution.

Scientists have discovered that bluebirds nesting close to noisy oil & gas factories become stressed.

This means many of their eggs do not hatch and many of the chicks that do hatch are much smaller than usual.

Although this bird is not considered endangered, if we don't do more to reduce noise pollution, we may start to see fewer birds like the Western Bluebird in certain parts of the wild.

So how are people trying to help?

There isn't really a perfect solution to the problem of noise pollution from gas and oil factories yet.

But by helping people to understand the impact of noise pollution, it might help us to come up with new ways to build factories in the future.



Case Study

Migrating Songbird Challenges

CASE STUDY: Swallows, warblers, thrushes and doves

Many different species of birds migrate, or travel, from one area to another.

They do this for many reasons: to go somewhere warmer during cold months or somewhere with more daylight hours for finding food!

Some birds migrate from Europe to Africa at the end of summer when it gets cold. Then, in spring when it starts to warm up again in Europe, they fly back!

Other birds do a similar thing in the US, spending the winter months in Central and South America and flying back to North America again in the spring.

As birds travel, some of them rely on the stars and moon for guidance, or navigation, to find their destination.

Scientists have found that bright lights from cities may confuse migrating birds, and sadly many of them end up getting lost or even flying into windows, and many do not survive.

Hundreds of thousands of birds are impacted by light pollution every year.

In particular, birds like these swallows, warblers, thrushes and doves struggle to avoid the lights and buildings humans put in their way.



So how are people trying to help?

Could the answer be to have more cities switch off their lights at night? Especially during migration season?

Well guess what, some cities are already doing this! In North America, a “Lights Out” program has been introduced in some cities, encouraging businesses to turn off their lights during migration seasons.

This hopefully will mean that birds will not get confused by human lights and can instead focus on the stars to help them navigate and to work out which way to go.

How cool is that!

Time to reflect

...on the case studies



TIME TO REFLECT

This slide is an opportunity to reflect and take in all of the information they have just heard.

If you are using the printable Build the Change Course Journal (http://www.LEGO.com/cdn/cs/sustainability/assets/blt46c9f2b09eb3a32f/course_journal_HI.pdf), ask the children to write down what stood out for them in those case studies in the box indicated for this session.

If you aren't using the booklet, reflect vocally as a class. Ask the children to share what stood out for them.



TIME TO CREATE

This is a hands-on creative challenge to protect birds -- whether the ones from the case studies or birds local to you -- from noise and/or light pollution.

Now it's time to get hands-on, minds-on with a Creative Challenge.

This session, you have the choice of two different challenges.

- 1. Create something for your street that helps reduce light pollution, so the birds do not get distracted by lights at night.*
- 2. Design something for your town or city that helps to reduce noise pollution so birds can communicate better.*

Encourage your class to express their ideas using any creative materials available, e.g.,:

- Crafting materials – build your solution from cardboard, paper, pipe cleaners, etc.*
- Pen and paper – illustrate and explain your idea on paper.*
- LEGO® bricks – build your solution from any bricks you have available.*

If you like, you can use our printable ideas cards to let children write out an explanation of their idea/creation: http://www.LEGO.com/cdn/cs/sustainability/assets/blt05a1a38185a2557e/BtC_Idea_description_card.pdf



TIME'S UP

Bring this up once the "time to create" is up.

Time to share

What did you create?



TIME TO SHARE

Show this slide while you give children a chance to share what they designed.

Tell us about your creation. How does it help birds against light and noise pollution?

How does your idea work?

Which type of animal is it protecting?

What would you hope might be the impact of this idea for birds and other wildlife?

What's one thing you did well, one thing you'd like to improve and one thing you like about someone else's idea.

Teachers: Don't forget to upload photos and descriptions of your kids' ideas to our public galleries on LEGO.com, using the QR code on the last slide of this presentation.



TIME TO QUIZ

It is the end of the session! Yay!! Well done everyone!

We'll be finishing up with a quick quiz on some of the things we learned today.

Quiz question 1

Which of the following is an example of human-made noise pollution?

- A** Thunder.
- B** Cars.
- C** Ocean Waves.
- D** Rain.



Correct answer: B – traffic is a type of noise pollution from humans and can be too loud for birds to communicate with each other. Thunder, ocean waves and rain are natural sources of noise and do not usually affect birds in a negative way.

Quiz question 1

Which of the following is an example of human-made light pollution?

- A** Office buildings at night.
- B** The Sun.
- C** Lightning.
- D** The Moon.



Correct answer: A – lights from offices and homes are a type of light pollution. They can be too bright for birds and so birds might get lost or confused. The Sun, lightning and the Moon are natural sources of light and do not usually affect birds in a negative way.

Quiz question 3

Why do some birds migrate?

- A** To see relatives.
- B** To make life more interesting.
- C** To be somewhere where there is enough food, water and shelter.
- D** To confuse scientists.



Correct answer: C – birds migrate for lots of reasons. This might be to find places with more food and water, more daylight hours or warmer weather.

Over to You

What can you do to help?

1. See if you can reduce any light or noise pollution around your house or apartment.
2. If you have nesting birds nearby, make sure the area around them is kept as quiet as possible.

That brings us to the end of the session.

Before you go, here are a few ideas on how you can get involved and start helping today's dinosaurs yourselves.

Extension ideas:

North America

Listen to common bird songs <https://www.allaboutbirds.org/news/how-to-learn-bird-songs-and-calls/>

UK

Listen to common bird songs <https://www.nhm.ac.uk/discover/bird-song-identification-common-garden-birds.html>



From the Planet Earth and
everyone at the LEGO
Group and the Natural
History Museum, thank you
for building the change

**See you next
time!**

Before we wrap up, remember that your ideas matter and you need to share them whenever you get the chance.

*Let's put our minds together and come up with the inspiration the planet needs!
Thank you for being awesome changemakers!*

Hey, Educators!

Upload your kids' awesome ideas!

Don't forget to send photos and descriptions of your class's creations to our galleries on LEGO.com!

Scan the QR code with a phone camera to get started.



Time to create...
...something to
protect birds from
light and noise pollution.



Don't forget to upload your kids' creations to our gallery on LEGO.com!

Note: you will need to be signed with your LEGOID username and password to upload.

Just scan the QR code above with a phone camera to get started or use this URL:
[http://www.LEGO.com/sustainability/buildthechange/challenges/hi-challenge-2c/upload?
CMP=EMC-LCE](http://www.LEGO.com/sustainability/buildthechange/challenges/hi-challenge-2c/upload?CMP=EMC-LCE)

Images and descriptions will be moderated and put into this gallery:
[http://www.LEGO.com/sustainability/buildthechange/challenges/hi-challenge-2c/gallery?
CMP=EMC-LCE](http://www.LEGO.com/sustainability/buildthechange/challenges/hi-challenge-2c/gallery?CMP=EMC-LCE)