

MonarchLIVE: A Distance Learning Adventure Building the Population

May 21, 2009
Battle Creek Elementary School
St. Paul, Minnesota
Noon to 1 p.m. Eastern Time

WELCOME AND INTRODUCTIONS

[Host: Lis Young-Isebrand]

Welcome to *Monarch Live A Distance Learning Adventure*. My name is Lis Young-Isebrand, and I work for the University of Minnesota. I'll be your host for today's broadcast here at Battle Creek Elementary School here in St. Paul, Minnesota. I'm so glad you could join us. Thousands of students in the United States are watching this webcast, and we've even got students registered from Costa Rica, Brazil and the United Kingdom. So we welcome you all!! MonarchLIVE is a program that is following the migration of monarch butterflies throughout the school year. You can find more information about the project at the web address on your screen.

Let's bring you up to date about what we've been doing over the past school year. We kicked off MonarchLIVE last year in October with a program featuring Dr. Karen Oberhauser, from the University of Minnesota who is an expert in monarch butterflies. She is going to join us again later on in the program. In February, MonarchLIVE visited Mexico and broadcast and webcast from the Monarch Butterfly Biosphere Reserve in the mountains about 110 miles northwest of Mexico City where the monarchs overwinter and from Alternare, which is a training center that teaches small farmers in the area how to conserve their land and how in use sustainable farming practices so that they can have a higher standard of living as well as help preserve the mountains where the monarchs overwinter. Earlier this week, on Tuesday, MonarchLIVE was in Chicago where we learned about how small gardens can have a big impact for the benefit of monarchs. If you weren't able to watch those programs, they are available on the web site as streaming video and you can watch them any time.

[B-roll video of all programs]

TODAY, we are located in St. Paul, Minnesota at Battle Creek Elementary School, which is an environmental magnet school here in St. Paul, Minnesota. Let's show you some maps. You can see Minnesota and we'll zoom in where you can see Battle Creek Elementary School. Today it's kind of (sunny?, cloudy? Hot? Cold? Rainy?).

Le Shon is here to tell us the goals for today's program.

[Le Shon:]

During the next hour, we are going to learn about:

- Monarch migration – especially their migration north from Mexico to the United States and Canada
- Life cycle of monarchs in the spring and summer and how the population grows
- Importance of milkweed
- Threats to the spring and summer monarch population, and
- what is being done to preserve monarchs

We are also going to have some time to answer your e-mails. Please send them to us at the e-mail address on your screen. We may not have time to answer all of your questions, but we will get around to as many as possible.

DESCRIBE ELECTRONIC FIELD TRIP TECHNOLOGY

[Host: Lis Young-Isebrand]

Before we get underway with our electronic field trip, we wanted to show you how we are able to bring this

program to you. This program is being webcast to you using the latest technology. We call these **electronic** field trips. We wish you could get on a bus and join us here at Battle Creek Elementary School in person. But until then, you can be with us today on this live electronic field trip. Let's see a little bit more about how we are bringing this program to you.

[Roll-in]

[Josh]

The garden today is sort of like our studio. We've got three cameras that feed into a truck that is serving as our control room. The program is then encoded into computer data, compressed and uplinked by satellite to the Internet. Everything is going great. We're up and running, which is sort of obvious since you are watching this program! From this data that is transmitted over the Internet, you are able to watch on your computer. We're glad that this technology allows us to share this experience with you.

[Host: Lis Young-Isebrand]

Yes, that's amazing. Thanks for helping us with the technical aspects of this webcast.

Monarch Migration

[Host: Lis Young-Isebrand]

Okay, it's wonderful have you here with us at Battle Creek Elementary School . . .

[Marco rushes in – breathless]

Ms. Young! The news team says that the monarchs are on their way to Minnesota.

[Host: Lis Young-Isebrand]

That's right! The Battle Creek Action news team has been reporting all year on the migration of monarchs. Let's have a look at some of those reports.

MonarchLIVE Action News Roll-in

NEWS ANCHOR: Good evening. This is the MonarchLIVE Action News. I'm talking with scientists from the U.S. Forest Service, (insert names). It's early March so where are the monarch butterflies right now?

SCIENTIST 1: They're still in Mexico. The monarchs flew there in September to escape the freezing winter in the United States.

SCIENTIST 2: That's right! Last September all of the monarchs from the central and eastern United States flew over two thousand miles to stay in the mountains west and north of Mexico City for about five months.

NEWS ANCHOR: That's a GREAT idea! It's been very cold here in Minnesota all winter! We'll now throw it over to our forecasters. What's the weather like in Mexico today?

FORECASTER 1: The winter weather in the central mountains of Mexico is cool but not cold. The low temperatures are in the forties and the high temperatures are in the sixties.

FORECASTER 2: The monarchs are in the area to the west and north of Mexico City.

NEWS ANCHOR: Thank you.

SCIENTIST 2: This weather is perfect for monarchs to remain still and conserve their energy.

NEWS ANCHOR: Conserve their energy? Every monarch that I've ever seen in Minnesota hardly ever stops flying around!

SCIENTIST 1: Yes, but monarch behavior in the winter is much different. In the cool mountains of Mexico, monarchs mostly remain still by holding on to the giant trees. This allows them to conserve their energy to migrate north in the spring.

NEWS ANCHOR: Good evening. I'm reporting again with our monarch scientist friends. The butterflies are still in Mexico today and they haven't . . .

NEWS DIRECTOR: WAIT! Stop the news! The monarchs are not in Mexico!

NEWS ANCHOR: What? Where are the monarchs?

SCIENTIST 1: Yes, now that it's April the monarchs have left Mexico and are migrating north to Texas.

NEWS ANCHOR: Texas? I thought you said they were in Mexico!

SCIENTIST 2: Right! They WERE in Mexico. Now it's April and the weather is warmer. Warmer weather and longer day lengths are environmental cues for the monarchs to leave the mountains of Mexico.

SCIENTIST 1: These monarchs take about one month to fly north to Texas where the plant, milkweed, is beginning to grow again.

NEWS ANCHOR: Yeah! It is warmer!

SCIENTIST 1: The April weather in Texas is perfect for growing milkweed, the host plant of the monarchs. Female monarchs will only lay their eggs on milkweed.

NEWS ANCHOR: Interesting! Forecasters, what's the weather like in Texas now that it's April?

FORECASTER 1: Yes, the weather in Texas is beautiful in April. Lows in the fifties, highs in the seventies and sunny. They've had some rain and the milkweed is growing like . . . weeds! Ha! Ha!

FORECASTER 2: We have some good news and some bad news! The good news is that the butterflies from Mexico are now laying eggs on the milkweed and we're starting to see caterpillars! The bad news is that after the butterflies lay their eggs they are dying!

SCIENTIST 2: Yes, the monarchs from Mexico lay their eggs on milkweed and then their life cycle has ended. But the eggs become caterpillars that will soon grow into butterflies.

NEWS ANCHOR: We're back once again for MonarchLIVE Action News. I'm joined again by our scientist friends who have information about the diets of monarch caterpillars.

SCIENTIST 1: The caterpillars will eat lots of milkweed and only milkweed. When they have eaten enough they will undergo metamorphosis and become adult monarch butterflies.

NEWS ANCHOR: Butterflies in Texas! That's great!

NEWS DIRECTOR: WAIT! Stop the news! The monarchs are not in Texas! They're in the central and northern United States!

NEWS ANCHOR: What? I thought you said the monarchs were in Texas!

SCIENTIST 2: Exactly! They WERE in Texas. Now they're continuing to migrate north as the weather becomes warmer.

NEWS ANCHOR: You're right! It is warmer.

NEWS ANCHOR: What's the weather like in the United States forecasters?

FORECASTER 1: The weather is really warming up all across the United States! Back in Texas it's HOT! The highs are in the nineties and even hundreds. The lows are in the eighties without much rain. This weather is so hot and dry that the milkweed has started to die.

FORECASTER 2: But, across the central and northern United States the low temperatures are in the sixties and the high temperatures are in the eighties. The milkweed there is as thick as . . . milk! Har har!

FORECASTER 2: And, where there is milkweed there are monarchs!

SCIENTIST 1: Yes, the weather is a bit too hot in the Southern United States for milkweed and monarchs in the summer. So, the monarchs stay in the Northern states to escape the heat and be near milkweed.

NEWS ANCHOR: OH! That's why the monarchs are here in Minnesota in the summer!

SCIENTIST 2: Yes, any day now the milkweed will start to grow here in Minnesota and the monarchs will soon follow.

NEWS ANCHOR: I can hardly wait until they're here! Then, I'll know where they are for a while because I'll be able to see them right outside in my flower garden! Thanks for joining us. We'll see you next cycle for MonarchLIVE Action News.

[Host: Lis Young-Isebrand]

Thank you for that report. It's an excellent summary of the northern migration.

JOURNEY NORTH OVERVIEW

[Host: Lis Young-Isebrand]

Let's take a look at some maps to show us RIGHT NOW where the monarchs are in their migration north. We'll show you the Journey North web site, which is located at the web address on your screen (<http://www.learner.org/jnorth/>). One way to learn about AND participate in monarch migration is to sign up and enter your observations with Journey North. This is what we call a citizen-science project, which is when students or anyone else who is interested, contributes data about their observations.

Here is Elizabeth Howard, who is director of Journey North, explaining how you can participate.

[Roll-in Elizabeth Howard]

Hi. I'm Elizabeth Howard, and I'm the director of the Journey North program. And we have thousands of children all across Canada, the United States, and Mexico who are tracking the monarch butterfly migration every spring and fall as the butterflies cross the borders of the three countries of North America.

In the spring children in Mexico tell us that the monarchs are on their way, and then children all across the migratory range from March all the way until July report when they see their first monarch. And we hope that you will help us, too because scientists really need this information. Scientists don't know so many things about the monarch migration. And they really are depending on people like you to get involved and help track the migration in the spring and fall.

We hope you'll come to our web site, Journey North, and report what you see. Tell us when milkweed emerges in the spring. Tell us when you see your first butterfly. And then in the fall, help us track the migration all the way to Mexico.

[Host: Lis Young-Isebrand]

So let's have a look at the Journey North web site. We can show you some of the web pages. There is a lot of information here about monarchs. (<http://www.learner.org/jnorth/monarch/index.html>)

And we can take a look at the map where students have reported their sightings of monarch butterflies. (http://www.learner.org/jnorth/maps/monarch_spring2009.html)

It looks like the monarchs have reached Minnesota. We haven't seen many yet, but they have arrived and their numbers will certainly increase during the summer. But one of the most exciting things about Journey North is that you can enter your own observations and data. Click on "Report Your Sightings."

I hope that you'll have a chance to look at the Journey North web site and participate in this interesting and worthwhile program.

MONARCH LIFE CYCLE IN SPRING AND SUMMER; BUILDING THE POPULATION

[Host: Lis Young-Isebrand]

Okay, we learned about the northern migration from the student roll in, so let's learn about the life cycle of monarch butterflies. In the summer months the monarchs are building their population. Female monarchs can lay up to 300 eggs in the 2 weeks of their adult life. Most of the life cycle takes place in the northern parts of the United States and Canada. Next Dr. Karen Oberhauser and Battle Creek second graders are going to go through each stage step by step. Dr. Oberhauser is a professor at the University of Minnesota and has been studying monarchs for over two decades. Battle Creek second graders have raised and studied the monarch life cycle this past school year.

[Karen Oberhauser]

Today we have live monarchs in the different stages of their life cycle to show you. Let's begin with the egg stage. Female monarch butterflies lay their eggs on the underside of milkweed leaves. Michele is here to show us a monarch egg.

Michele, please tell us what a monarch egg looks like?

How long until the monarch egg will hatch?

Thank you Michelle for showing us the monarch egg.

What hatches from the egg is a larva, or specifically a caterpillar. It is during the larval stage that the monarchs do all of their growing. In fact they become "eating machines"! Because they eat so much they become too large for their skins and they molt, or shed their skin. This will happen 5 times. The intervals between each molt are called instars. Let's take a look at the different instars that we have here.

D'Laine is here to show us a first instar monarch caterpillar. D'Laine, what was the first thing this caterpillar ate after it hatched from the egg?

What does the caterpillar eat after it eats its egg shell?

How long will it be until this first instar sheds its skin to become a 2nd instar?

Thank you D'Laine

Next we have Gemma. Gemma what are you going to show us?

What is new to the 2nd instar?

How long will it be until this second instar sheds its skin to become a 3rd instar?

Thank you Gemma.

Mia and Sean are here to show us the next caterpillar. Mia what instar do you have?

Mia, What are some of the features of a 4th instar?

Sean, how much milkweed will this 5th instar eat?

Sean what is the next stage in the caterpillars life?

Thank you Mia and Sean.

You are right the next stage is the pupa or chrysalis stage. The primary job of the chrysalis is to be still and undergo many physical changes. Even though the monarch doesn't seem to move at this stage the wings, eyes, antennae and legs of the adult butterfly are all quietly forming.

Here are Tony and Evan to tell us a bit more about this stage.

Tony, what does the chrysalis feel like?

Notice the gold dots. What are they for?

How long will the monarch remain in the chrysalis?

Evan, the monarch caterpillar was black, white and yellow, what is the color of the chrysalis?
What does it look like just before the adult butterfly will emerge?
Thank you Tony and Evan.

Next we have the adult monarchs. When the butterfly emerged, or eclosed, from the chrysalis its wings were wet and crumpled. Slowly the wings expanded and hardened. And after about 4 hours it is able to fly. Once the summer monarchs are able to fly their primary job is to reproduce.

Now we have Jai la and Raymond to show us the adult butterflies.

Raymond, are you holding a male or female butterfly?

How do you know it is a male?

Jai la, you are holding a female. How do you know it is a female?

After the male and female mate how many eggs can she potentially lay?

Monarch caterpillars were picky eaters only eating milkweed. Are adult monarch butterflies picky eaters?

Exactly right! And the nectar they eat from flowers is 20% sugar. Pretty sweet!

[Karen Oberhauser]

I want to thank all of the Battle Creek students for helping us better understand the life cycle of the monarchs in the summer.

IMPORTANCE OF MILKWEED

[Host: Lis Young-Isebrand]

I hope all of you who live in Central and Eastern United States and Southern Canada take a look for monarchs in your neighborhood this summer. This amazing life cycle takes place where there is milkweed. Monarchs and milkweed have a very special relationship. So, let's go now to Lilydale Park where we will hear from volunteers who are experts at identifying milkweed and monarchs. These volunteers are going to tell us how to identify milkweed and just what makes milkweed so special.

[Roll-in]

[Chris Soutter]

Hi and welcome to Lilydale Park! Here in Lilydale Park the milkweed is just starting to grow so that means that the monarchs will soon arrive and lay their eggs.

Let's take a look at a milkweed plant. This time of year we have to get down on our knees because they are just starting to emerge from the underground root system that survived under the soil all winter. As the ground becomes warm and wet in the spring, the milkweed begins to grow.

Here is a plant. Let me show you why it is called milkweed. [*rip off a leaf to show sap*] Can you see the thick white sap? Now you know why it is called milkweed, because the sap of the plant looks like milk! There are over 100 species or kinds of milkweed in North America, but all of the species have this thick milk-like sap. Even though it looks like milk it is nothing like milk! If you could touch it now – like I am – you would feel how sticky it is! The sap is so sticky that many small insects are not able to eat it because their mouthparts would be stuck shut! In fact this can happen to monarchs, but not often because they are able to avoid the sap by being clever. For example, very small caterpillars will eat the leaf in this special crescent shape pattern. This pattern restricts the flow of the sap and doesn't allow them to come in contact with too much of the sticky stuff and their mouths don't become stuck. [*show picture of crescent shape eating pattern*]. When the caterpillars become larger they actually cut off the flow of sap by chewing at the base of a milkweed leaf before they eat it. [*show picture of large caterpillar eating notched leaf*]. This way no sap enters the leaf from the stalk of the plant. See how they hang and eat? Amazing!

The sap from the milkweed is not only sticky, but it's toxic! This is another reason the caterpillars have to be careful not to eat too much milkweed sap. Monarchs have a special ability to take in some of the toxins and store it away so it doesn't harm them. But, if another animal eats them they will be poisoned by these toxins! Monarchs warn predators not to eat them with their bright coloration. These bright colors tell predators that they

are toxic and to stay away or they'll get sick or die! This is called aposematic defense or warning coloration. Pretty smart!

Another way to identify milkweed is by its flowers. It will be another month before these small plants flower, so I have to show you a picture. *[Hold up photo of milkweed flower]*. Look at the flowers. Individual milkweed flowers have 5 petals and 5 sepals. The petals point up and the sepals point down. And, the flowers are found in clusters. The flowers can be many different colors depending upon the kind of milkweed. Here in this field we mostly have common milkweed and the flowers are pink.

Along with me today is my friend Grit. Grit and I participate in the citizen scientist project called the Monarch Larva Monitoring Project. To participate in this project we come to this park once a week all summer long and count monarchs.

We enter this data into a website that Dr. Karen Oberhauser and colleagues analyze to monitor the health of the monarch population. Our monitoring site is just one of hundreds of sites across the United States and Canada. When all of the volunteers enter their data the scientists have a much better understanding of where monarchs are and how many there are at the locations.

[Host: Lis Young-Isebrand]

Thank you Chris and Grit for that information about milkweed and its importance to monarchs and all of your work with monarchs! . Monarchs and milkweed do indeed have a very special relationship. If you would like to volunteer for the Monarch Larva Monitoring Project, please go to the web address on the screen for more information.

THREATS TO SUMMER MONARCH POPULATION

[Host: Lis Young-Isebrand]

So all that monarchs need to survive and thrive is their habitat. But, we know that humans and nature often alter native habitats. Battle Creek students have been doing research on some of the threats that monarchs have to face during the summer months.

Habitat Destruction

[Host: Lis Young-Isebrand]

Here we have _____ and _____. They are second grade students here at Battle Creek. Before you tell us about habitat destruction and its affects on monarchs, tell us what is the perfect habitat for monarchs?

Student (from poster): The perfect habitat for monarchs is a typical Minnesota prairie. This is a picture of monarch habitat because there are diverse nectar plants for adults and milkweed for caterpillars. Only 1% of Minnesota's prairies remain.

Habitat Destruction

[Host: Lis Young-Isebrand]

Yes, I have seen these prairies and there are so many different kinds of plants. There are tall grasses and many flowering plants that are very colorful. What are some reasons why the prairie habitats have been destroyed? What is the threat to the monarch population that you researched?

Student (from poster) Agriculture. Most of the prairies in the Midwest are now farm fields. Farm fields typically are monocultures, which mean there is only one species of plant. Corn, soybeans and other crops do not provide habitat for monarchs.

Urban Sprawl. In the last 50 years most people have moved to urban areas. More habitat is being converted to housing for people.

[Host: Lis Young-Isebrand]

Yes, thank you ____ & _____ for letting us know about habitat destruction. I can see that humans have reduced the diversity of plants, including milkweed in each of these situations. Maybe some of the families in the new homes will plant milkweed and create habitat for monarchs.

Pesticides

[Host: Lis Young-Isebrand]

Agriculture and Urban Sprawl are not the only ways humans make life tough for monarchs. Here are Jaqueline Tobar, Chin Nou Khang and Keyara Lucas to tell us about Pesticides. Before you begin, Jaquelin, please tell us what a pesticide is and why do people use them?

Jaqueline: Pesticides are substances used to kill pests. Pests can be any animal that is unwanted. We have to remember that pesticides kill the unwanted pests and any wanted animal that comes in contact with them. Pesticides are dangerous, even for humans!

[Host: Lis Young-Isebrand]

Chin and Keyara, can you tell us how pesticide use is a threat to monarchs?

Chin: Home gardens are important habitats for monarchs. Use of pesticides for unwanted pests, like aphids, is also harmful to wanted insects like monarch butterflies. Please try not to use pesticides.

Keyara: In agriculture pesticides are used often. Here you can see a milkweed growing in an agricultural soybean crop. In the next photo you can see milkweed in an agricultural soybean crop that has been sprayed with an herbicide. The soybeans are fine but the milkweed is dying. Pesticides are very important for food production, but we must be careful how we use them not to destroy needed insects.

[Host: Lis Young-Isebrand]

Thank you for telling us about the dangers and benefits of pesticides. I know that I will be careful in my garden. In fact I don't mind a little bug here or there if it means more butterflies will survive!

Natural Predators

[Host: Lis Young-Isebrand]

Not only do humans threaten the monarch population, nature poses threats as well. Next we have Lily and Miguel to tell us about natural predators of Monarchs.

Lily: We research the natural predators of monarchs and we found that the caterpillar stage is the most vulnerable because they are less mobile.

(from poster) Here is a ladybird beetle and its immature stage, the larva. Ladybird beetle larvae eat monarch eggs and small caterpillars.

Here is a crab spider. Crab spiders are top predators in the milkweed community. They are carnivores and are able to change their color to camouflage. Crab spiders can eat larger monarch larvae and even bees!

Last we have an ant. Ants also eat monarch eggs and larvae. In this picture the ant is tending aphids living on a milkweed leaf. In exchange for protection, the aphids provide a high energy honeydew food for the ant.

[Host: Lis Young-Isebrand]

I see that monarch eggs and caterpillars do face many predators. What about adult monarchs? Do they have predators too?

Miguel: Adult butterflies do not have as many predators as the caterpillars because they are highly mobile and have aposematic coloration. Aposematic coloration is also called warning coloration. The orange and black colors warn predators to stay away. As we learned, monarchs are poisonous!

Extreme Weather Poster

[Host: Lis Young-Isebrand]

Predators are not all that the monarchs have to face. They also have to face the weather. Here are ____ & _____ to tell us about how extreme weather affects monarchs. _____ tell me about the summer threat to monarchs that you researched.

Student: We researched how extreme weather, hot and dry and cold and wet summers, affect monarchs.

[Host: Lis Young-Isebrand]

Hot and Dry? Tell me about the photo on your poster.

Student: This is a photo of a hot and dry summer. You can see that the plants are dry and brown.

[Host: Lis Young-Isebrand]

How is a hot and dry summer harmful to the summer population of monarchs?

Student: Monarch caterpillars cannot get enough water. Monarch butterflies do not live as long, so they have less time to lay all of their eggs.

[Host: Lis Young-Isebrand]

Yes, I can see that hot and dry is harmful to the monarchs. What about cold and wet?

Student (Reading Poster) When the weather is cold and wet monarch butterflies do not mate or lay eggs. Monarch Caterpillars take longer to turn into butterflies, so they are more vulnerable to predators.

[Host: Lis Young-Isebrand]

Well, let's hope that we have a summer that is warm and just the right amount of rainfall for monarchs to thrive. Thank you _____ & _____ for sharing this important information about Extreme weather and the threats to monarchs.

I am amazed that monarch survive after learning about some of threats posed by nature and humans! It is tough out there for monarchs!

WHAT IS BEING DONE TO PRESERVE MONARCHS?

[Host: Lis Young-Isebrand]

But we have good news too! Monarchs are also being helped by conservation efforts that are as large as national governments and as small as home gardens. To tell us about some of the large and small conservation efforts that are focused on preserving monarchs is Dr. Karen Oberhauser of the University of Minnesota. Dr. Oberhauser has been studying and helping monarchs for over two decades. Dr. Oberhauser what would you like to share with everyone today?

[Karen Oberhauser]

Monarch conservation efforts and importance of biodiversity

Monarch Watch's tagging and Monarch Way Station program (may play roll-in of monarch tagging)

[Host: Lis Young-Isebrand]

Schoolyard gardens

Benefits of biodiversity to the school, community and local environment

Battle Creek Garden (tour of the garden with students)

Local parks and preserves

Home sites

[Host: Lis Young-Isebrand]

This is really exciting that there are so many ways people are working together to create and preserve spaces for the monarchs to continue their amazing lifecycle. The work that government officials are doing and the work of individual citizens just like you are all important to the health of the monarchs.

QUESTIONS AND ANSWERS

[Host: Lis Young-Isebrand]

Okay, we've learned about monarch migration, their life cycle, the importance of milkweed, threats to the monarch population, and what can be done to help monarchs. Now we'd love to take some of your questions by e-mail. You can send your questions to the e-mail address on the screen. We have a question from . . .

CLOSING

[Host: Lis Young-Isebrand]

Thank you for your great questions, but that's all the time we have today. Please go to the web address on your screen for lots of great information about monarch butterflies. I'd like to thank our sponsors, Battle Creek Elementary School and all of the students and teachers who helped us with our program today.

One last thing before we go . . . We're asking teachers to go to that same web address and fill out an evaluation of this program. Your feedback is important to us.

In closing, we'd like to recognize the schools and centers that received GreenWorks garden grants through Project Learning Tree as part of MonarchLIVE. These schools are developing gardens to help monarchs and other insects, birds, and other wildlife in their area. During the credits we are going to show you pictures of these gardens.

Thank you for joining us today from Battle Creek Elementary School and Bye!!!