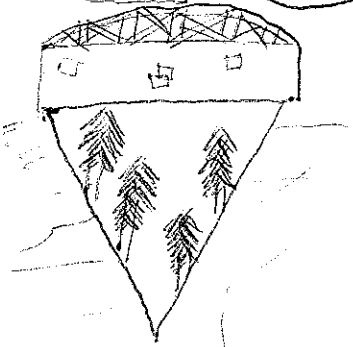


Echo

(A.K.A. Hemlock Gorge)



Bridge

Leaders:

Arim Hunter-Schlornholtz
AND (617) 835-8895

Nate Kaufman
(617) 969-4144

Equipment: Daypack, hiking boots,
raingear, lunch, 2 liters of water,
notebook + pencil, first aid, bug spray
(if you want it)

Echo Bridge is located at scenic Hemlock Gorge which, despite the name, is a gorge that contains hemlocks. It is a V shaped gorge as opposed to a U shaped gorge because it was formed by a river flowing through it (the Charles) instead of by glaciers.

How can you tell a Hemlock from other evergreens?



It has two white stripes or lines on the bottom of the needle

In case of emergency your child will be brought to: Newton Wellesley Hospital 617-243-6000 This program must comply with the regulations of the Massachusetts Dept of Public Health and must be licensed by the City of Newton Health Department.

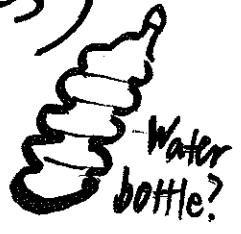
ESP rules

ECHO BRIDGE

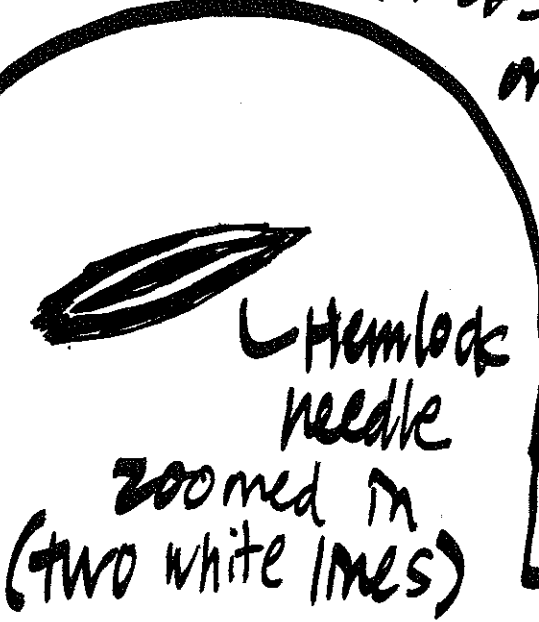
Brown 9-4
July 7, 2006
TS#3

Leaders: Nate Kaufman (617-969-4144)
Arin Heunter Schloholtz (617-928-3457)

- Equipment:
- DAYPACK (first aid kit, notebook & pencils, extra boot laces)
 - LUNCH
 - LOTS OF WATER (2L)
 - WEAR HIKING BOOTS
 - RAIN GEAR, SUNBLOCK, BUGSPRAY



ECHO BRIDGE is located in a reserve called Hemlock Gorge, so named for the large number of hemlocks that are there. How can a coniferous be a hemlock? Look at the bottom needle. Does it have two white lines?



me tell if tree is look at of the it have lines?

ECHO BRIDGE

TRIPSLIP#3
JULY 6, 2005



Meet @ Brown
9:00AM - 4:00PM

(A.K.A. HEMLOCK GORGE)

Leaders: Nate "Nate... Nate... Nate... Nate" Kaufman (617) 969-4144
Ari "Ari... Ari... Ari... Ari... Ari... Ari..." Miller (617) 894-8160

Equipment needed: Daypack - hiking boots, raingear, lunch, plenty of water, notebook & pencil, first aid kit, sunblock & bugspray, a coconut shell, an authentic disco ball

ECHO BRIDGE was built in 1886, back when Grover Cleveland was president of the USA. It was built over the Charles River in Lower Falls (a river you'll no doubt be getting quite intimate with this month). It is located in Hemlock gorge, an area named for its abundance of hemlock trees. How do you tell a hemlock from other evergreens? Its needles have two white lines on the bottom!

HEMLOCK GORGE

is a gorge (hence the name), which is another name for a ravine. The gorge was carved out by the Charles, in a V-shape, as opposed to a U-shape, which can be seen in other gorges.



'Ear me now!
We also be learnin' about Hecology tomorrow, so listen up well good.

QUESTION OF THE DAY / What is a keystone species, and what's a example of one? (If you don't know, you'll learn tomorrow!)


Hemlock
needle

In case of Emergency, your child will be brought to:
Newton Wellesley Hospital: 617-243-6000.

This program must comply with the regulations of the Massachusetts Dept. of Public Health and must be licensed by the City of Newton Health Department.

HEMLOCK Gorge

Collectable Tripslip #12 of 26
Collect all 26 and win!

Tripslip # 7

When:
9am - 2pm
July 12, 2000

Where:
Brown Middle School

Leaders:
Jonathan Rivnay
527-1849
Amelia Runyan
244-8836

Equipment:
Hiking Boots, WATER,
Huge Lunch, Field Kit
(Raingear, Bug Spray, First
Aid, Notebook);
2 Fiber-optic cables with
8mm mini plugs, and a 3
inch plastic screw.

Weather Forecast
by boston.com for:

Wednesday
July 12, 2000



Partly Cloudy
High 78 / Low 58

A mix of sunshine and clouds can be expected as high pressure builds into the region. It will be comfortably mild with low humidity. Mostly clear skies overnight.

EnviSci takes no responsibility for the accuracy of the boston.com weather forecast. You must bring your raingear no matter what!

Tomorrow we will be headed to ...yes, you guessed it...Hemlock Gorge (this is where Echo bridge is located)! Do know why they call it "Hemlock Gorge"?...are there any Hemlocks?, ...and is there a Gorge?...well,...the obvious answer would have to be ...no; but then again, the obvious answer is always wrong. The correct answer is yes, there is a gorge, and yes, there are lots of hemlocks.

The GORGE:

Hemlock Gorge is a gorge...or RAVINE there are 2 (two) types of ravines:

U U-Shaped Ravines
are formed by glaciers

V V-Shaped Ravines
are formed by rivers

POP QUIZ

Can you guess what type of ravine Hemlock Gorge is? Hint, hint...the Charles RIVER flows through it.

The HEMLOCKS:

You know that a Hemlock is a tree, an evergreen in fact...but do you really know what Hemlocks even look like, or how to identify them?

Well...Hemlocks have *two thin white lines* on the underside of each needle. As so:



Leaders

Jeffrey Wong 332-3617

Jenny Casavant 969-2776

Date: July 3, 1996

Times: 9am - 2pm

Trip slip #3

Meeting Place: Newton South

Equipment: Field Kit, lunch, water, bug repellent

ECHO

BRIDGE

Echo Bridge is located in Hemlock Gorge. Gee, why is this place called Hemlock Gorge? This is because there is a gorge there which is surrounded by a hemlock forest. There are two types of gorges or ravines, V-shaped and U-shaped. So how are these kinds of ravines created?



U-shaped

A sound under the bridge makes an echo 11 times when you call it.



V-shaped

Hint: Think about water, rocks, and glaciers.

Built in 1886, Echo Bridge used to be an aqueduct which transported water from the Sudbury River to the Chestnut Hill Reservoir. Hemlock Gorge used to be used as a fishing ground for local Native Americans. Later it became the location of several mills and factories which are still there, but aren't in use anymore.

The underside of a hemlock leaf has two white lines.

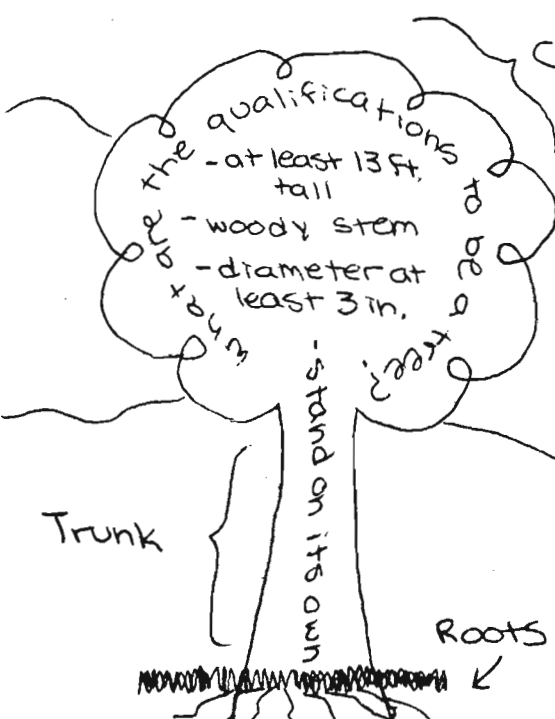


Now you can identify a hemlock tree. Yay!

Today, you will be introduced to one type of water test. Do you know any types? The most common test is the pH test.

Q. If you've ever looked at the Charles River, you probably noticed that it is brown. is it because of pollution? Then what?

A. Ask Jenny or me today. (I really mean tomorrow)



the qualifications to be a tree?
- at least 13ft. tall
- woody stem
- diameter at least 3in.

stand on its own

Trunk

Roots

HEMLOCK GORGE

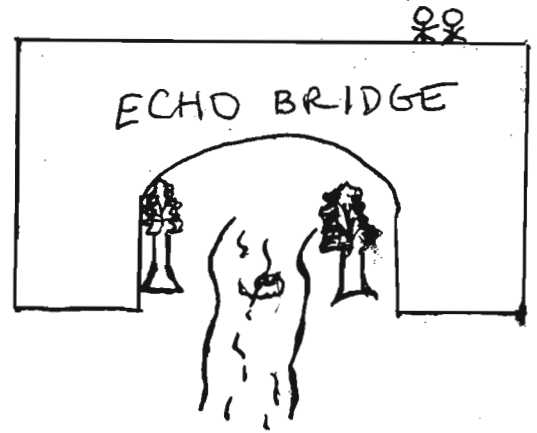
TRIP SLIP # **3**

LEADER: Pam Mahoney (527-5831)

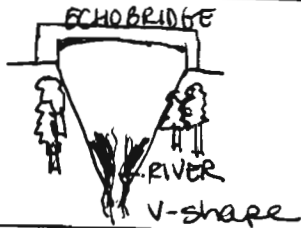
DATE: July 3, 1992

TIME: 9AM - 2PM

EQUIPMENT: FIELD KIT
LUNCH & H₂O



Hemlock Gorge is located in one of the oldest parts of Newton - Newton Upper Falls. The bridge spanning the gorge, Echo Bridge, was built in 1886. The gorge was carved by a river, giving it a V-shape, as compared to a U-shape. What would form a U-shaped gorge?



GORGE TYPES



Why is Hemlock Gorge so named? HINT - think about the quantity of a certain tree - hmmm....

Do you know what Bedrock is? Yes, it is a type of rock, not just the town the Flintstone's live in!

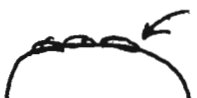
Why is the river running under Echo Bridge, and throughout the area, BROWN? Is it natural? Is it polluted?

We will see a lot of LICHEN! Do you have a **skin** for lichen? There are 3 types of lichen:

FLAT: CRUSTOS

CURLED EDGES (slightly raised):

RAISED: FRUTICOSE



ECHO BRIDGE

Trip slip # 5
 Wednesday 7 July 1999

Leaders: Dan Thomas
 (527-2763)

Time: 9-2
 Meet: Brown Tr. H.S. (527-1849)

Eqpt: Water, LUNCH,
 Field Kit, Boots (wear 'em)

(Also known As
 Hemlock
 Gorge)



~A Little History~

Hemlock Gorge has slowly been evolving since the glaciers retreated. The fast running water of the Charles river has slowly cut itself a gorge. Not nearly as old as the gorge, Echo Bridge was built in 1886 to connect the Sudbury river aqueduct to the Chestnut Hill reservoir.

Do you know who were the pioneers of the first aqueducts?

Do you know which of these leaves belong to hemlock trees?

And which of these

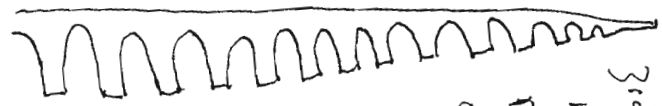
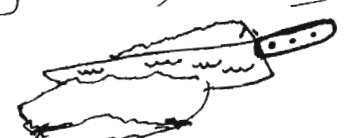


leaves belongs to a tree which produces tannic acid - responsible for the tan-brown color of the river?

Rock TALK

1st Do you know the difference between Sedimentary, Igneous & Metamorphic rocks

2nd What kind of rock would you expect to be most easily cut by a moving river?



3rd What

metamorph
 rock
 evolves fr
 limestone
 which diss
 with acid

Hint:



Trip Slip #5

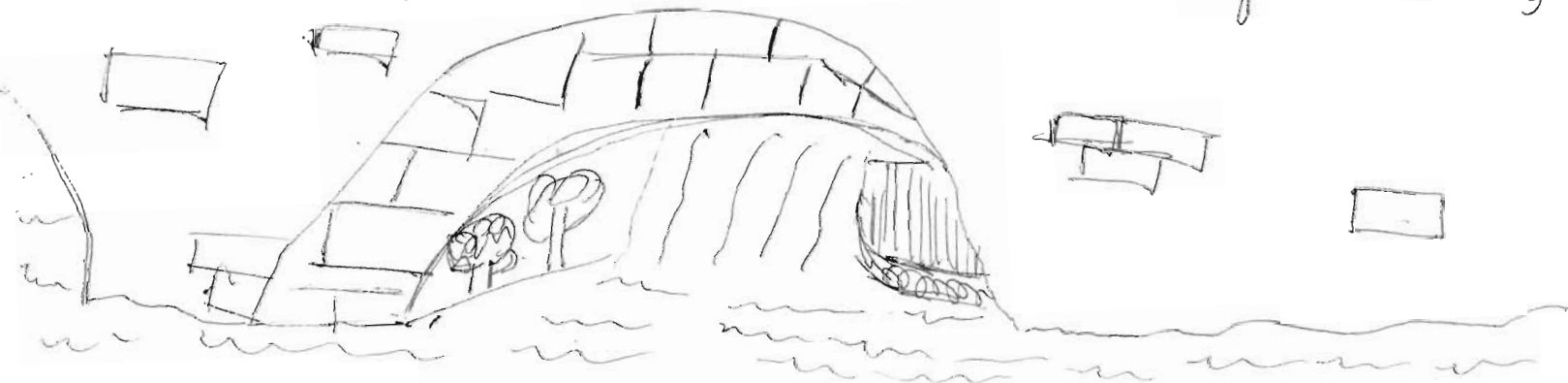
ECHO BRIDGE

Wednesday, July 11, 2001

Leader: Danny Jageda - Tel.#: 617-738-0269

Times: as always, 8:30-4:00 PM

What to Bring: water, LUNCH (+ snacks if you get hungry often), field kit, BOOTS and a Rubex Cube (if you have one)



Also known as Hemlock Gorge, Echo Bridge was built in 1886. Why would anyone want to call this place "Hemlock Gorge"? The reason has 2 parts, one because there are many hemlocks and it is a gorge (Hence the name). There are 2 types of Gorges or Ravines: U-shaped (which form from glaciers) and V-shaped which are formed from Rivers.)

How to identify a Hemlock?



Hemlocks are evergreens and have 2 white stripes under each needle



Leaders

Ari Mmmiller

(617) - 894 - 8160

Nate "the crafty" Kaufman
(617) - 969 - 4144

When: 9 AM - 4 PM

July 6th, 200005

Bridges

Trip Slip # Three (3) (III)

Meet at Brown M.S.

Make sure you bring H₂O (actually 2)
Big lunch (to give to your leaders)

(also known as Hemlock Gorge)

hiking boots,
rainingear, notebook
and pencil,
and most important
your superhero spandex outfits!

Since the glaciers retreated a looong time ago, the Charles River has slowly cut a gorge. Many hemlock trees began to inhabit the area, leading to its creative name, Hemlock Gorge. In 1886, Echo Bridge was built to connect the Sudbury river aqueduct with the Chestnut Hill reservoir. We'll be learning about hemlocks, why the river water is a tan-brown color and the different kinds of rock at Hemlock Gorge. We'll talk about the two different kinds of gorges, U-shaped and V-shaped. When you yell something into Echo Bridge, it echoes 11 times!



A unicorn, which Nate was just talking about.
(no relation to Hemlock Gorge)

In case of Emergency, your child will be brought to:
Newton Wellesley Hospital: 617-243-6000.
This program must comply with the regulations of the Massachusetts Dept. of Public Health and must be licensed by the City of Newton Health Department.

TRIPSLIP #3

LEADERS:

- Joey Backer (617-969-0288)
- Mike McLellan (617-244-0998)

STUFF YOU NEED:

- hiking boots (w/extra laces)
- field kit
- lunch
- 2 L water
- Raingear
- beetle exoskeletons

ECHO BRIDGE

... It's (Hemlock) Gorges!

BE AT BROWN MIDDLE SCHOOL AT 9:00 AM

What kind of strange and bizarre local phenomenon has two names?? What desperate soul made the decision to confuse future generations so thoroughly? Well, I have no answers to these questions. But I can tell you that we're walking there. Actually,

now that I think about it, the answer to the first question (Strange and Bizarre) is pretty simple: Echo Bridge is the bridge that spans... (wait for it)... HEMLOCK GORGE! Now it all makes sense!

Anyway, that's where we'll be going today. You're going to learn all about geology, plant identification, aqueducts, and some things that might make you go blind if you read them on paper.

HOLY GEOLOGICAL TRANSFORMATION, BATMAN!

There are two main types of gorges:

U-SHAPED gorges are formed when glaciers carve out trenches in the ground.



V-SHAPED gorges occur when rivers carry out sediment and erode the earth away over time.



THE REALLY BIG

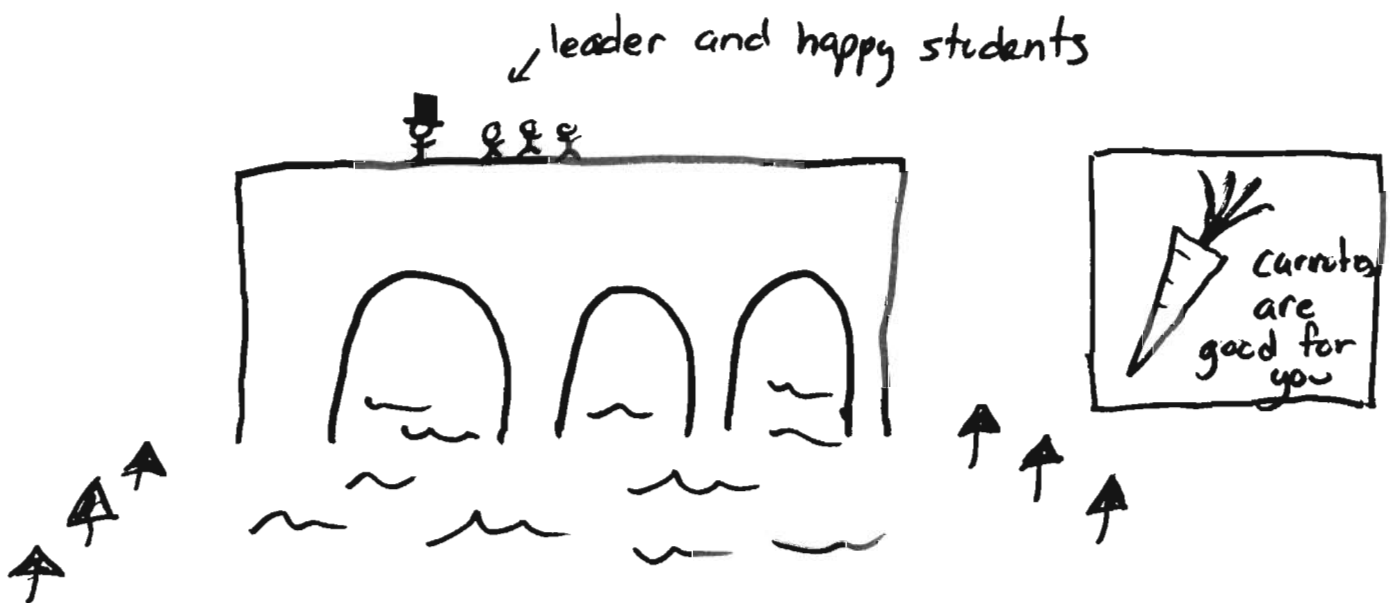
QUESTION...

Which of the two Gorges is Hemlock Gorge?

In case of emergency, your child will be taken to Newton Wellesley Hospital.
617-243-6000

HEMLOCK GORGE

Today we will be going to Hemlock Gorge or Echo Bridge. You will get to choose. However, they are the same place so your ^{← star for shining} is completely irrelevant. But you can pretend it does. Hemlock George is a ravine. The question is: is Hemlock Gorge a V-shaped or U-shaped ravine and what is the difference? A V-shaped ravine is formed by a river and a U-shaped ravine is shaped by glaciers. I'll tell you which kind Hemlock Gorge is when we get there. Sorry, you'll have to wait. Waiting builds character so its good for you, like carrots. Here is a beautiful and detailed drawing of Hemlock Gorge for your amusement:



Leaders: Mike McLellan (617-244-0998) & Joey Backer (617-969-0288) Meet @ Braun
 Time: 9am - 4pm What to bring: hiking gear (boots), day pack, rain gear, notebook, pencil, lunch water

In case of an emergency, your child will be brought to: **Newton Wellesley Hospital 617-243-6000**

#6 7/11/94

Gordon - 2449304

Newton South 9:00-2:00

Equipment: field kit,

H₂O and water too,

and lunch and

Bug repellent

What is the difference between a V-shaped Gorge and a U-shaped Gorge?



hemlock needles!

and echo-o-o-o-o-o-bridge!

Quick History

Once upon a time people said, oh there is a U-shaped, V-shaped pick one gorge with water in it. We need a bridge. So in 1886, more of the oldest parts of Newton, a bridge was built, and they said call it echo bridge since it echoes 11 times when you call it. You know before the bridge the name was Sadder fishing by the Native Americans.

How do you think a U-shaped Gorge is formed?
How do you think a V-shaped Gorge is formed?

Think river and glacier.
Why is the Charles river brown? Hint it is not pollution since sometimes people have swam in the river there.




At Hemlock gorge we will be doing some H₂O tests. we are going to do a pH test. pH measures the amount of acid or base (opposite of acid, but can do so much damage). Some with a pH of 0 is acidic (very) - H is very basic. Acid ————— base ————— pH
2000 ————— 7 neutral - drinking water.

Echo bridge is also an aqueduct - an aqueduct is used to carry water. It used to be part of a wide network of aqueducts but now they are not used except as a drainage system, and a breeding ground for mosquitos.

What do you think the water at Hemlock gorge will be. We'll talk about it more.

While were at Hemlock Gorge were going to see several types of evergreens like:

Pines - You know the three types

Spruce  Yews  and cedars 

Some ecological facts that pertain to everyday life:

The bald eagle - America's bird - was just taken off the endangered species list after it went from a population of about 300 to 8,000. Now it is only on the ~~list~~ threatened list. Do you know the difference between an endangered and a threatened species? Yay, let's go gorge ourselves on this info!! (horrible pun)

ECHO BRIDGE

Trip slip #3

7/3/02

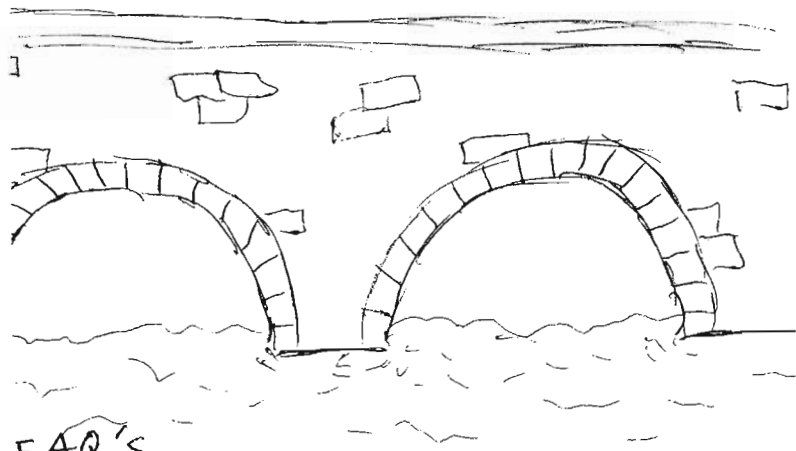
Leaders: Nate Kaufman
(617-969-4144)

Jeff DeCew
(617-964-7845)

Time: 9-4

rendezvous point: Brown

What to bring: field kit,
waterproof boots,
lunch, 2 ton forklift,
2 liters of water



FAQ'S

Q: How do I identify a hemlock tree?
A: It has two white lines on the undersides of its needles.



Crazy as it may seem, Echo Bridge is also known as Hemlock Gorge. Well, technically, Hemlock Gorge isn't the bridge, but rather the Gorge or ravine under the bridge. Pretty wild, eh?

There are 2 types of Gorges: V-shaped (formed by rivers, and U-shaped formed by glaciers). Hemlock Gorge is a V-shape



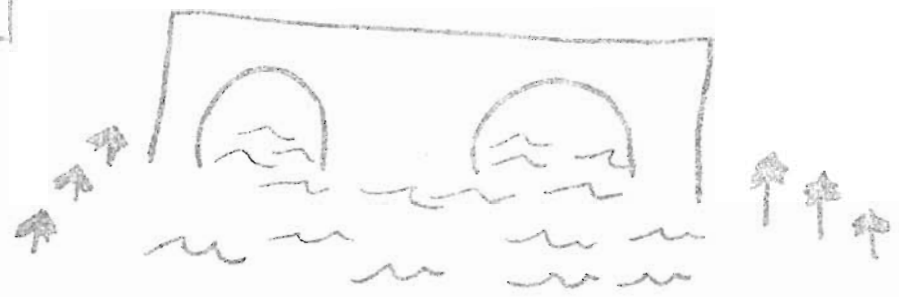
Why is it called Hemlock Gorge, you ask? Well, no one really knows. But there are an awful lot of Hemlock trees around it. Maybe that has something to do with it...

Trip slip #24
 July 5, 1991

leaders:
 Beth Ann (332-2827)
 Anna (969-5815)
 time: 9AM - 2PM
 Destination: Hemlock Gorge

Equipment:
 field kit, hiking boots,
 lunch, bug repellent, water

HEMOLOCK GORGE

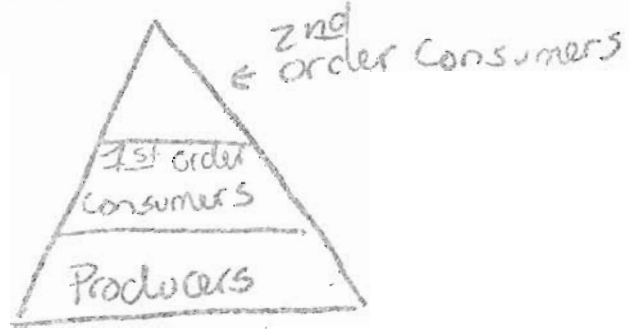


HISTORY


The bridge was built in 1886 and is located in one of the oldest parts of Newton - Newton Upper Falls. The ravine was used for fishing by the Indians. They used to spread the nets across the whole river.

There are two different kinds of ravines. V shaped and U shaped. The V shaped valleys are formed by a river and the U shaped ones are shaped by a glacier. Which one is Hemlock Gorge?

This diagram shows the energy passed on to the upper levels. The producers make their own food and therefore have the most energy. As the others eat the energy becomes less. Why?



The different kinds of pines:
 everyone remember how to tell them apart?

Pitch for a pitch fork with three tongs. 

White for W-I-I-T-E
 1 2 3 4 5

Red (just remember) There is no easy way

Things to think about

What is the difference between sedimentary, meta igneous, and igneous?
 What are flora and fauna?
 Why is it called Hemlock Gorge?
 What does a hemlock look like?

Did you know?

Every second we are losing an area the size of a football field through the cutting and burning of rain forests!



Trip Slip #3

Leaders:

Jeff (620) DeCew

617-964-7845

Nate Kaufman

617-969-4144

Echo Bridge

Required Items:

Hiking Boots
WATER (2 liters)
Huge Lunch
Field Kit
Raingear
Bug Spray
First Aid
Notebook
Sun screen

Optional Items:

Foam board and
glue to make a
full scale model
of the globe.

Meeting Place:

Brown Middle
School

Tomorrow, its off to Echo Bridge, which is also well known as Hemlock Gorge. Hemlock gorge was formed by the passing of a glacier, but the revine that it is today was formed bu the waters of the Mighty and Sightly, Charles River. Al-righty.

It just so happens that there are two (that's right, 2) types of Ravines. There is a U shaped ravine formed by glaciers, and a V shaped ravine formed by Rivers. Our situation is difficult, but can you guess the type of gorge Hemlock Gorge is?

Did you notice the dark brown color of the Charles river!? Its so DARK. It reminds me of yummy apple cider (mmmmmm). Do you know what causes that brown color? I'll give you a hint: It isn't pollution.

Do you know the answer to this question?

Do you know what he drank?
Do you know why Jeff put something like THIS in his TRIPSLIP?!

Do we have to worry about what Socrates is worried about?

If you answer these questions, you could win a FREE CAR! REALLY!

The eternal last words of Socrates.

I drank WHAT!?

Vroom!



Leaders:

Jenny Casavant
(969-2776)

Jeff Wong
(332-3617)

Trip slip #3

7/3/96

9AM-2PM

ECHO BRIDGE

and

HEMLOCK GORGE



EQUIPMENT

- Field Kit
 - Water
 - Lunch
 - Bug Repellent
- ↑
I recommend!

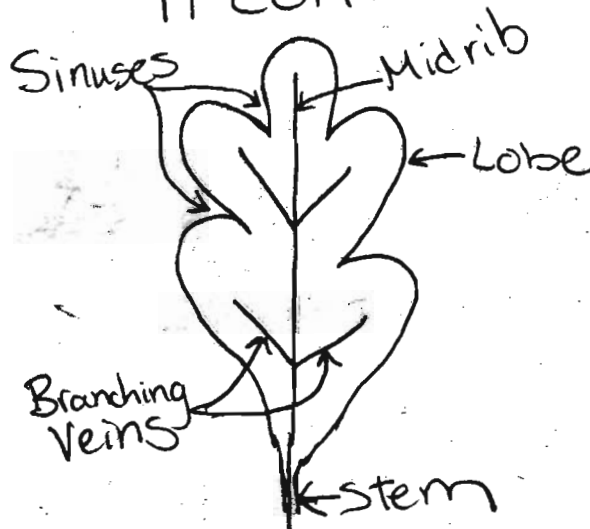
Yeah! Today we're going to travel to Echo Bridge which is next to Hemlock Gorge. Echo Bridge was built in 1886 and was a prime fishing spot for the Native Americans. We can check out all the fly trees and plants while practicing our map and compass skills.

RAVINES

There are 2 kinds of ravines, U shaped and V shaped. The U shaped ones were formed by glaciers and the V shaped ones were formed by rivers.

QUESTION: Why is the Charles River brown?
(No it's not because of pollution)

A LEAF



Questions: How can you identify a Hemlock tree?

Answer: There are 2 little white lines on the undersides of the needles.



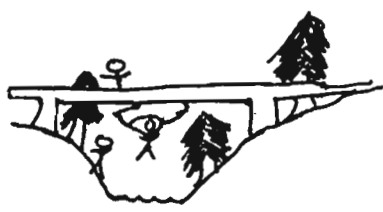
Trip slip # 7

7-9-98

Leader: Gabe Yospin 969-3966

Times: 9-2

Stuff: Water, Lunch, Field Kit, Day Pack, bug spray



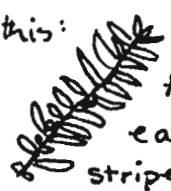

Hemlock Gorge

Those of you who were with me for Brook Farm might be getting a little worried (Is it a Brook? Is it a farm?). But thankfully, Hemlock Gorge does have Hemlock trees, and it is a gorge, so I can't really make fun of the name. In fact, I have nothing to hold against Hemlock Gorge except that it was the place where I got my first bee-sting.

Hemlock Gorge is a very fragile suburban environment: there is a lot going on around it. The aquaduct runs through echo bridge, which runs over the Charles River, which runs through Hemlock Gorge which runs past Route 9. All of this adds to the delicate mixture of a fragile environment. Salt and pollution from the road affects the river and the trees on its banks. People throw stuff (trash, car parts) off of echo bridge. The river itself affects its surroundings, eroding the banks and spreading pollution down stream. If any of these things changes too much, the entire ecosystem will change.

Here's a geology question: How do gorges form? Here's an idea. What makes the Charles River brown? hint: not pollution. If there are different types of rock, and something that can grind away the rocks, what would happen? Believe it or not, rivers undergo succession just like ponds and forests. How would a river go through succession, and what might the stages look like? See you all tomorrow!

How to Identify a Hemlock by Gabe


Hemlocks are evergreens, so their leaves look like needles. A small twig would look like this:  If you can't figure it out after this, turn it over! On the bottom of each needle there will be two white stripes, like these two.  If it has the stripes, it's a Hemlock!

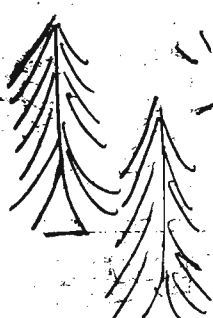
PAM MAHONEY (527-5831) TRIPSLIP # 3 JULY 6, 1994
 EQUIPMENT: FIELD KIT, LUNCH, BOOTS, H2O, BUG SPRAY

THE ENVI-SCI NATURE THEATER

PRESENTS...


HEMLOCK GORGE

FEAURING ECHO BRIDGE 



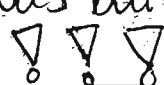
THEATER # 1: HEMLOCK

HAVEN
 The under side of a hemlock leaf has 2 white lines. The Gorge got its name from the abundance of HEMLOCK trees in the area.



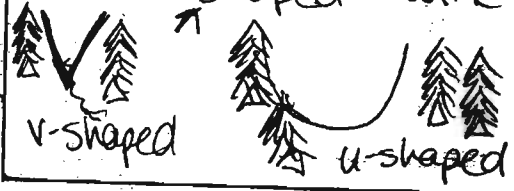
THEATER # 2: THE RIVER'S REVENGE

The CHARLES RIVER runs underneath Echo Bridge. The river looks brown - is this NATURAL or a result of human pollution???

The Bridge was built in 1886 

THEATER # 3: GORY GORGES

Hemlock Gorge is a gorge or RAVINE. There are 2 types: V-shaped, and U-shaped. What would create a v-shaped ravine and a u-shaped ravine?



FEATURE PRESENTATION: ECHO BRIDGE

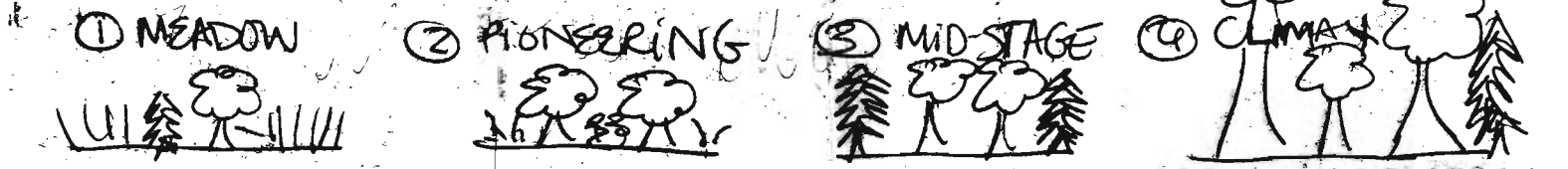
ECHO BRIDGE
 It was used as a fishing ground for Native Americans.

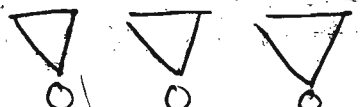
Echo, Echo, Echo.....

Echo Bridge is located right next to Rte. 9. What effects does the highway have on the river and bridge?

THEATER # 5: FABULOUS FORESTS

All forests go through a process called Forest Succession. The stages are:



ENJOY THE SHOW 

date 7/5/93

Leaders-

Gordon - 244-9304

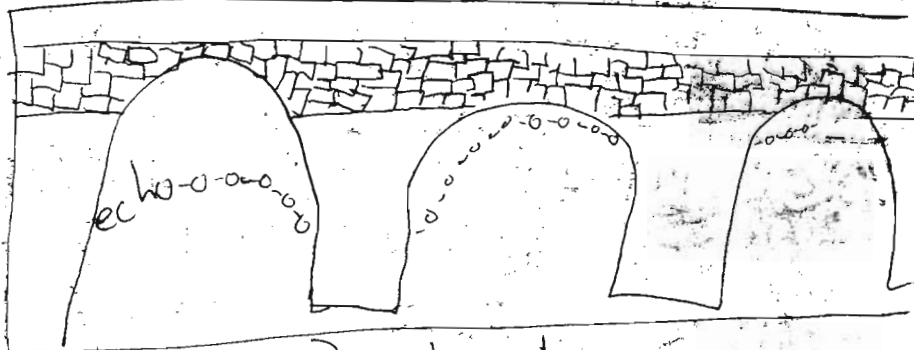
Kathy - 527-3681

Time - 9 AM - 2 PM

Equipment - field kit,
boots, lunch, bug repellent

water - (Good old H₂O)

HEMLOCK GORGE



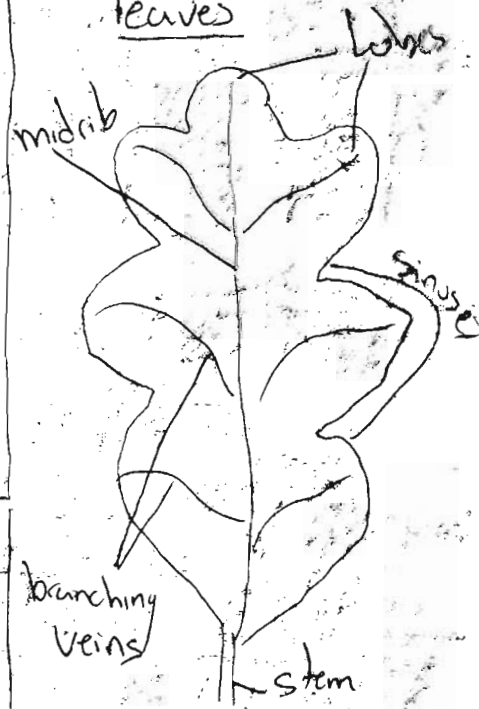
Quick History

The bridge was built in 1886 and is in Newton Upper Falls, one of the oldest parts of Newton. It was a prime fishing spot often used by the Native Americans.

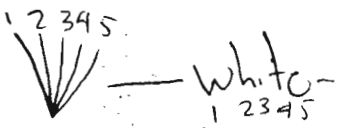
What is a ravine?

There are two different types of Ravines V and U shaped. How are each one formed. Hint one deals with a river and one deals with a glacier. Which type is Hemlock Gorge?

leaves



Pine trees

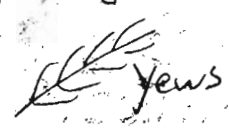
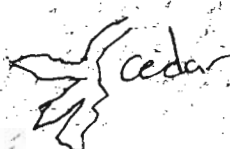
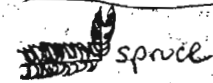


V - pitch (like a pitch fork)

V - weed (just remember)

Questions

1. Why is hemlock Gorge called hemlock Gorge?
2. Why is the water of the Charles river brown. (Hint it is not pollution)
3. How can we tell if the river is polluted or not?
4. What are flora and fauna?



See
Ya
There

A hemlock has 2 white lines on underside of needle.



START: 9:00 AM
 END: 2:00 PM
 LEAVES FROM: Newton South
 LEADER: ME!!

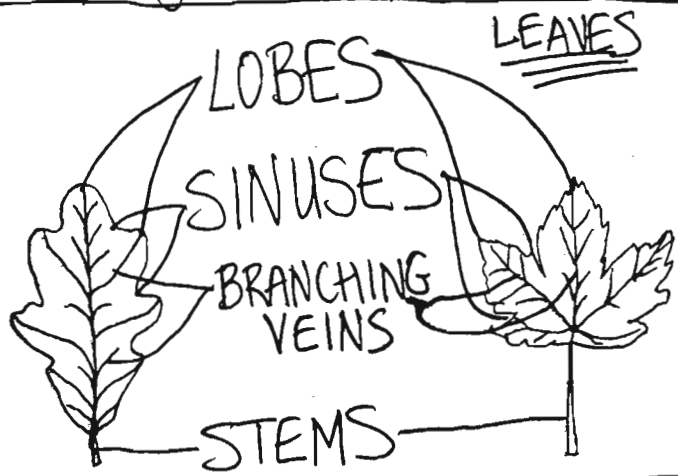
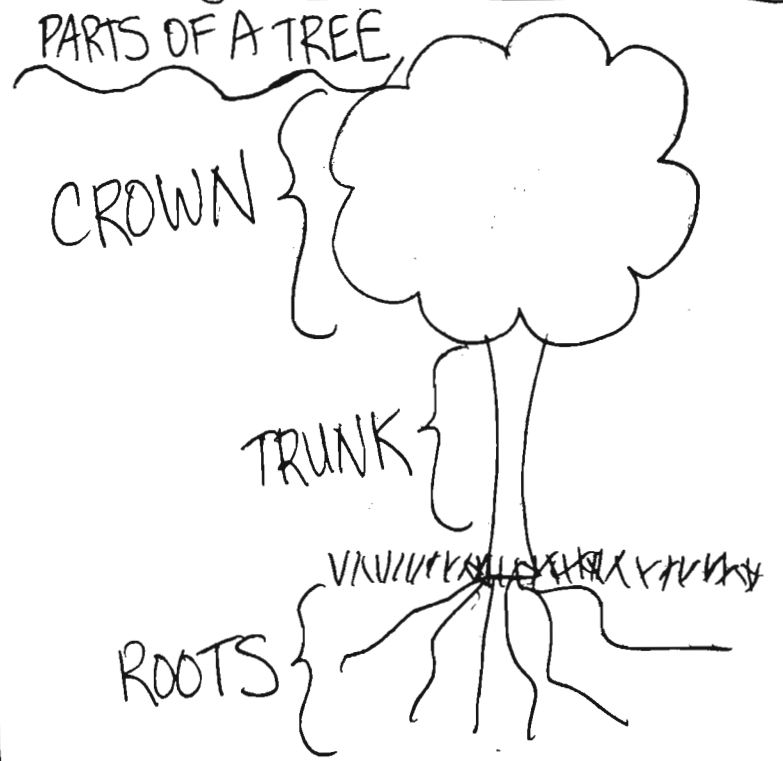
**Call your leader if you will be sick or absent or if you have any questions!

Molly Smith
 965-1979
 Tripslip #5
 July 7th, 1992

HEMLOCK GORGE

Equipment: field kit, water, lunch, boots, bug spray

Hemlock Gorge is a ravine along the Charles River. It was once a prime spot for fishing that of often visited by Native Americans. Later, it also became the place of many mills and factories that are still around, but not in use. There is also an iron bridge named Echo Bridge that was built in 1886. The most prominent tree in the area is (you guessed it) HEMLOCK



While at HEMLOCK GORGE, we will be testing the Charles River for signs of pollution. Although you might expect the river to be very unhealthy, it is actually GRADE B (swimmable/fishable) above Watertown. However, at Envi-Sci, we DO NOT swim in the Charles.

RED, WHITE or PITCH PINE?



What Is A RAVINE? a ravine is a long valley. There are two kinds: V shaped and U shaped. How DO you THINK

THEY FORM?

TRIPS LIP # 3
1991

EQUIPMENT:

Field Kit
Boots
Lunch
Bug Spray
Day Pack
Canteen

ECHO BRIDGE

DATE: JULY 3, 1991

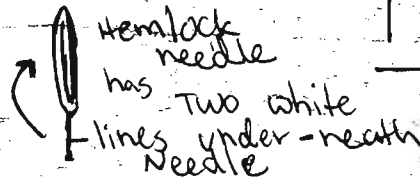


LEADER: DELTO
244-3377

9am - 2pm

GROUP: CARLY
KATHY
ADAM
JOE

HEMLOCK GORGE



Echo Bridge is located in Newton Upper Falls, and it is one of the oldest parts of Newton. In the pioneering days

Indians would use the ravine fishing, laying nets stretched out across the river. To this day the ruins of old mills can be found there, from the early days of this booming town. Echo Bridge was built in 1886 and the aqueduct is still used today. Another interesting part to Hemlock Gorge is the shape of the ravine. If the shape of the ravine was U shaped, then it could of been said that it was formed by a glacier passing through, gouging out the land, but actually Hemlock Gorge is V shaped. Therefore it was formed by a stream, or a fast flowing river. Echo Bridge is a great place for water tests and Tree ID. Do you know the differences between the pines?

An easy way to tell

- White Pine 5 needles
- Pitch Pine 3 needles
- Red Pine 2 needles

There are many conifers to identify

Pines



Larches



Hemlocks



Yews



SPRUCE



CEDARS



FUR



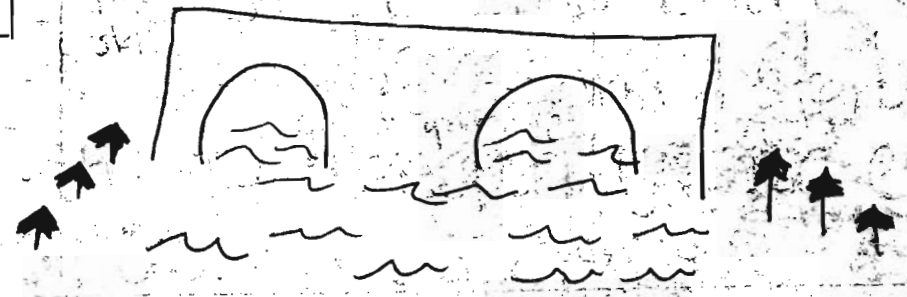
A lot like the Hemlock by softer.

Trip slip #4
 July 5, 1991

Leaders:
 Beth Ann (332-2827)
 Anna (969-3815)
 Time: 9AM - 2PM
 Destination: Hemlock Gorge

Equipment:
 Field Kit, hiking boots,
 anchor, bug repellent, water

HEMLOCK GORGE

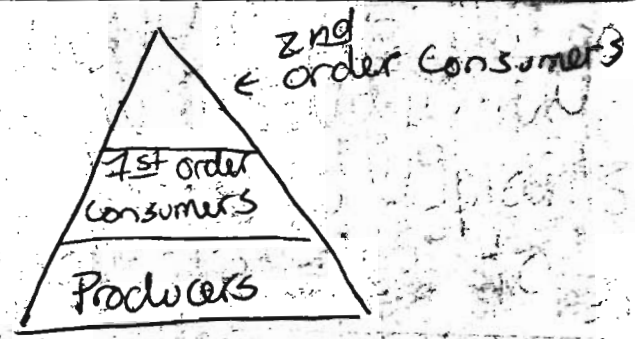


HISTORY

The bridge was built in 1886 and is located in one of the oldest parts of Newton - Newton Upper Falls. The ravine was used for fishing by the Indians. They used to spread the nets across the whole river.

There are two different kinds of ravines, V-shaped and U-shaped. The V-shaped valleys are formed by a river and the U-shaped ones are shaped by a glacier. Which one is Hemlock Gorge?

This diagram shows the energy passed on to the upper levels. The producers make their own food and therefore have the most energy. As the others eat the energy becomes less. Why?

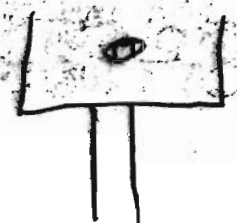


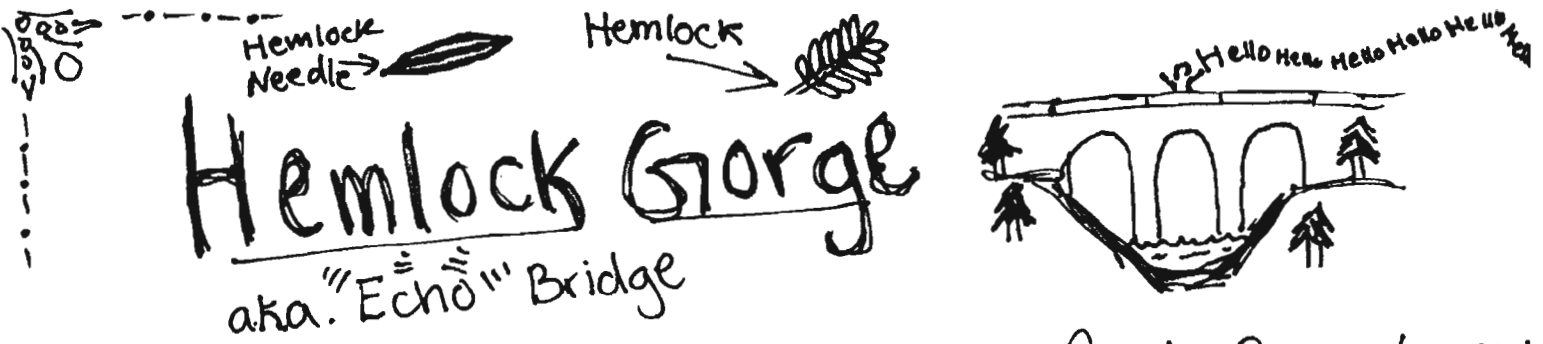
The different kinds of pines:
 everyone remember how to tell them apart?
 Pitch or a pitch for with three
 White (just remember) There is no easy way
 Red
 W-H-I-T-E 1 2 3 4 5



Things to think about
 What is the difference between sedimentary, metamorphic and igneous?
 What are flora and fauna?
 Why is it called Hemlock Gorge?
 What does a hemlock look like?

Did you know?
 Every second we are losing an area the size of a football field through the cutting and burning of rain forests!





Hemlock Gorge

Time: 9am - 2pm
 July 11, 2008
 Meet @ Brown

→ Leaders: Amelia Ryan (241-8836)
 Jon Rivnay (527-1849)

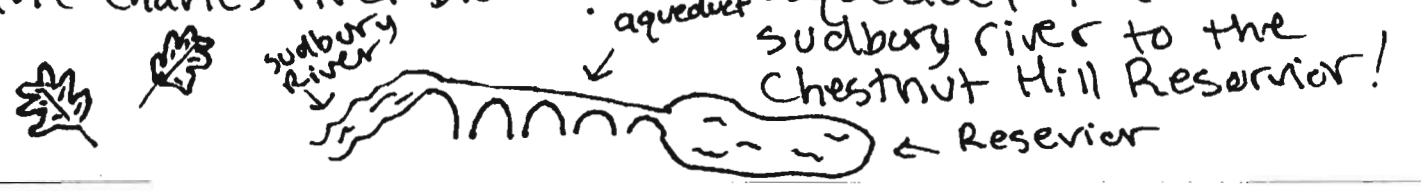
- Equipment: Hiking Boots,
- WATER, Lunch, Rain gear,
- Bug spray, Field kit

Today, we will be going to Hemlock Gorge. It is a gorge, which means that the land around the river has been cut into a gorge, or a sort of V shaped ditch.

#5
 Trip #4
 So we have to gorge part down, but what about the Hemlocks? As you may have guessed, there are a lot of Hemlock trees in the area. If you look @ the top of the trip slip you will see 2 pictures, one says Hemlock and one says Hemlock needle. Well a hemlock is an evergreen that has a twig that looks like the one @ the top and the needle looks like the one @ the top, it has 2 white stripes on the back.

★ another thing:
 what is it that makes the Charles river brown?

😊 Fun fact: The spiffy bridge over the river actually carries an aqueduct to connect the Sudbury river to the Chestnut Hill Reservoir!



Leader: Jesse Sayles, Jesse Sayles, who holds sandwiches together with nails (965-2719)

TRIPSLIP #8

Dan Yagoda, Dan Yagoda, drinker of ... crab juice. (I bet you thought I was going to say "soda") (738-0269)

July 12th, 1999

Times: 9am – 2pm

Location: Brown middle school



Hemlock Gorge



Ms. U



Yagoda

Equipment: backpack, Hiking boots, lunch, WATER (more than two quarts), Field kit (, Two Pairs of socks. You should have a thick outer sock, and a thinner inner sock if possible. Two socks cuts down on friction, and friction leads to blisters. A Yo-yo

U: Hey V, everyone knows that "U" shaped Gorges are better. We were maid by glaciers which swept threw and created us very quickly, with respect to time, and your creation.

V: No way, "V" shaped gorges are so much cooler then "U" shaped gorges because we were formed by rivers, and it took a long time. It takes a long time to create something so perfect.

U: Perfect my foot, you're just slow.

Yagoda: Hey guys, stop fighting, and tell the students what were going to be doing today.

V: You're going to have to tell them U because I'm just too upset to talk.

U: Well, to day we're off to Hemlock gorge, were we will be discussing a little geo. You'll also get to figure out which kind of gorge it is. Gorges usually are found in one of two shapes, and if you haven't figured that out, those shapes are "U's" and "V's." We'll also be venturing to the depths of the gorge to check out the Hemlock grove.(Enviscv is not responsible for the loss of any items, or persons to the gorge monsters.)

V: U, I'm sorry we fought.

U: Me to. Lets be friends

Extra credit for life question: Why is there very little under growth in the Hemlock grove?

Extra credit point for life if you can tell me who wrote the following books: The Diary of Adam and Eve, Benito Cereno, and Where The Wild Things Are.



All Geo's are Small



TRIP SLIP #6

know how to recognize a
hemlock tree →



July 12

ECHO BRIDGE

HEMLOCK GORGE

leader - Jennifer - 332-7724

time/place - Solomon Schechter 9-2

equipment - field kit, lots of water, a large lunch

TODAY WE WILL BE VENTURING ACROSS NEWTON TO THE CHARLES RIVER. WE WILL BE TESTING THE WATER SO YOU SHOULD BRING A PENCIL AND NOTEBOOK. *DOES ANYONE KNOW WHY THE RIVER IS BROWN? *DO YOU THINK THE COLOR IS FROM NATURAL CAUSES OR HUMAN INTERFERENCE? * WHY IN THE ~~THE~~ HEMLOCK GROVE IS THERE VERY LITTLE UNDERGROWTH?

for the ~~above~~ answer to these and many other exciting questions we will journey to the depth of the

GORGE!

Leaders: Daniel Ordorica(244-5023) & Stacy Sanchez(965-4988)

Time: 9am-2pm

Equipment: Field kit, Boots, Lunch

Hemlock Gorge is one of the nicer trips this year. We will be hiking there and then after some teaching about glacial geology and other neat things, we can eat lunch and enjoy ourselves with a frisbee. Unfortunately, Echo Bridge is under renovation so it will be harder to get to and we may not be able to hear the echos under the bridge.

Gorges are usually found in to different shapes. You have your "V" shape and your "U" shape. These can easily be distinguished by looking at the gorge from the middle of it. The "V" shape of a gorge would indicate that over the years a river began to erode the area deepening the gorge. It results in a "V" shape because the river is relatively small and it happens over a long period of time. On the other hand, if the gorge was "U" shaped then this would indicate that a long time ago, a glacier swept through, leaving the gorge behind. This creates a "U" shape because a glacier is relatively large, and it happens in a relatively short period of time.

A Question-- If the above is true, HOW WAS HEMLOCK GORGE FORMED?????

Another question-- Does anybody want to wager a guess at why Hemlock Gorge is named Hemlock Gorge, it shouldn't be too difficult.

July 12, 1999
Trip slip # 8

Environmental Science Program

Your Leaders

Danny: 738-0269

Jessie: 965-2719

Hemlock Gorge

Equipment List

- Field kit
- Water!
- Big Lunch
- Bugspray

Hemlock Gorge is right by Echo Bridge and the infamous Charles river. We will be performing some standard, but important water tests. While we will be exploring Hemlock Gorge, (and yes, there are hemlocks, and it is a gorge,) we will also be covering land that has historic meaning.

Speaking of Hemlocks, they are a type of evergreen's, and their leaves are needles that have a pair of white stripes on the bottom side. Back in the day, when Native Americans roamed these grounds, the Charles River was the main source of food, (i.e. Hunting (i.e. fish.)) After, when the white man took control, the Natives were forced to leave, and Echo Bridge was built (1986.) Can you guess what the bridge is used for? (not cars)

The Charles River as you know, is not exactly what most people, (not all!) would call clean; its brownish/redish appearance adds to this affect. Do you have any idea why it might be this color? Well..... let me put it this way, its not related to the pollution, (you'll just have to wait for the answer!) We'll see you tomorrow!

leaders

Jenny Casavant
(969-2776)

Jeff Wong
(332-3617)

trip slip #5
7/3/96
9AM-2PM

ECHO BRIDGE

and

HEMLOCK GORGE



EQUIPMENT

- Field Kit
- Water
- Lunch
- Bug Repellent
- ↑
- I recommend!

Yeah! Today we're going to travel to Echo Bridge which is next to Hemlock Gorge. Echo Bridge was built in 1886 and was a prime fishing spot for the Native Americans. We can check out all the fly trees and plants while practicing our map and compass skills.

RAVINES

There are 2 kinds of ravines, U shaped and V shaped. The U shaped ones were formed by glaciers and the V shaped ones were formed by rivers.

QUESTION: Why is the Charles River brown?
(No it's not because of pollution)

A LEAF



Questions: How can you identify a Hemlock tree?

Answer: There are 2 little white lines on the undersides of the needles.



PAM MAHONEY (527-5831) TR SLIP # 3 JULY 6, 1997
 EQUIPMENT: FIELD KIT, LUNCH, BOOTS, H2O, BUG SPRAY

THE ENVI-SCI NATURE THEATER

PRESENTS...



HEMLOCK GORGE

FEATURING ECHO BRIDGE

THEATER # 1: HEMLOCK HAVEN

The underside of a hemlock leaf has 2 white lines. The gorge got its name from the abundance of HEMLOCK trees in the area.

FEATURE PRESENTATION: ECHO BRIDGE

ECHO BRIDGE was used as a fishing spot.

THEATER # 2: THE RIVER'S REVENGE

The CHARLES RIVER runs underneath the Echo Bridge. The river looks brown - is this NATURAL or a result of human pollution??

The Bridge was built in 1886! 78

echo, echo, Echo...

THEATER # 3: ECHO GORGE

Hemlock Gorge or RAVINE there are 2 types V-shaped, and U-shaped. What create a V-shape and a U-shape?



Echo Bridge is located right next to Rte 9. effects does the highway have on the river

THEATER # 5: FABULOUS FORESTS

Old Forests go through 4 stages called Forest Succession. The stages are:

(1) MEADOW



(2) PIONEERING



(3) MID-STAGE



(4) CLIMAX



ENJOY THE SHOW

Galen's trip # 7

Wed, July 11, 1990

Time: 9:00-2:00

Leaders:

Galen Corbett (330-4015)
Eiling Kee (965-5098)

Equipment: Field kit, aqua (water), lunch
and of course Bug Repellant!

Echo Bridge!!

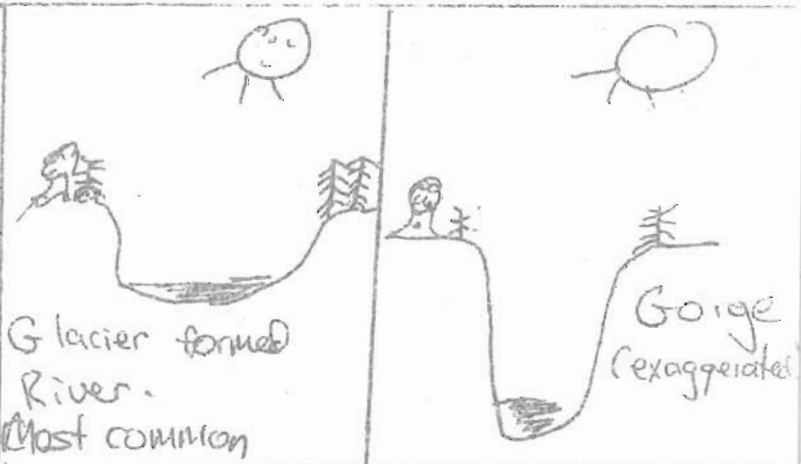
Yes, that
is a bridge



Memlock Gorge

Memlock gorge is an area with a large number of Memlock trees growing on the banks of the Charles River. This area, better known as Echo Bridge, carries the Sudbury aqueduct across the gorge. The aqueduct was originally built in 1876 to transport water from the Sudbury river to the Chestnut Mill Reservoir, and is still in use.

Unlike most common valleys, which were created by the last glaciers, gorges were created more recently by the rivers pounding away at the rocks. The two are quite easy to tell apart, the sheer weight of glaciers formed a "U" shape. The cutting of the river is much sharper, causing a "V" shape - like the Grand Canyon!



Make room in your packs for water Test kits and Field Guides!!

Some things to know... (Nopopilly)

- 3 types of plants
- Basic producers (grass, Solomon seal)
- Saprophytes (mushroom, Indian Pipes)
- Dominant organisms (Beech, Maple)

- Why does the bridge echo?
- Why is limestone "growing" under the bridge?
- What are food webs?
- What is an energy pyramid?
- What is fun?

START: 9:00 AM
 END: 2:00 PM
 LEAVES FROM: Newton South
 LEADER: ME!!

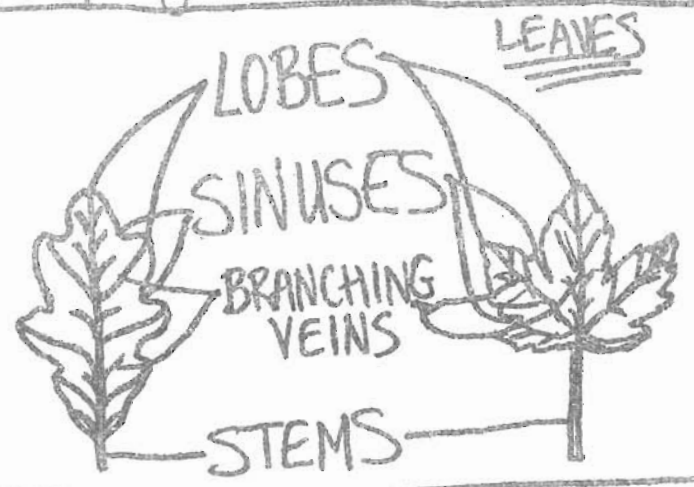
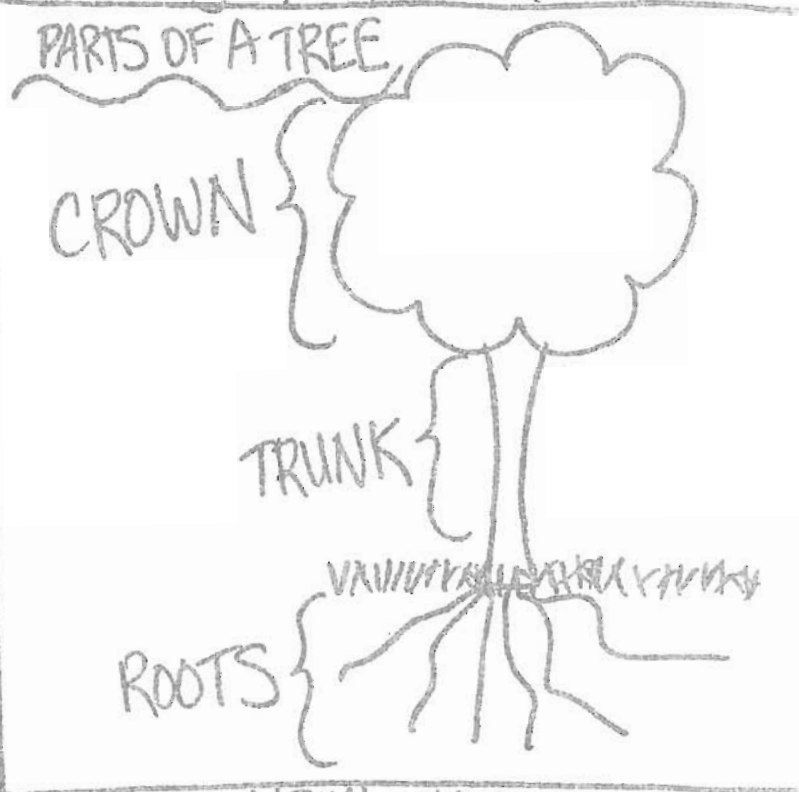
**Call your leader if you will be sick or absent or if you have any questions!

Molly Smith
 965-1979
 Trip slip #5
 July 7th, 1992

HEMLOCK GORGE

Equipment: field kit, water, lunch, boots, bug spray

Hemlock Gorge is a ravine along the Charles River. It was once a prime spot for fishing that of often visited by Native Americans. Later, it also became the place of many mills and factories that are still around, but not in use. There is also an iron bridge named Echo Bridge that was built in 1886. The most prominent tree in the area is (you guessed it) HEMLOCK



While at HEMLOCK GORGE, we will be testing the Charles River for signs of pollution. Although you might expect the river to be very unhealthy, it is actually GRADE B (^{swimmable} _{fishable}) above Woburn. However, at Envi-Sci, we DO NOT swim in the Charles.

RED, WHITE or PITCH PINE?



What Is A RAVINE? a ravine is a long valley. There are two kinds:

V shaped and U shaped.
 HOW DO YOU THINK THEY FORM?

#6 7/11/94

Gordon - 2449304

Newton South 9:00-2:00

Equipment: field kit,

H₂O and water test,

and lunch and

Bug repellent.

What is the difference between a V-shaped Gorge and a U-shaped Gorge?



hemlock needles!



and echo-o-o-o-o-o- bridge!

Quick History

Once upon a time people said, look there is a U-shaped, V-shaped (pick one) gorge with water in it. We need a bridge. So in 1886, more of the oldest parts of Newton, a bridge was built, and they said call it echo bridge since it echoes 11 times when you call it. You know before the bridge the canoe was used for fishing by the Native Americans.

How do you think a U-shaped Gorge is formed?

How do you think a V-shaped Gorge is formed?

Think river and glaciers. Why is the Charles river brown? Hint it is not pollution since sometimes people have swam in the river there.




At Hemlock gorge we will be doing some H₂O tests. We are going to do a pH test. pH measures the amount of acid or base (opposite of acid, but can do as much damage). Some with a pH of 0 is acidic (very) - H is very basic. Acid ————— base ————— pH
2.00 ————— 7 Neutral - drinking water

Echo bridge is also an aqueduct - an aqueduct is used to carry water. It used to be part of a wide network of aqueducts but now they are not used except as a drainage system, and a breeding ground for mosquitos.

What do you think the water at Hemlock Gorge will be. We'll talk about it more.

While we're at Hemlock Gorge we're going to see several types of evergreens like:

Pines - You know the three types

Spruce  Yews  and cedars 

Some ecological facts that pertain to everyday life:

The bald eagle - America's bird - was just taken off the endangered species list after it went from a population of about 300 to 8,000. Now it is only on the threatened list. Do you know the difference between an endangered and a threatened species? Very, let's go gorge our selves on this info!!

7/7/97
Slip 94

Time: 9:00 - 2:00

Meet at: Newton South

Leader: Alex Kraus

#: 964-7768

Equipment: Field kit, water, lunch, bug spray

Hemlock Gorge

And, for, the second official trip of the summer, we'll be taking a trip to the spectacular Hemlock Gorge. Spanning the gorge is the oh-so-exciting Echo Bridge. The gorge has a rich history, as well as plenty of opportunities for learning. Some of the things we will be doing are discussing glacial geology, taking water tests, making great echoes, and of course identifications.

History: Hemlock Gorge was, at one point, a fishing ground for local Native American tribes. It later became the location of several mills and factories. These still remain there but aren't used any more. Echo Bridge, built in 1886, used to be an aqueduct which carried water from the Sudbury River to the Chestnut Hill Reservoir.

Geology: Hemlock gorge is a ravine. SO. . .What's a ravine? Basically, a ravine is a long valley. There are two types of ravines, V-shaped, and U-shaped. Can you think of what might cause these?

Water Testing: This will be something that you will be seeing a lot of. We will be testing the Charles for pollution in various forms. Currently the river is rated as Class B (swimmable/fishable). We don't however think the Charles is very good, healthwise, for either.

HEMLOCK GORGE

time: 9-2:00
 leaders: Stacy (965-4988)
 + Dan (244-5023)

Stacy's trip slip #1
 July 13, 1992

equipment: Field kit, boots, lunch, bug spray
 water



In Hemlock Gorge, in Newton Upper Falls, is next to Echo Bridge. The bridge was built in 1886 and is used to transport water.





In Hemlock Gorge we will be able to practice orienteering, identify plants and trees and, since there is a river, to test the water.

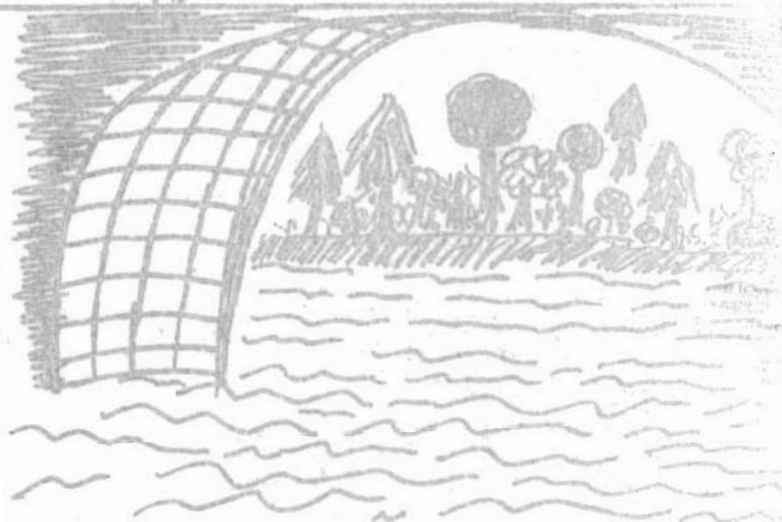
Native Americans used the Ravine (Hemlock Gorge) for fishing. They did this by spreading nets across the entire river.

There are two different types of Ravines, U-shaped Ravines and V-shaped ones. U-shaped ravines are formed by glaciers and V-shaped ones are shaped by a river. Do you think that Hemlock Gorge is a U-shaped or V-shaped valley?

~~Do you know~~ Do you know

what a
 hemlock
 cedar
 pine
 spruce
 yew
 looks like?

-  (2 white lines on underside of needles)
-  (2 needles)
-  (3 needles)
-  (5 needles)



QUESTIONS:

Is a water hemlock the same thing as a hemlock?
 Why is the gorge called Hemlock Gorge?

How can we tell if the Charles River is polluted or not?
 What do different types of water tests represent?
 Why is the Charles River brown?

Date: July 5, 1991

Destination: HEMLOCK GORGE

BOOTS, LUNCH, WATER, bug repellent

Leaders: Anna Doherty (965-3815) + Beth Ann

What is a U shaped ravine? How is it formed? What is a V shaped ravine? How is it formed?

HEMLOCK GORGE is located in... Newton Upper Falls, next to Echo Bridge. Echo Bridge was built in 1886 and has been used to transport water ever since.

Since we are going to Hemlock Gorge, I just thought that I would ask...

What river flows beneath Echo Bridge?

Who knows what a hemlock tree looks like?

What is forest succession? What are the stages?

A cedar?

How are we getting there? Probably Rt. 9. And if we do go that way, we will study and observe the kinds of plants and weeds that are able to survive along the highway.

A coniferous?

A pine? ^{red white} pitch

A spruce?

A yew?

A cypress?

Once we get there, we will hopefully be conducting a few water tests

How will we be able to tell if the river is clean or polluted? How was the river formed? Why does it look the way it does? How many circles and cycles do you know?



HEMLOCK

Gorge!

10 July 1985

9 am to 2 pm

Leaders: Wendy Gross 965-9821
Sarah Beasley 332-2932

Equipments require stuff
water (lots of.)
big stuff
Compass
field guides
test tents

... we can be seeing lots of trees like... Hemlock! Can you identify it? How 'bout these -

red pine
pitch pine
white pine

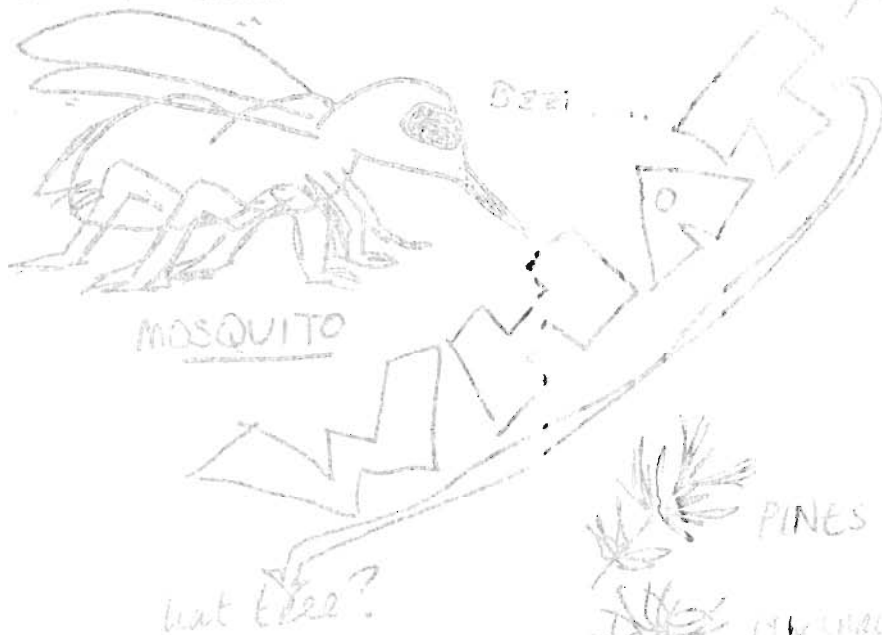
Hemlock Gorge was formed by a river and hence is V-shaped. What forms a U-shaped valley?

(Hint: glacier)



Echo Bridge was built in 1886. The aquaduct was and still is, used to supply Newton w/ H₂O.

Well, BUGS. Or more correctly, INSECTS

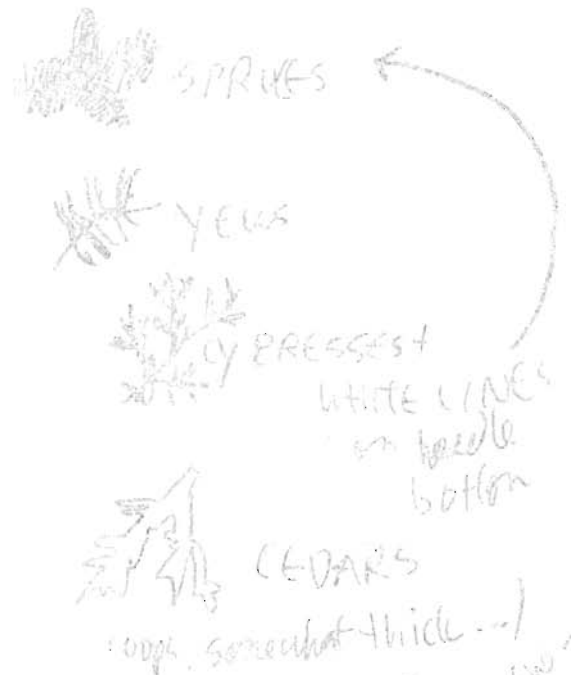


What tree?

Sure, it's a CONIFER but how can you tell which one it is?



Can you identify each of these?



what is WHITE HEMLOCK?
... and do they ...

Trip slip # 6
 Gail (964-5857)
 July 9, 1990
 9am - 2pm
 Dest. Echo Bridge

Equipment: field kit, boots, lunch, bug spray, warmer
 guides and field kits. Sunscreen

Hemlock Forge & Echo

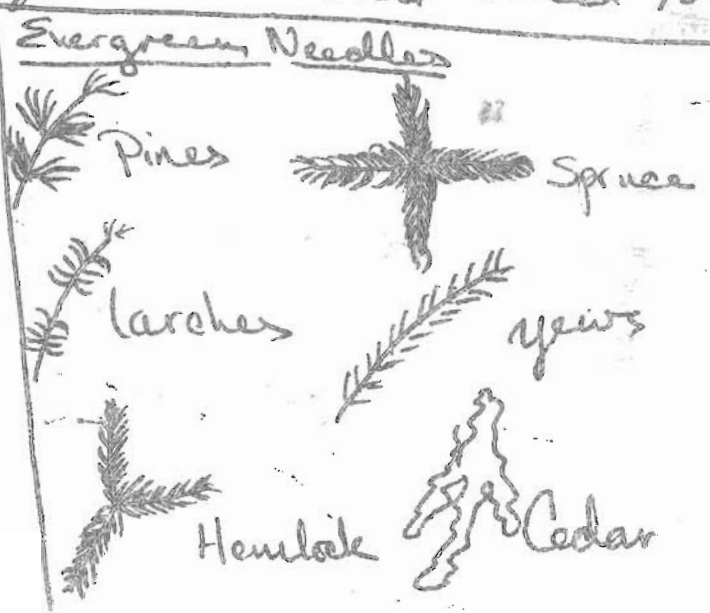
Bridge

Hemlock Forge and Echo Bridge, along with being beautiful are also very good places to practice your orienteering skills. It's also a great place for tree and plant I.D. Finally there is even water for testing.

We will be going over our route there on a map, but because of the simplicity of Rt. 9 we will be taking it. We will have to be very careful, however, because of the traffic on Rt. 9.

History: Echo Bridge is located in Newton Upper Falls, one of the oldest parts of Newton. The ravine was used by the Indians for fishing; they stretched their nets across the river. The ruins of old mills can also be found there. The bridge itself was built in 1886 and the aqueduct is still used today.

- 3 plant types
- Basic Producers:
 ex. Solomon's Seal
 Poison Ivy
 Grass
- saprophytes:
 ex. mushrooms
 Indian pipes
- Dominant Organisms:
 ex. Beech
 Maple
 (Trees)



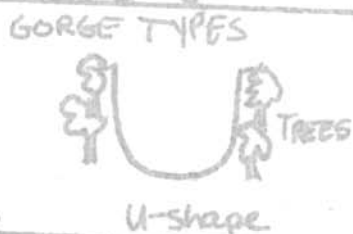
- Pines
- White 5 needles
 - Red 2 needles
 - Pitch 3 needles

HEMLOCK GORGE

TRIP SLIP # 2
 LEADER: Pam Mahoney (529-5831)
 DATE: July 3, 1992
 TIME: 9am - 2pm
 EQUIPMENT: FIELD KIT
 LUNCH & H₂O



Hemlock Gorge is located in one of the oldest parts of Newton - Newton Upper Falls. The bridge spanning the gorge, Echo Bridge, was built in 1886. The gorge was carved by a river, giving it a V-shape, as compared to a U-shape. What would form a U-shaped gorge?



Why is Hemlock Gorge so named? HINT - think about the quantity of a certain tree - HMMMM...

Do you know what Bedrock is? Yes, it is a type of rock, not just the town the Flintstone's live in!

Why is the river running under Echo Bridge, and throughout the area, BROWN? Is it natural? Is it polluted?

We will see a lot of **LICHEN**! Do you have a ~~skin~~ for lichen? There are 3 types of lichen:

FLAT: CRUSTOS



CURLED EDGES (slightly raised): FOLIOSE



RAISED: FRUTICOSE



Trip slip # 7

ECHO BRIDGE

HEMLOCK GORGE

Date: July 11, 1990

Leaders: Eiling (965-5698) Garen (332-4015)

Destination: Hemlock Gorge

Equipment: Field Kit, Food, insect Repellant

Hemlock Gorge is in Newton upper falls by Echo bridge. The gorge is covered by Hemlock trees. Where does it get its name?

What does a Hemlock look like?



Hemlock

✓ Pitch pine

✓ red pine



white pine

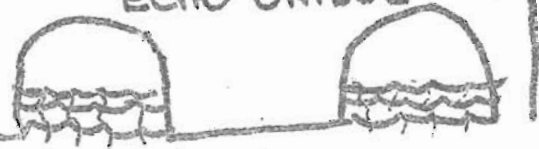
Gorges vs. Valleys

Valleys were created by the last glaciers, and gorges were created more recently by rivers pounding away at rocks. It is easy to tell the

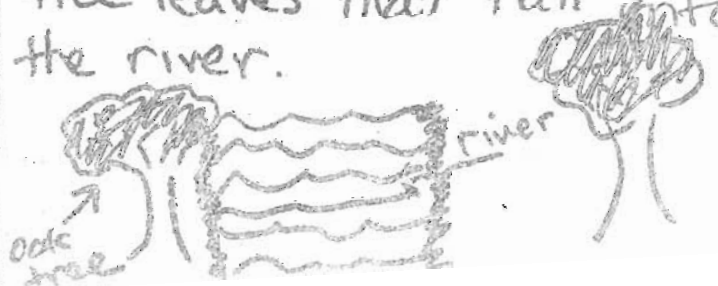
difference between gorges and valleys because the weight of glaciers pressed down gently forming a U shape ~~wide~~ to make ~~gullies~~ ^{valleys} while gorges are formed by the cutting of a river.



ECHO BRIDGE



Running through Hemlock Gorge is the Charles River. To most people, the Charles looks dirty and polluted because of its brown color. Actually, the Charles is clean enough to swim in. It gets its brown hue from the oak tree leaves that fall into the river.



WCHOOOOOO... Bridge!!!

Tripslip #5

Leaders: The man who smells like sweat melon on a cool summer's eve (Peter 969-4156)

The man who will cluck like a chicken for just one dollar (Allan 969-4057)

Equipment list: Field kit, Lots of water, a yummy lunch full of goodies, and bug repellent.

Times: 9:00-2:00

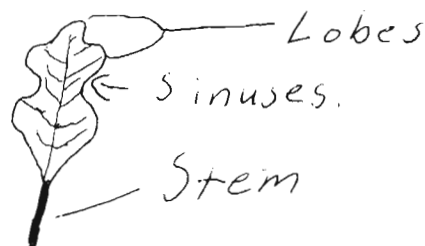
A quick history

A long time ago, in a ravine not so far away, many happy Native Americans and a few not so happy Native Americans used to fish and hunt in the Charles river. Many years past and the natives soon lost their land to the white man. In 1876 Echo bridge was built. It was used to transport water the Sudbury River to the Chestnut Hill Reservoir.

Hemlock Gorge

Many of you must be wondering what makes a ravine the shape that it is. If you are not I do not care because I am going to tell you anyway. There are two types of shapes that a ravine can be V or U shaped. Can you guess what can carve into the ground to make these shapes? (unscramble this for the answer 20H)

The Parts of a Leaf



Jeffrey Wong 332-3617

Jenny Casavant 969-2776

Date: July 3, 1996

Times: 9am - 2pm

Trip slip #3

Meeting Place: Newton South

Equipment: Field Kit, lunch, water, bug repellent

ECHO

BRIDGE

Echo Bridge is located in Hemlock Gorge, Gee, why is this place called Hemlock Gorge? This is because there is a gorge there which is surrounded by a hemlock forest. There are two types of gorges or ravines V-shaped and U-shaped. So how are these kinds of ravines created?

Builtⁱⁿ 1886, Echo Bridge used to be an aqueduct which transported water from the Sudbury River to the Chesnut Hill Reservoir. Hemlock Gorge used to be used as a fishing ground for local Native Americans. Later it became the location of several mills and factories which are still there, but aren't in use anymore.



U-shaped

A sound under the bridge makes an echo 11 times when you call it.



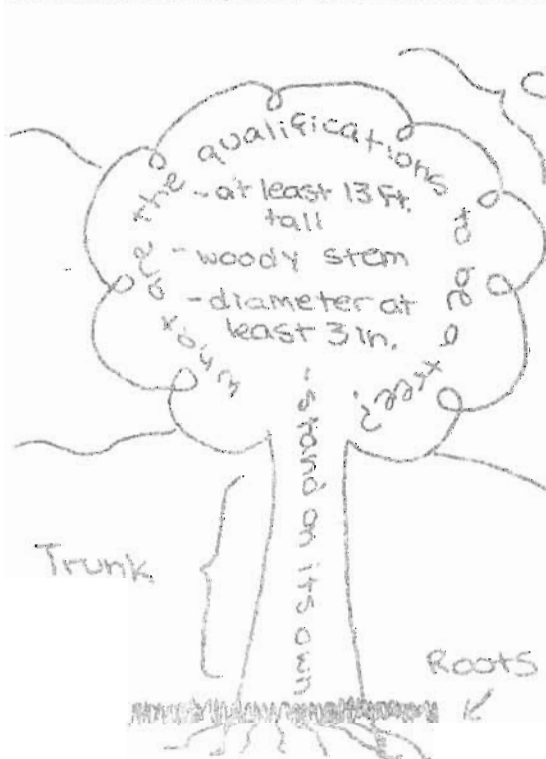
V-shaped

Hint: Think about water, rocks, and glaciers.

The underside of a hemlock leaf has two white lines.



Now you can identify a hemlock tree. Yay!



Today, you will be introduced to one type of water test. Do you know any types? The most common test is the pH test.

Q. If you've ever looked at the Charles River, you probably noticed that it is brown. Is it because of pollution? Then what?
A. Ask Jenny or me today. (I really mean tomorrow)

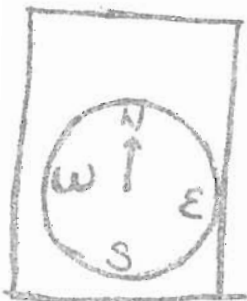
Echo Bridge

(also called Hemlock gorge)

Equipment - field kit, lunch, water, and bug spray

Hemlock gorge is a ravine that was formed by the Charles River. There are two kinds of ravines - V-shaped or U-shaped. They are each formed differently. V-shaped are made by rivers, while U-shaped are formed by glaciers.

Echo bridge was built in 1886. Any ideas why it's called Echo bridge? Exactly - it echos! A long time ago, before the bridge was ~~built~~ built, the Native Americans that lived in the area used the river for fishing.



Don't forget - you get to figure out how to get to Echo Bridge.

Trip slip #3
July 6, 1995
Times - 9am - 2pm
Leaders -
Sarah Northrup
965-4602
Jenny Casavant
969-2776

Questions:
What kind of Ravine is Hemlock Gorge?
Why is the water in the Charles River brown? Is it polluted?
How do you identify a Hemlock tree?

TRIP SLIP #1
Date: July 5, 1991

Time: 9AM - 2PM
Destination: HEMLOCK GORGE
Leaders: Anna Doherty (965-3815) + Beth Ann

EQUIPMENT FIELD #1
BOOTS, LUNCH, WATER,
bug repellent

What is a U shaped ravine? How is it formed? What is a V shaped ravine? How is it formed?

HEMLOCK GORGE is located in...
Newton Upper Falls, next to Echo Bridge. Echo Bridge was built in 1886 and has been used to transport water ever since.

Since we are going to Hemlock Gorge, I just thought that I would ask...

What river flows beneath Echo Bridge?

Who knows what a hemlock tree looks like?

What is forest succession? What are the stages?

A cedar?

A coniferous?

A pine? ^{red white} _{pitch}

A spruce?

A yew?

A cypress?

How are we getting there? Probably Rt. 9. And if we do go that way, we will study and observe the kinds of plants and weeds that are able to survive along the highway.

Once we get there, we will hopefully be conducting a few water tests

How will we be able to tell if the river is clean or polluted?
How was the river formed? Why does it look the way it does?
How many circles and cycles do you know?



Trip slip
#5

Echo Bridge

July 10, 1995 Hemlock Gorge

Equipment

Peter

- field kit
- water
- lunch
- Boots
- Bug spray

Echo bridge is over hemlock gorge, in Newton

Upper falls. Echo bridge was built in 1886.

There are two types of gorges

The  shape and the  shape

Hemlock gorge is V shaped, and was ~~formed~~ formed by a river that slowly dug out the gorge. A U shaped gorge is formed when a glacier came through and dug it out. On this trip we will ~~practice~~ practice our map and compass skills, we will also be doing water tests.

Why is the water in hemlock gorge brown.

How can you tell that a hemlock tree is a hemlock tree.

Would you rather I type my trip slips or write them out?

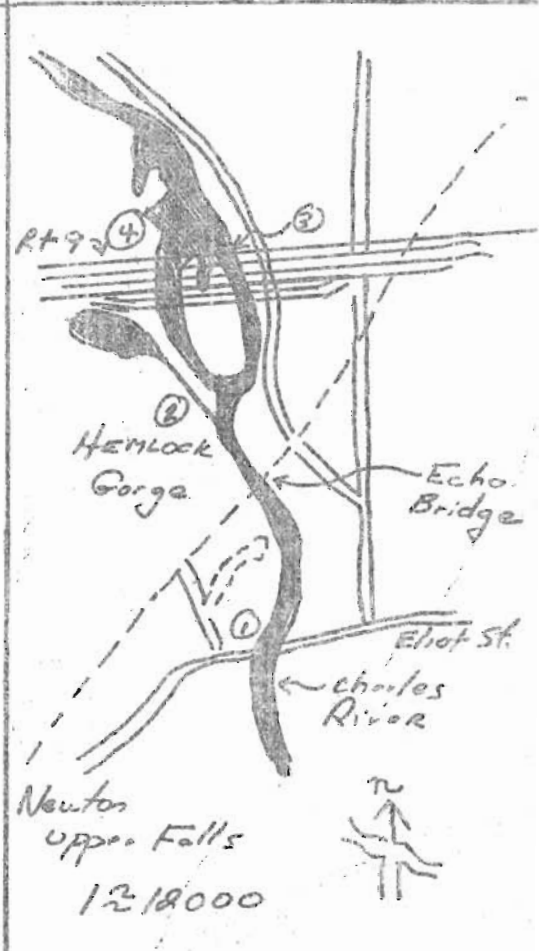
Post slip # 6
 address: Scott 244-3652
 date: July 15, 1971
 (Morgan)
 Year: 1971
 (where is it?)
 Group:
 Equipment: kit, boots,
 lunch & water, geology of
 Newton
 Rocks & Minerals hand-
 book, flowering and
 Nonflowering Books,
 Freshwater Ecology

Readings: -3-
 Rock + Minerals -
 Beginning Section
 Geology of Newton -
 Hemlock Gorge section
 ① At bridge on Eliot
 St. at Charles River:
 • What is the general
 condition of G.A.?
 Velocity -
 D.O. -
 Temp -
 Life -
 Bottom -
 Color -

-5-
 ② At the Rt. 9 Bridge
 (North Side):
 Stream profile Study
 General description:
 ③ Rock Stop
 • What type of
 rock formation is this?
 • Let's try to name
 some of the minerals
 we find here:

From Library -2-
 Objectives:
 1) To see a natural
 river cut through
 bedrock (a gorge)
 2) To check the
 condition of Chuck
 Flumen
 3) To try to identify
 some basic rock
 minerals + Types.

-4-
 ② In the Gorge:
 • What type(s) of
 bedrock is found
 here?
 • Why do Hemlocks
 grow on only one
 side of the gorge?
 • Why is Echo Bridge
 here? What purpose
 did (does) it serve?
 • Condition of River
 here? Velocity -
 D.O. - Temp -
 Life - Bottom -
 Color -



Trip # 4
Lenders Ave
Time: 9AM -
Site: Hemlock

Equipment:
Hiking boots
are recommended
see log, a rock hammer, a
"Geology of Florida" if you
you already have
a lunch, and a water bottle

Geology:
How to know
flower rock
rocks and m/r
D.C. test kit
Chloride test

Readings:
Basic Geology
The Geology of



Tues. July 8

Day 2

9:00 - 2:00

Hemlock Gorge -
Echo Bridge

bring:

hiking boots, kit,
lunch + canteen,
street + topo maps

books:

GEOLOGY OF NEWTON
ROCKS + MINERALS

FLOWERS

TREES + SHRUBS

readings: (optional)

BASIC ECOLOGY

pg. 74 - 76

(1)

Erica's group

questions:

How does an over-
supply of one
plant affect the
growth of other
plants in the area?

What plants can
we find beside
hemlock + P.I.?

What effect does
the dam have on
the river?

What minerals can
we find in the
bedrock?

What kind of shrubs
make the best
echoes?



P.I.

(3)

We will examine a
gorge cut by the
Charles River. There
are many different
plants in the area
but there is an
extra abundance
of hemlock. This
means there is also
an extra abundance
of our dear friend
Poison Ivy. You
might want to
wear long pants.
We will also look at
the bedrock in the
area. Bedrock is
the rock exposed
to the surface. We
will also check out
the condition of the
Charles.

(2)

<p>1 Trip Slip #4 date: July 10, 1975 time: 9am-2pm leader: Howie 332-5976 site: Hemlock Gorge Echo Bridge area</p> <p><u>General Instructions:</u></p> <p>Bring full Pack, Lunch & canteen. Be sure to wear your boots Bring Geology of Newton book from library.</p> <p><u>Objectives:</u></p> <p>1 to examine a gorge cut out by the Charles 2. to examine a hemlock</p>	<p>2 community. (an area where hemlock is the dominant plant)</p> <p>3 to see how one plant's dominance affects other flora and fauna in the ecosystem.</p> <p>4 to check out the condition of the Charles R</p> <p>5 to observe the effects of a dam on a river.</p> <p>5 to check out <u>New Pond</u> (if we can get to it)</p> <p>6 to examine the bedrock in this part of Newton. 7 to g take a good hike.</p>	<p>3 8 to GORGE ourselves on lunch.</p> <p>Before we leave we will chart our course. Therefore, be especially sure to bring your street and topo maps.</p>

Would you rather I type my trip slips or write them out?

Trip slip #6
 Leader: Scott 244-3652
 Date: July 15, 1974
 (Message)
 Hemlock Gorge
 (Where is it?)
 Group:

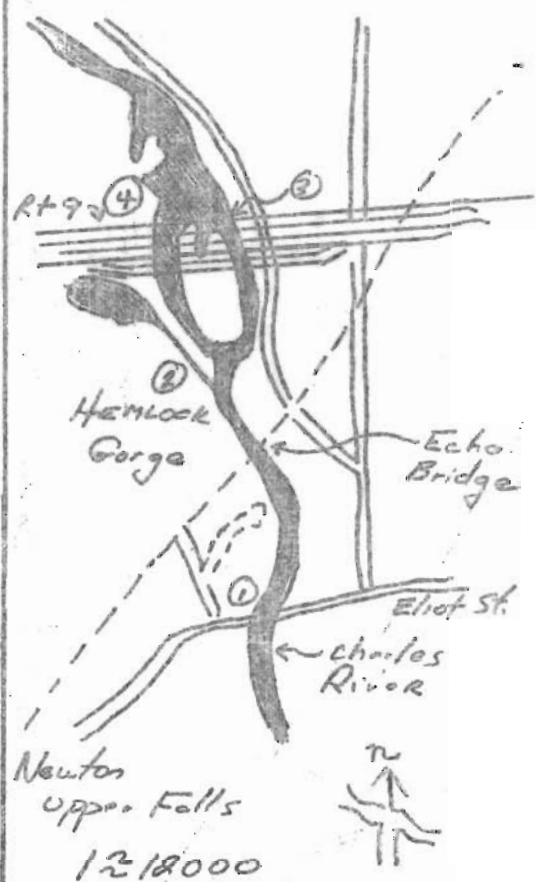
Equipment: kit, boots,
 lunch & water, Geology of
Newton, Rocks & Minerals hand-
 book, flowering and
flowering Books,
Freshwater Ecology

From Library -2-
 Objectives:
 1) To see a natural
 river cut through
 bedrock (a gorge)
 2) To check the
 condition of Chuck
 Flumen
 3) To try to identify
 some basic rock
 minerals + Types.

Readings: -3-
Rocks + Minerals -
Beginning Section
Geology of Newton -
 Hemlock Gorge section
 1) At bridge on Eliot
 St. at Charles River:
 • What is the general
 condition of C.H.?
 Velocity -
 D.O. -
 Temp -
 Life -
 Bottom -
 Color -

2) In the Gorge: -4-
 • What type(s) of
 bedrock is found
 here?
 • Why do Hemlocks
 grow on only one
 side of the gorge?
 • Why is Echo Bridge
 here? What purpose
 did (does) it serve?
 • Condition of River
 here? Velocity -
 D.O. - Temp -
 Life - Bottom -
 Color -

-5-
 3) At the Rt. 9 Bridge
 (North Side):
Stream profile Study
 General description:
 4) Rock Stop
 • What type of
 rock formation is this?
 • Let's try to name
 some of the minerals
 we find here:



Trip slip #4

A

biology and geology of the area.

B

Date: July 11, 1974 (Thursday)

Leader: Faye Brestler
969-6967

Site: Hemlock gorge

Times: 9-2

Bring: Entire field kit,
Newton topo map and
street map, wear boots

Group:

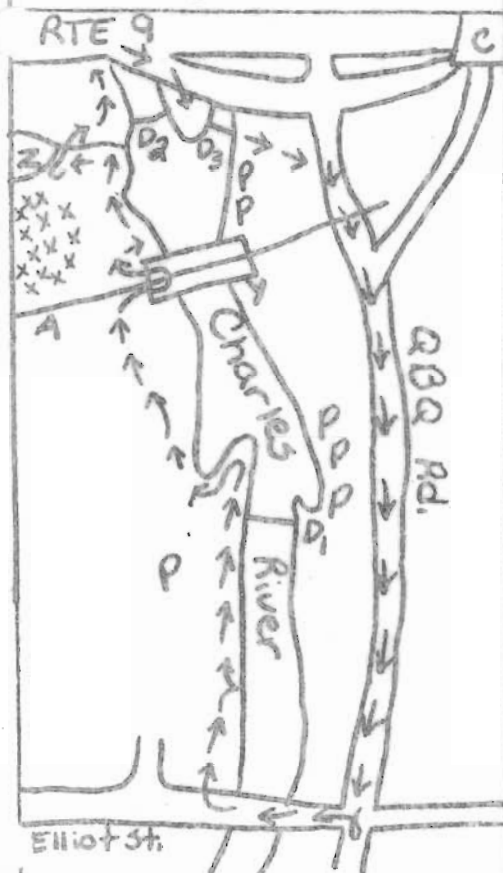
Objectives: A long hike,
a study of the

Look through pages
74-76 in Basic Ecol-
ogy

We will test for
D.O (Dissolved Oxygen)
P.H.

Think-think questions:
Why is algae needed
in a food web?
Are there any signs the
gorge is changing?
How was the gorge formed?

Put excess
papers in
recycle boxes
in the office
under the
window



Key

D = Dam

1 = silk mill

2 = MDC circle

3 = Board

A = Aqueduct

Y = echo bridge

z = new pond

→ = hike

x = Hemlock Forest

P = Poison Ivy

D

Date: July 24, 74 (Wed) Day 13
Group: Dick's
Place: Hemlock Gorge Area
Time: 9-2

Bring: canteen, lunch,
kit, including rock
hammer, Booklet Geology
of Newton, Your street
map of Newton, that
cut section of the large
topographic map that
includes the area to
be hiked to, hiking
boots.

From school: Bring-
Book-Rocks & Minerals

Purpose: a long hike to
shake down your ability
to walk well, to check
your ~~MMB~~ hiking books
etc.. We will check your
sense of trail finding
and learn to identify
some rocks and minerals.

3
Some igneous rocks-hot ones
that cooled slowly and
had a very large hot pool
in which to develop get
very large crystals such
as ~~MMB~~ those found ~~XX~~ in
mines in Maine and New-
Hampshire.

The minerals that we will
see in the rock are formed
by reheating rock-thus
the chemicals that could
be present if all the rock
was liquid is not there-
thus-the minerals are-
not large, not every-
where abundant.

They are found in veins
and clots in the rock
and are related to the
intensity of heating of
the rock in which they
are found.

2
AS We shall see the area
to be visited has much
BEDROCK-Bedrock is what
rock exposed to view at
the surface of the earth.

How deep down does rock
go?

How do we know?

Various rocks come from
various environments-

Hot (so hot that they are
melted) (igneous)
Cold- not melted-just
broken and carried by water
or ice (sedimentary)
Warm-reheated Hot or cold
rock (called Metamorphic)

We will have a brief-
lab experience with
ID of both
rocks and minerals.

We will hike to the
area to be seen and will
work with rock hammers,
acid bottles, streak
plates, etc. to
identify the rock type
identify the minerals
that can be seen with
handlens or eye.

Date 7/5/93

Leaders-

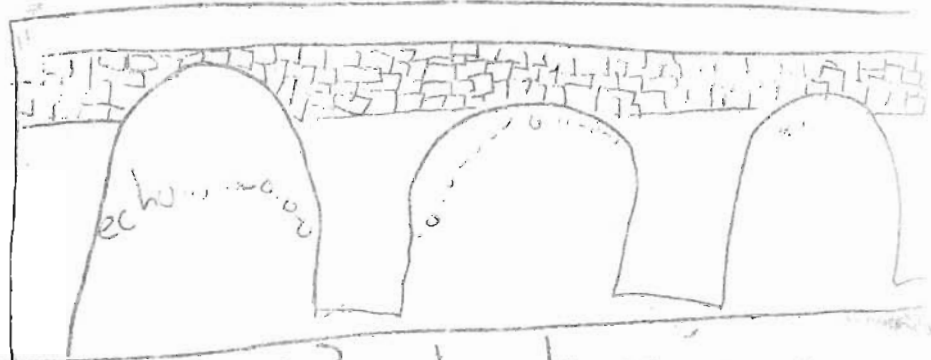
Gordon-244-9304

Kathy-527-3681

Time - 9AM - 2PM

Equipment - field kit,
boots, lunch, bug repellent
water. -(Gatorade H₂O)

HEMLOCK GORGE



Quick History

The bridge was built in 1886 and is in Newbn Upper falls, one of the oldest parts of Newbn. It was a prime fishing spot often used by the Native Americans.

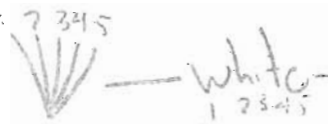
What is a ravine?

There are two different types of Ravines V and U shaped. How are each one formed. What one deals with a river in lowlands with a glacier. Which type is Hemlock Gorge?

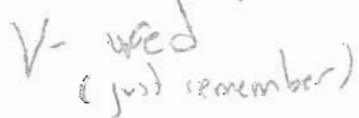
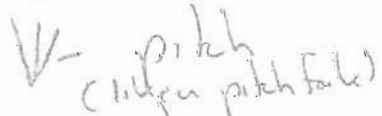
leaves lobes



Pine trees

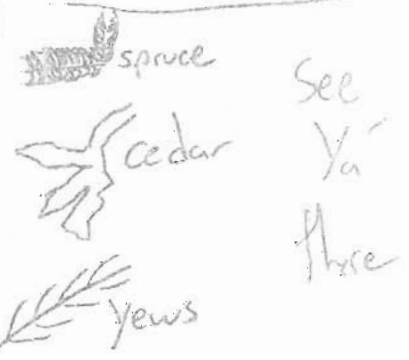


white



Questions

1. Why is hemlock Gorge called 'hemlock Gorge'?
2. Why is the water of the Charles river brown. (hint: it is not pollution)
3. How can we tell if the river is polluted or not?
4. What use flora and fauna?



A hemlock has 2 white lines on underside of needle



Trip slip #3
July 5, 1993

ECHO BRIDGE

Leaders: Kathy Thorp
527-3681

Time:
9-2

Gordon Roble
244-9304

Equipment—
Field kit
Water
Lunch
bug spray

and Hemlock Gorge



Hemlock Gorge is next to Echo Bridge, and it's called a ravine. Echo Bridge was built in 1886 and was a prime fishing spot for Native Americans.

Today we'll be practicing our map skills and identifying trees. Since there's water there, we'll be taking along an H₂O test kit.

Questions to think about...

Why do you think the H₂O in the River is brown?



Why is Hemlock Gorge called Hemlock Gorge?

There are 2 types of ravines. U shaped and V shaped.

The U shaped ravines were formed by glaciers, the V shaped ravines were formed by rivers.

How can you identify a Hemlock tree? There are 2 white lines on the undersides of the needles.

Did you know? Every second we are losing an area the size of a football field due to the cutting and burning of rain forests.