A quick word from the ECOEE Coordinator. – I would like to thank all of you for supporting ECOEE 2012. It has been interesting to see those of you who have faithfully given each year as ECOEE alumni. It is always great to see friends and family support their students/children as they travel throughout the semester. I really love meeting the parents as they drop their students/children off as ECOEE begins, because then I can “know who to blame”!

As you read the articles from each newsletter, please know and understand that the publications and promotions committee is responsible for organizing the format only. If the newsletter looks bad, is hard to follow, pictures and titles don’t fit the article and etc, please blame that on the publications and promotions committee. IF the articles themselves have poor grammar, mis-spellings, poor punctuation, awkward sentence and paragraph structure and etc, place that blame on the student author. I decided early on in my role as the ECOEE Coordinator that even writing has a place in the experiential learning hierarchy…

If students don’t write well, they can face the laughter, anger, wrath, humiliation, of being published as they wrote and having their friends and family read it as it is.

So kudos to those parents that held their child’s feet to the fire and made them learn to write. Kudo’s to those that tried and the seed didn’t take root. I know full well (having now been with each of these guys and gals for 40 days now, and having had them during the spring semester in class) that you can lead the horses to water, and even hold their heads under, but that won’t get them to drink!!!

I hope each of you can read the articles and see the uniqueness of each student in their writing. I hope that you can at least get the gist of what they are trying to say. I am sure you will get some chuckles from the stories as well as the way they are put together. And lastly, I hope you praise them for what they have done well, and give them he—for their lack of attention to practicing good writing skills!!!

Thank you again for your support of ECOEE 2012 and happy reading!

Jeff Tindall
FUNDRAISING, AN IMPORTANT STEP FOR THE EXECUTION OF ECOEE
By: Ruby Fernandez

Funding is a crucial part for arts, schools, social services and events. Many organizations use funds to support the execution of different activities. The newsletter that you have in your hands is an ECOEE (Environmental Conservation and Outdoor Education Expedition) effort to raise funds for the 2012 expedition.

The fundraising process began by taking the class expedition planning during the spring semester. At this course we had different committees that helped to organize and divide tasks for accomplishing the execution of the expedition. The publications committee was in charge of the fundraising process; their goal was to raise as much money as possible from family, friends and previous ECOEE alumni.

As any fundraising process it is important to have an approach that can get you closer to your main goal. In this case, the publications committee developed a letter informing in detailed goals, mission and description of ECOEE. This letter was sent to family, friends and ECOEE alumni.

These letters were a huge part of the funding process. Jessica Sauer the student in charge of the letters says “with this letters people could see what was ECOEE mission, goals and outcomes and from here give support to our program, students and equipment”. Once the letters were sent the next step was receiving answers and donations.

If you are somehow in charge of a funding is really important to maintain a good communication between your donors and your program, this will keep your program in their minds for future donations and also will show them how interested your program is to have them as part of it. A contact list with their main information plus a follow up thank you letter is a great approach that ECOEE students used in order to maintain in touch with their donors.

In the fundraising process the main goal is to make your donors feel important and make them feel as part of your program, event etc. Off course you do not want to leave your donors behind after they support your program, ECOEE students send newsletters, gifts etc. these are ways to thank and show how their money is been used for the expedition.

ECOEE 2012 gathered approximately 2.100$ in funds that were used on equipment and different costs of the expedition. Thanks to the students effort to get contacts and find donors and your help we can execute this expedition.

Ways to predict a storm:
- If it’s dry in the morning, put down your fly and take warning.
- No dew on the ground, a storm’s sure to be found.
- Red skies at night, sailor’s delight.
- Red skies in the morning, sailors take warning.
- No mist on the river, prepare to shiver.
- If it’s louder than it sounds, storms are inward bound.
- Wildlife not in sight, rain it might.
Coming into this trip I didn’t have the slightest idea about all of the different aspects that go into Wilderness Leadership. I am writing this newsletter on day 40 of our trip while traveling back to Macomb after spending a month in the backcountry of Canada, and now I feel like I have a hundred stories that pertain to this subject. Our course goals for this class aim to have each of us understand and be able to demonstrate outdoor living skills, planning and logistics, risk management, and leadership.

When the trip began I had no idea how I was going to be able to survive in the wilderness for a whole 32 days. Not only did I survive, I fell completely in love with the world around me. If it wasn’t for the basic outdoor living skills we were taught along the way, I’m pretty sure I would still be stuck at our first campsite without a clue as to where I was, so for me personally these were the most important. Some of the many skills that we used each day included: how to properly pack a pack, campsite selection, dump school (yes it is exactly what you are thinking), first aid, food protection, hygiene, Leave No Trace, staying warm, tarp set up, and water purification.

Each of us was able to select one of these outdoor living skills last semester and we each put together a lesson plan and taught the rest of the group how to use this skill throughout the course of our trip.

Food protection was a part of our daily routine that was always entertaining the group, especially Jeff. Each night we would have to find the best bear rope branch that we could find, and throw our ropes high enough so our bags (that were at times carrying up to 70lbs of food), were hanging at least 12 feet off of the ground. This is where the entertainment came into play. For some, this was their favorite part of the night. The guys were able to test their strength and see who could get their rope the highest, but for others like myself, this was the most frustrating part of the whole day.

I swear I could throw that rope a 100 times and still not get it onto a branch that was more than 10 feet off the ground. And by the end of it I was hoping that a bear would get my bag so I didn’t have to carry around 70lbs anyways, but we always somehow managed to get all 8 bags up. Since we had a lot of big eaters in our group, and this was the only way to keep bears away from our food we all quickly learned to appreciate this outdoor living skill. Most of the other skills we learned were used on a daily basis but I will never forget the great memories that our group had while we were hanging bear bags in the backcountry.

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**Quote:**

*Life is like riding a bicycle. To keep your balance you must keep moving.*

Albert Einstein

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**ECOEE’S FIRST INTERPRETATION WALK**

The first day on the road and ECOEE was already presented with a great example of an interpretation walk. The group of wide eyed and knowledge thirsty students spent their first night on the road at the residence of Ray Gates. Gates has had many years and experience in the outdoor setting and is a professor at Cornerstone University. Before having a lovely meal with Gates and his wife he took us on an interpretive walk through the woods on his property.

Gates was great at performing the four parts of an interpretive walk and their purpose. The four parts of an interpretive walk is the staging period, the introduction, the body and the conclusion. Cont. Page 4.
The staging period, happens 15-30 minutes before the walk. It is the period when the interpreter meets and greets everyone and breaks the ice. Gates did this with the ECOEE students before the walk by asking them questions about what was their interest in the outdoors. He also broke the ice by talking about how great and unordinary the trip that they were about to embark on will be.

Then came Gate’s introduction. The purpose of an introduction is to spark interest, establish a theme and explain how the walk would be structured. It is also the time to tell a little bit about some of the things the audience might see along the way. In Gate’s introduction he interested the group by telling them stories of how he became passionate about wild flowers when taking a hike in a biology class. In his introduction he also mentioned all the cool organisms that live by his house and that we might see on the walk. He mentioned what owls calls we might hear at night. He also talked about frogs, flying squirrels, turkeys, wild flowers and many other things we might see along the way.

After Gates got the group enthusiastic about the hike, they headed towards the woods to do the body of the interpretive walk. This is the “meat and potatoes” of the walk. This is when the audience is presented with pertinent sites and objects of interest. In Gate’s body he taught the group about marshes and how great of an ecosystem it is. Gave them a few life lessons and talk about and showed them some invasive plants. Everything that he taught he brought back to it being interesting.

Gates then ended the walk in a circle around his fire pit. The conclusion is the part of the walk were the interpreter reinforces the theme and connects the dots between the things that were showed and the theme. Gates did this by reviewing what the group saw and showed them how it related back to being cool and interesting and unique.

Now it is time for me to conclude. ECOEE had a great example of an interpretation by Ray Gates. Not only did they learn how to do an interpretive walk but about nature and few life lessons.

Wrote by: Jeremy Naberhaus

TRAVEL WORKSHOP
By: Dalton Scheller

There are a few main aspects of the course RPTA 450, “Travel Workshop”. They consist of the preparation, the daily work, and the experiential side of the trip.

To start the “Travel Workshop” class the group had to do a lot of preparation over the summer. One thing they had to prepare was the rations plan for the backcountry eating and then they had to prepare a full week menu for the front country cooking as well. Another preparation that the group had to do which was probably one of the most important were the lesson plans. The group had to prepare lessons for an Outdoor Education topic, an Interpretation topic, and a WEA topic. Then they would use those lesson plans to help teach their topics in the field.

Cont. Page 5
The next aspect after preparation is the daily work that the group has to do throughout the trip. There is a list of daily chores and each person rotates through the chore list so everyone does various chores each day. The list consists of writing in the group journal, tarp and fire, chef, sidekick to help the chef, 2 cleaners, water, and van and trailer. Also, everybody in the group is responsible for their own nightly journal.

The final aspect of the “Travel Workshop” class is the experiential side of the trip. The group will meet with many different leisure professionals throughout the trip. They will also be experiencing many different and diverse cultures along the way. It is also a goal of this class for the group to develop their skills through all the experiences that they have along the way.

Another goal of the class is for everyone on ECOEE to have an understanding of themselves and their group mates through things such as group decision making and problem solving, cooperation and collaborating, conflict resolution, goal setting and accomplishment, and community living.

As of now the group has only gotten started with the expedition, but they are getting a lot of these experiences and plans accomplished. However, there are still many more things to come for the ECOEE 2012 group.

Sarah Welsh one of the ECOEE 2012 students remarks the importance of her teaching topic (scat and tracks) for being a good outdoor leader “teaching about tracks helps any individual to be aware of his/her surroundings and animals, especially when predators are around camp”. The list of things that you can teach in the outdoors is long; the outcomes from teaching are derived from the stimuli that the teacher provides to its audience.

Jeremy Naberhaus ECOEE student says “It is very important to teach about medicinal and edible plants because you do not have to rely on society or anything else to resupply yourself for nutrition and medicine”.

Every day we are teaching each other, since basic stuff just like how to use a coffee maker until more complex things like how an airplane works. We are used to teach in a conventional way, we are used to learn in a way that our brain does not have to think and work too much. Sitting in a classroom for hours listening to one person is one of these conventional methods of learning and teaching. If you are bored of these usual methods this article might be suitable for you.

Teaching requires creative techniques; the audience and teacher need to have an active interaction in order to promote new conditions for learning. The outdoors is one of the best scenarios for these conditions to growth. ECOEE (Environmental Conservation and Outdoor Education) students used this scenario day by day in the back-country in Canada. Every single thing in the outdoors offers a unique opportunity for teaching. Trees, birds, stars and plants were some of the resources that ECOEE students taught while in Canada.

Sarah Welsh one of the ECOEE 2012 students remarks the importance of her teaching topic (scat and tracks) for being a good outdoor leader “teaching about tracks helps any individual to be aware of his/her surroundings and animals, especially when predators are around camp”. The list of things that you can teach in the outdoors is long; the outcomes from teaching are derived from the stimuli that the teacher provides to its audience.

When a student from ECOEE teaches in an outdoor setting he/her will take advantage of a natural resource or a condition and take that moment to approach its audience and give the main information about the topic. Jeremy Naberhaus ECOEE student says “It is very important to teach about medicinal and edible plants because you do not have to rely on society or anything else to resupply yourself for nutrition and medicine”.

As you can notice there are so many and unique ways to learn that only the outdoors can offer. Teaching is a day by day experience and if you want to try a new method of teaching, outdoor education will be the best. Outdoor education is “simply a method of teaching using the natural environment as a living laboratory” Charles L Hand. Here are some tips that you can use on your daily basis while teaching something to someone. Cont Page 6.
First gain the attention of your audience by asking basic questions so the audience can be linked with your topic. Inform learner of objectives, is important to tell the students what are the basic outcomes from these experience. Make connections between personal experiences and the concepts related to these experiences. Interactive communication between student and teacher is also helpful, the teacher needs to be clear, specific and provide the main information about the topic. Finally provide feedback and assess performance of the student during and at the end of the course.

Teaching is suitable for anyone and if you use the outdoors as a setting to promote learning outcome I’m sure your learners will be excited and engaged from the unique experiences that the outdoors can only offer.

There is a lot of talk about interpretation (interp) lately, and you’re asking yourself “what exactly is interpretation?” In short, interpretation is the way we perceive events. Out here we use two forms of the word. As a verb, interp is almost interchangeable with the word perceive. It is how we view events and situations in everyday life. As a noun, interp refers to a personalized and entertaining lesson given on a relevant topic.

We ECOEE students interpret events, behaviors and situations each and every day, in our academic journals. We reflect on the most important decisions of the day, and whether or not they were well thought out. We focus on personal and group behaviors, as well as any leadership issues, good and bad. We first write what happened objectively, and then we subjectively interpret the situation. Nightly journals drive us to think outside the box, in a more abstract manner.

This fall, we are enrolled in RPTA 448: interpretation of natural and cultural resources. This class focuses on the teaching and lesson-planning of interpretive talks. An interpretive talk is a sort of conversational lesson that contains four major qualities: 1) it must be entertaining 2) it must be relevant, meaningful and personalized to the audience. 3) It must be organized and easily followed 4) should be themed, meaning it must have a distinctly separated main topic and main theme.

Early in our trip we stopped at Agawa Bay Campground on Lake Superior. In a very lucky turn of events, we were pleased to find out that one of the park rangers was holding an interpretive talk on the cultural and geological history of Lake Superior. The lesson ran about 45 minutes and included a song, a poem a slideshow and so much more. When asked how she developed the lesson she replied “we try to make them somewhere between interpretainment and interpretourure.” She did just that, the experience was both informative and entertaining. we were very fortunate to have caught the lesson.

Animal Scats and Tracks Fun Facts!

- Many herbivores eat and digest their scat because a lot of times they can get just as much nutrients the second time around.
- Herbivores, such as rabbits and moose, often times have pellet shaped scat.
- The main difference between dog and cat tracks are dogs always have claws showing. Cats only have their claws out when they are hunting or feel threatened.
It’s day twenty-eight of the river. We’ve had a long day, we’re a little over halfway through our 9.7 mile paddle but we’ve also just finished our longest portage yet. 1400 meters in two hours. We approach a new swifter and louder set of rapids; the question presents itself, to run them or not to run them? Some of the group scout the rapids, is the water level too low? I run the portage, it’s not 550 meters like we expected. Are we sure we’re at the right rapids, or are this the Class II tech? Others consider the group, we’ve had a long day; we may think of ourselves as voyageurs but is riding them safe with our technical skills and experience level? Is it worth it?

As a group, do we accept the danger, avoid it, or modify it? Is portaging the gear then running the empty canoes an option? What about using the painters to guide them down? We take another look at the map; we are in fact at our first CII tech rapids. Classified by standing waves 2-3 meters in height and rock gardens with indefinite main channels, these rapids require technical moves of experienced-intermediate level paddlers that can maneuver canoes and read water.

We evaluate the situation and all possible options and choose to modify the danger by thoroughly scouting and planning our route and having Jeff direct us from the bottom. We would approach the chute in the center then back paddle furiously to get into the eddy. Failure to do so quickly enough would result in the canoe hitting a large boulder knocking it from the necessary position to approach the last and steepest drop. We feel confident, competent, and comfortable with our decision and plan of action.

We approach the rapids one canoe at a time. Sarah and Ruby get snagged by the boulder, Ruby is waist deep upstream pushing the canoe into position as Sarah back paddles with all her might to keep the canoe from leaving Ruby behind but they make it down safely.

Jeremy and I approach the first V, we barely hear Jeff screaming to draw over the rushing water but we are able to use the eddy to position ourselves correctly for the drop.

With each pair, the paddlers above watch and take note of the paths found and mistakes made. Jess and Jon take it third, this time the boulder spins the canoe around a complete 180°. There’s nothing to do but turn around and ride the rest backwards. Cody and Dalton somehow get stuck before beginning the rapids but then successfully maneuver through the twists and turns. We are all safe and relatively dry but the day isn’t over until we evaluate our choices and their consequences that night at debrief. The ability to make a good decision is a cornerstone of adventure recreation management and using this method we have been able to assess a variety of backcountry hazards.

*Quote*

I have not failed. I’ve just found 10,000 ways that won’t work.

*Thomas A. Edison*
Eight college students and one professor were spotted and taken out of the Canadian wilderness on Monday, September 18th at 1:30 in the afternoon by a local outfitter in Mattice. The crew looked tired, weathered, and cold but the locals could see the wisdom of the wilderness in their eyes as the students explained the purpose of their thirty-two day voyage. To teach and learn in the outdoors was their main goal, and from the looks of them, it appeared as though they had done just that. They were pursuing the hands-on experience that philosopher John Dewey was so passionate about in the beginning of the 20th century. The oldest, Jon Manuell, taught the crew of the many species of birds in Canada. He taught of the barred owl and its silent flight as it flew over the students in camp one night. The graduate student from Columbia, Ruby Fernandez, told reporters about the night they all sat under the stars and she taught about our galaxy, the Milky Way.

The youngest member, Cody Presny, taught the wonders of flowering plants and the lichen that grew on the rocks they slept on. Twenty-two year old Kelly Bauer shared her knowledge of dendrology by passing around branches for the crew to examine and classify. The first student to hit the shores of Mattice was a rather rambunctious one by the name of Jeremy Naberhaus. He told stories of lessons on edible and medicinal plants and how he taught the student to identify and pick the red cranberries to survive. Although the group said the berries were tart, they supposedly gave the students the strength to paddle on their 300 kilometer journey. Senior student, Sarah Welsh, told stories about the scat and tracks she located at each campsite. Her favorites being one animal trail she followed that contained moose, wolf, and black-bear tracks. There was also bear fur at another site that the group examined. Sarah told us of how she taught the group the importance of knowing your surroundings when living in the wild, especially when it comes to knowing about dangerous animals that could be hanging around camp. They told us of how they practiced experiential learning, whether their teacher told them to jump in the rapids without their boats, or he tipped their canoes without warning to teach them how to perform T-rescues. They told us of nights when they slept cold and wet and days when their hands froze to their paddles because they were improperly dressed. The students said that their professor looked on as mistakes were made, but he stepped in when it was necessary in order to keep the group out of too much danger. The group of students is currently back at their university in Macomb, Illinois and have made mention that their next expedition will take them west. It appears that they are not yet ready to be done learning and teaching in the outdoors.

Along the way through Canada the ECOEE group has witnessed multiple “Perspectives in Outdoor Recreation”. There were some before the canoeing started, some in the middle of the canoe trip, and even some after leaving the river.

To start with we met a man named Ray Gates, from Rockford Michigan. He knew so much about the outdoors, and plant and animal life. You could tell by talking to him how strongly he felt about the topic. He appeared to know a lot about nature and wanted to always know more in order to appreciate and respect nature to the best of his ability.
Next, the group met a park ranger at Agawa Bay Campground, Lake Superior Provincial Park. She showed not only a strong love of nature, but more specifically Lake Superior and the environment it is in. She felt strongly about sharing her love with other visitors through her interpretation talks. It was impressive to see the passion that she put into her interpretation presentation.

After that the group had started their canoe trip and stopped at a campground on Lake Missinaibi about halfway through. There the group went about business as usual. After meeting and talking to one of the park rangers, the group discovered one method that the campground uses to help preservation. The campground requires that fires be made out of firewood bought from them. The reason for that is to prevent people from using branches straight off the trees. They had problems before with people doing that instead of just picking up the dead branches from the ground so the park decided to use that method to prevent damage to the forest.

Finally, the group met a few ladies from the outfitter business in Mat-tice, Ontario. The owner, Denice was very friendly and told many stories and views that she has regarding nature and how to use it. Being an outfitter she felt that people should go out and enjoy nature in ways like camping, canoeing, fishing, and hunting. However, she also felt that it was something to be appreciated and respected.

The next steps for ECOEE are for the group to head out west and see many parks and agencies along the way. They will be meeting professionals at all of those places to see their views and how they use the environment. The group will continue to stick to the RPTA 376, “Perspectives in Outdoor Recreation” requirements and they will continue to learn more about the outdoor recreation field.

BACKCOUNTRY LIFESTYLE

By: Jon Manuel

We made it back into the states after 32 long days in the Canadien back country!! An extremely important component that helped us survive the wilderness as well as each other involved our travel workshop class. Several aspects of travel workshop that our group utilized was community living, participation, and understanding what needed to be done in a group setting to survive.

The group and myself have spent our travels mostly living in the back country of Ontario Canada canoeing up the Missinaibi River, but also have learned what it takes to rely on each other in the front country traveling there as well as back to our home base in Macomb. Living in both situations we have learned important living skills that will come in handy traveling our west.

Working together as a group and more importantly as a small community, every chore and task is relevant in the cohesion our keeping our family healthy mentally, physically, and emotionally. In working together for a common goal skills are necessary as well as being able to orchestrate them at any given time pertinent when by the group. Chores and specific tasks are very different when transitioning from living in the front country to the back country. Participation is a major concept in our group that I am very proud of.

The back country is very different. Once out of sight from the outside world, our group of eight is split in half into two tents that each take care of each other. These chores and tasks are delegated between each other as we work as a team to get by on a daily basis. The chores that we complete on a daily basis in the back country consist of cooking over small stoves, filling water for cooking as well as cleaning after meals, hanging bear bags to ensure our food is protected, setting up and taking down tents, setting up small group eating tarps. Living this way for a month our group has become extremely efficient and effective as well as comfortable in seeing what needs to be done and doing it.

As I said earlier, community living and participation are vital components that become a living organism what we call our group and up to date it shows in so many ways that we care for each other very much as we help each other become outdoor leaders.

Do your best every time. A basic rule is to do well whatever you do, because by doing a thing well you build something valuable into yourself. Henry Ford

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When living in the front country, all chores and tasks are set in a specific schedule that was created prior to leaving for the expedition. These chores and tasks are broken down into eight responsibilities, including, writing in daily journal, managing out group tarp and fire for the group, a chef that provides the cooking, as well as a sidekick chef that helps in cooking responsibilities, two cleaners who clean after each meal, a group member who makes sure there is clean water for cooking and drinking, and lastly an individual that makes sure our van and trailer are drivable each morning before leaving to our next destination.

When considering the perspectives of outdoor recreation it is hard not to think of the many opportunities for personal and interpersonal growth. Even short recreation courses at places like WIU’s Horn Field Campus can have a huge influence on its participants.

As ECOEE students, we are no strangers to the benefits that these programs can bring about, especially in a group setting. Last spring we ECOEE students attended Horn Field Campus for two consecutive weekends. Over the first weekend our focus was team building, on the low ropes obstacle course. The second weekend was used to practice running and facilitating the heart pounding 30 foot high ropes obstacle course.

In spring we were still a new group struggling to form. Horn Field’s low ropes course definitely gave us a push in the right direction. The course challenged us in such a way that we were forced to work as a team. The entire weekend helped us form interpersonal bonds with one another, which are still growing today.

The high ropes course on the other hand challenged us more individually rather than as a group. It is certain that we all experienced growth in one way or another over the course of those two days. We not only acquired new technical skills that will undoubtedly come in handy, but we may have all experienced personal growth as well. One ECOEE member, in particular, overcame a great feat on the high ropes course.

Our very own Sarah Welsh came into the weekend being terrified of heights. It was obvious that she was scared as she hesitantly made her way up the 30 foot pole towards the course. Gripped by the fear of falling, she could have taken the easy way out and just quit, but instead she decided to overcome and finish the obstacle course. When she got back on solid ground, she was left with a sense of accomplishment; She was that much closer to conquering her fear. Sarah's Height experience is only one of the countless stories of growth to come out of outdoor adventure recreation.
The first chapter in our 2012 ECOEE adventure has come to its close with many new skills and techniques under our belt. Over the last month our group has made amazing progress in learning how to properly lead a group in the wilderness traveling by canoes. Our skills did not come over night, it has been a long month long battle to in becoming one with the canoe and the glassy water we paddled through.

We as a group started our training at Spring Lake in Macomb several days before we left for Canada. To begin our training our professor Jeff taught us the terminology of the paddle as well as the actual canoe. Once the group was familiar with these terms we jumped right in. It was quite an amusing sight seeing our group on the water for the first time trying to struggle through the basic paddling techniques especially since it was the first time for most of us on a canoe period. With the basics kind of learned we were off to Canada ready or not.

The next time we were in the water we were in Canada taking off from civilization for an entire 32 days. Being the only the second time in a canoe for most we were still struggling quite a bit but, the excitement of what was to come motivated us to learn and feel more comfortable on the water. As the first week passed us by we were becoming more confident with each stroke we took, gaining muscle memory and a better understanding of what each stroke provided. Each day the leaders of the week decided new canoe partners as well as the order of the canoes would follow. To begin with we paddled lakes which were fun but what I was really looking forward too were the rivers.

Once we made it to the rapids it was a completely different situation, we had new obstacles and lessons to be learned. Rapids were a new transition and challenge we gladly excepted. Jeff taught us how to read the rapids, the rocks under the water, as well as the current. Paddle strokes were now different and communication from bow to stern were vital. Other obstacles that stood in our way were portages. Portages are used when the rapids are too intense, waterfalls are present, or the water is too low. In these situations we were taught how to pick up and carry the canoe as well as our gear sometimes almost a mile several times back and forth. Throughout the month we also learned necessary compass, map, and orienteering skills.

After paddling almost everyday for a month our skills of how to read rivers as well as paddle different class rapids had become just another day at the job and by the time we reached Mattice we were paddling machines. As this portion of ECOEE I have full confidence that any member of our group can lead a canoe course out in the wilderness.
NOW LET'S HAVE SOME FUN!!!

ASTRONOMY PUZZLE

| A S T E R O I D | C S G F R | • Asteroid | • Sun       |
| G S R A M T D M C B A H A | • Astronomy |
| D I T D C N E B U L A R N | • Aurora    |
| R R G R A V I T Y A S S D | • Black Hole|
| A A C B O O T E S C T U R | • Comet     |
| C L Z K S N E U V K A H O | • Constellation |
| O O V A U R O A H R T M | • Meteor    |
| L P M B N O V M O O N D E | • Nebula    |
| A R G E A R T H Y L V C D | • Moon      |
| P L A N E T T M E T E O R A | • Polaris   |
| C O N S T E L L A T I O N | • Bootes    |
| • Andromeda |
| • Draco     |
| • Mars      |
| • Star      |
| • Gravity   |
| • Planet    |

Test your astronomy knowledge:

Draw a line between the questions on the left and the answers on the right.

- Bodies that produced their own energy and their own light
- Red bodies that burn a little bit of fuel at a time.
- Small pieces of rock, ice, dust and other fragments falling to Earth from space
- Our galaxy
- Shapes of group of stars that associated with animals, mythological figures and legends

- Constellations
- Milky way
- Stars
- Meteors
- Red Dwarf
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