

A facilitator's curriculum guide for youth workers, leaders and educators to accompany the movie, Journey to the Center of the Earth presented by New Line Cinema and Walden Media.

www.youthFILMproject.org







#### Introduction

The following curriculum explores the book and the movie and will take youth on their very own journey.

#### About the film:

In the family adventure *Journey to the Center of the Earth*, three explorers plunge deep into a strange new realm beneath the Earth's surface where they embark on an amazing voyage and find awe-inspiring sites amidst grave danger.

During a scientific expedition in Iceland, visionary scientist Trevor Anderson (Brendan Fraser), his nephew Sean (Josh Hutcherson) and their beautiful local guide, Hannah (Anita Briem), are unexpectedly trapped in a cave from which their only escape is to go deeper and deeper into the depths of the Earth. Traveling through never-before-seen worlds, the trio comes face-to-face with surreal and unimaginable creatures—including man-eating plants, giant flying piranha, glow birds and terrifying dinosaurs from days past. The adventurers soon realize that as volcanic activity increases around them, they must find a way back to the Earth's surface before it is too late.

With spectacular photo-real environments and revolutionary new filmmaking techniques, Journey to the Center of the Earth is an epic adventure that takes audiences directly into the heart of our heroes' voyage, bringing them along for a wild, visceral ride.



FILM curriculum is made possible through the partnership of Heartland Truly Moving Pictures and the National Collaboration for Youth. Heartland is a nonprofit organization that seeks to recognize and honor filmmakers whose work explores the human journey. The National Collaboration for Youth is a nonprofit organization providing a unified voice for its coalition of more than 50 national, nonprofit, youth development organizations, and concentrates on improving the conditions of youth in the United States and enabling youth to realize their full capabilities.











## **Objectives**

- Reading for fun: comparing the book to the movie
- Conquering obstacles and fears
- Embarking on a journey of your own
- Exploring the fun of science
- Discovering the real world of exploration and adventure
- Making an impact in your world

Steps for Youth to Take with the Journey to the Center of the Earth: Embark on Your Journey

## Step 1) Read the book and see the movie

#### The Movie:

Journey to the Center of the Earth is presented by New Line Cinema and Walden Media. It opens in theatres nationwide and in RealD 3D on July 11, 2008. It is rated PG.

#### The Book:

Journey to the Center of the Earth is a timeless classic written by Frenchman Jules Verne in 1864 and has since been translated into many languages. The original story tells the tale of Professor Lidenbrock and his nephew, Axel, as they travel to the center of the earth and discover a mysterious world leagues below Earth's crust.

There are different versions of *Journey to the Center of the Earth* that can be found. The translation that follows Jules Verne's original text most closely has characters named Professor Lidenbrock and Axel. The other prominent translation available is an abridged version of the novel with character names of Professor Hardwig and Harry.

Both versions of *Journey to the Center of the Earth* can be downloaded from Project Gutenberg at <a href="www.gutenberg.org">www.gutenberg.org</a>. Project Gutenberg is the first and largest single collection of free electronic books.

Any adaptation will be appropriate for youth to read in conjunction with this curriculum as the movie puts a contemporary twist on Jules Verne's original tale.



Additionally, Walden Media has created many books related to *Journey to the Center of the Earth* for a range of reading levels.

- Journey to the Center of the Earth: The Movie Novel
- What Hides Beneath the Earth
- Choose Your Own Journey

### Step 2) Participate

Take part in meaningful discussions and activities about:

- Similarities and differences between the book and the movie
- Conquering obstacles and fears
- Embarking on a journey of your own
- Exploring the fun of science
- Discovering the real world of exploration and adventure
- Making an impact in your world

# Step 3) Take the lead to help others

Engage in a project within your community based on lessons learned in this curriculum. Project ideas are included throughout the curriculum and there is also a free, downloadable service-learning supplement to assist in the planning and managing of *Journey to the Center of the Earth* service projects. Please visit <a href="www.youthfilmproject.org/resources.htm">www.youthfilmproject.org/resources.htm</a> to download the supplement.



**Table of Contents** 

Module One: The Book and the Movie	5
Activity One: Journeys through Storytelling	6
Activity Two: Discussing the Book and the Movie	
Activity Three: Exploring Science Vocabulary	
, icarrily made Expressing determed vocabulary	
Module Two: Exploration of Science	11
Activity One: Fiction vs. Science	
Activity Two: Science Fiction Comic Strip	
Activity Three: Building a Boat to Safety	
Activity Four: Scavenger Hunt	
Activity Five: Exploring Science in the Book and Movie	
Activity Six: Everyday Science	
Module Three: Your Personal Journey	20
Activity One: Living Your Journey	
Activity Two: Tracking Time	
Module Four: Looking into the Future	23
Activity One: The Real World of Science	
Activity Two: The Real World of Adventure	
Activity Three: Preserving Your World	
Post Program Evaluation	27



The pencil icon designates pages of the curriculum that can be distributed to youth as worksheets.



Module One: The Book and the Movie

#### Module One: The Book and the Movie

Journey to the Center of the Earth presented by New Line Cinema and Walden Media, puts a contemporary twist on Jules Verne's original novel that helps youth explore the power and the knowledge that books bring. Sean, the young protagonist of the film, starts off as an uninterested teenager who, throughout the course of the story, not only learns to appreciate his uncle and their adventure, but also comes to appreciate what can be learned from books. Throughout their adventure, Sean, Trevor and Hannah rely on Jules Verne's original text to determine where they are in their journey and what other adventures and obstacles they might encounter.

The following section discusses similarities in the book and the movie and encourages youth to examine the impact of books and movies in their lives.

# **Objectives for Youth:**

- Explore different journeys that books can take youth
- Discuss the book and the movie
- Explore science vocabulary





Module One: The Book and the Movie

**ACTIVITY** 



# Activity One: Journeys through Storytelling

Books have the ability to transport people to different times and places. They can introduce readers to cultures and people they might never have known. In Journey to the Center of the Earth, as Trevor, Sean, and Hannah venture through the earth, they refer to the copy of Jules Verne's book for clues about what they might encounter next.

Act out the following excerpt from *Journey to the Center of the Earth* in which Trevor, Sean, and Hannah reference Jules Verne's book to determine what they might find on their adventure. After you have acted out the scene, read a selection from the book to see how Jules Verne described this underground world and how what he described is represented in the movie.

Trevor leads Hannah and Sean along a slick path with patches of green moss-like growth. Trevor is still completely wired, checking a THERMOMETER hanging off Hannah's backpack—

#### **TREVOR**

Look at this, it's 82 degrees down here -- this is amazing! Everything's just like Jules Verne described it!

#### **HANNAH**

(trying to understand)
So Lidenbrock, from the book, he was...real?

#### **TREVOR**

Maybe Lidenbrock got out and told Verne --

#### **SEAN**

He got out? Now that's the best news I've heard all day --

#### **TREVOR**

If this place exists, biospheres like this, they could exist anywhere on our planet. It puts into question all the scientific assumptions about the formation of the earth. Doesn't this just blow your mind?!

#### **HANNAH**

My mind is blown. Yes. But we, ah, still need a plan to escape, Trevor.

As they move along the path, Sean plucks a WAIST-HIGH DANDELION and blows on it. Its FLUFFY SEEDLINGS float into the audience, as Trevor moves past reading from Max's book...



Module One: The Book and the Movie

# Activity One: Journeys through Storytelling (continued)

#### **TREVOR**

"...the word cavern does not convey any idea of this immense space... words are inadequate to describe the discoveries of him who ventures into the deep abysses of earth..."

#### **SEAN**

Does it say anything in that book about taking a break? I'm so hungry...

Hannah points to a forest of THICK TRUNKS.

#### **HANNAH**

Let's rest up ahead at those trees. We can divide one of my protein bars and figure out what we're going to do...

#### **SEAN**

Protein. Yes. Please.

They head for the trees.

#### **TREVOR**

Wait a second. Those aren't trees.

He cranes his neck upward to see...

...GIANT MOTTLED CAPS HANGING FIFTY FEET IN THE AIR.

#### **TREVOR**

I think they're... fossilized mushrooms.

#### **SEAN**

I think you mean huge fossilized mushrooms.

SEAN RUNS AHEAD, but Hannah hangs back whispering to Trevor.

#### **HANNAH**

If it's all true... does that mean that ...everything in the book is real?

#### **TREVOR**

(apprehensively) It probably does... yes...

Excerpted from the Screenplay by Michael Weiss and Jennifer Flackett and Mark Levin. Based on the novel, *Journey to the Center of the Earth,* by Jules Verne. Courtesy of New Line Cinema.



Module One: The Book and the Movie

# Activity One: Journeys through Storytelling (continued)

Chapter 30 of *Journey to the Center of the Earth* (the unabridged version) contains the quote Trevor remembers from the book and descriptions of the landscape while Chapter 32 is a guide map for some of the creatures Trevor, Sean and Hannah will encounter later in their journey.

#### **Discussion Questions:**

- What are some of the clues the book offered to Sean, Trevor, and Hannah? Were the clues helpful?
- What have you read that offered you guidance or clues about something? How did it guide you?
- Have you ever read a book that took you on a journey to a new place or introduced you to new ideas? What were they?

Use the chart below to record some of your favorite books and movies and how each helped you learn lessons. Then rate the books and movies you listed and maybe you'll see a pattern form about the types of books and movies you like best.

Name of Book or Movie	Lessons gained from it	Rate it!
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Module One: The Book and the Movie

### Activity Two: Exploring the Book and the Movie

The original Jules Verne novel takes the reader on an adventure that begins in Iceland, descends to the bowels of the earth and then lands the reader back on Earth's surface in Italy. This is much the same as the movie, but in the movie it's a modern day uncle and nephew team who explore the center of the earth, using the book *Journey to the Center of the Earth* as their guide.

#### **Discussion Questions:**

- How is Professor Lindenbrock different from Trevor? How do each of the men treat their nephews? With which character would you rather go on a journey?
- Sean is a teenage boy who is familiar with video games and the action found within those, but venturing to the center of the earth is an entirely different thing. He finds himself very frightened several times throughout the movie, but he manages to overcome his fears and ultimately enjoy the amazing journey. What scenes can you remember from the movie where Sean was afraid and had big obstacles to overcome? What do you think helped Sean conquer his fears and the obstacles?
- Are there things that frighten you? What are they?
- Are there ways you are able to overcome your fears? What are they?
- Is there a person you know who is good at helping you overcome your fears? In what way does he or she help you?
- Sean gets separated from Trevor and Hannah as they sail across the sea together. Trevor and Hannah are very concerned about not being able to find Sean, but ultimately they end up together. Sean was scared when he was lost, but he was brave. Have you ever gotten lost? Was it scary? What types of things can you do to ensure that you don't get lost? But if you do, what can you do to find your way back home?

# JOURNEY RENTER # EARTH

Journey to the Center of the Earth: Embark on Your Journey

Module One: The Book and the Movie

**ACTIVITY** 

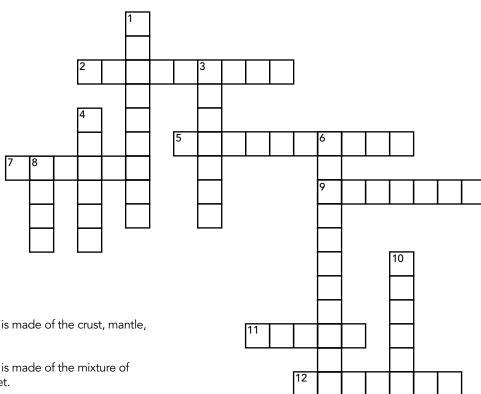


# **Activity Three: Exploring Science Vocabulary**

The following activity is adapted from Walden Media's guide. Find out more about Walden's resources at www.Walden.com.

Complete the crossword puzzle. The words you'll need are listed. You may also want to use a dictionary to help you.

GEOLOGY
ATMOSPHERE
HEAT
CHANGE
HYDROSPHERE
BIOSPHERE
MINED
GEOSPHERE
BILLION
HISTORY
DYNAMIC
MANTLE



#### **ACROSS**

- 2 This part of the Earth System is made of the crust, mantle, and inner and outer core.
- 5 This part of the Earth System is made of the mixture of gases that surround the planet.
- 7 When this happens in any one of Earth's Systems, it affects the others.
- 9 It means powerful or active.
- 11 One of two kinds of Earth's resources, not grown but\_\_\_\_\_; also means to have removed from the Earth's interior.
- 12 It is a way of looking at the Earth

#### **DOWN**

- 1 This part of the Earth System is made of all living things, including plants, animals, and other organisms.
- 3 Geological changes of Earth over time have left a record of its

- The portion of the earth, about 1800 miles (2896 meters) thick, between the crust and the inner and outer core.
- 6 This part of the Earth System is the planet's water, including oceans, lakes, water, ice, and water vapor.
- The Earth's own inner \_\_\_\_\_ is one of two sources that powers Earth's processes.
- 10 The Earth's beginnings can be traced to almost 4.5 \_\_\_\_\_ years ago.



Module Two: Exploration of Science

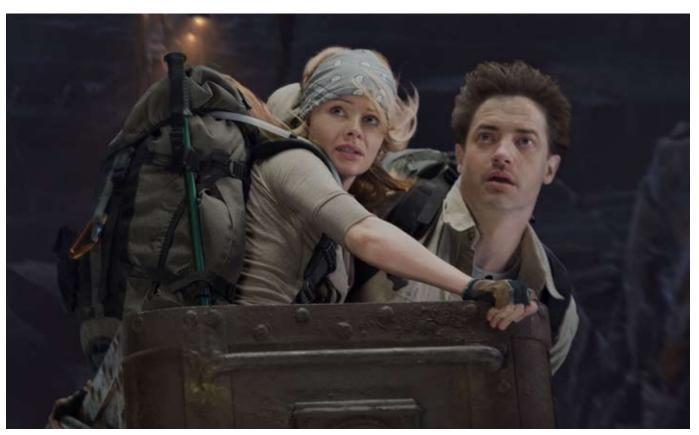
# Module Two: Exploration of Science

Jules Verne was a writer who enjoyed science and adventure with the creative ability to include the reader in these science-based journeys. While many of his scientific theories and adventures are fictional, his writings did contain some scientific fact.

The following section explores the science in *Journey to the Center of the Earth* and helps introduce some science to youth in a fun way. Walden Media, Inc. supported the development of this curriculum. More educational resources for this movie and others can be found online at <u>Walden.com</u>.

## **Objectives:**

Explore science fact and fiction Create your own science-fiction adventure





Module Two: Exploration of Science

ACTIVITY



# Activity One: Fiction vs. Science

Read the following section individually or out loud in a group. Following this excerpt, discuss the science fiction in some of your favorite movies!

In the time when Jules Verne lived, there was much scientific and popular interest in what was inside of the earth. The details of Earth's interior had not yet been discovered. Although volcanic *eruptions* showed that at least part of Earth's interior was hot enough to melt rocks, temperatures within the earth and the existence of radioactivity were unknown. Verne's book, *A Journey to the Center of the Earth* (1864, originally published in France as *Voyage Au Centre De la Terre*), built on this interest in the structure of earth with an exciting science fiction story that is still popular today. Verne's story introduced us to a dedicated and quirky professor and his nephew, who travel together into the earth's deep interior by entering into an opening in *Iceland*.

Today, the current limits of technology make such a journey impossible. The temperature and pressure conditions within the earth are so extreme that humans could not survive below a few *kilometers* of depth into the 6,371 KM *radius* earth. Except for natural caves, tunnels, mine shafts, and drill holes that extend from the surface to depths of a few kilometers, we know of no large openings that could provide access to Earth's deep interior. The very high temperature and pressure and the lack of air in the deep earth create conditions in which people could not survive. It's also a long journey—6,371 kilometers (approximately 3,950 miles) to the earth's center. If a person were able to walk directly to the earth's center, it would take about 53 days (at 5 km/hr, approximately 3.1 miles per hour, 24 hours per day) of walking. And then there would be the walk back!

Verne's writing applied new discoveries and ideas from his time to new stories and settings. For example, undersea vessels had been unsuccessfully attempted when Verne wrote *Twenty Thousand Leagues Under the Sea* in 1869. Some things Verne got all wrong. His moon-rocket is a giant shell shot from a gun. The rocket's interior has fancy stuffed armchairs and cupboards. Verne's 1860s astronauts even open the windows of their space vehicle to throw out the garbage and admire the view! Yet in all of Verne's writing, he tried to bridge the distance between fact and fiction using the tools of imagination.

Text excerpted from Walden Media's activity guide for *Journey to the Center of the Earth*. Walden's text was adapted from *Journey to the Center of the Earth* by Lawrence W. Braile and Sheryl J. Braile: <a href="http://web.ics.purdue.edu/~braile/edumod/journey/journey.htm">http://web.ics.purdue.edu/~braile/edumod/journey/journey.htm</a>.



Module Two: Exploration of Science

Activity One: Fiction vs. Science (continued)

Below are a list of vocabulary words found in the excerpt on the previous page. Are there other words you don't understand? What do you think about some of Verne's ideas about science? What do you think about some of the science facts in the excerpt?

**Eruption** The release of gas, ash, lava, or hot water from an opening in Earth's surface.

**Kilometers** A form of measurement using the metric system. One kilometer equals a little

more than half a mile.

**Radius** The straight line of measurement between the center of a sphere and the

surface of the sphere.

**Leagues** A measure of distance equal to 4.8 kilometers.

Iceland A large island between Scandinavia and Greenland located in the North Atlantic.





Module Two: Exploration of Science

### **Activity Two: Science-Fiction Comic Strip**

Jules Verne's three most famous books were Journey to the Center of the Earth, Around the World in Eighty Days, and 20,000 Leagues Under the Sea. These books have introduced such compelling scientific theories and adventures that each has been made into a movie. In fact, Journey to the Center of the Earth has been made a movie four times—each with a different twist. It has also been made into a television movie or miniseries many more times than that!

#### **Discussion Questions**

- What are some of your favorite science-fiction or adventure movies? What about these movies interests you most?
- Do you read science-fiction books or magazines? Do you watch science-fiction movies? What are your favorite science-fiction stories, and why?
- If you could live in the future or in the past, like the world found within the center of the earth, which would you choose? Why?

Based on your favorite science-fiction and adventure books and movies, choose an adventure you would most like to take. Use the comic strip on the next page to create your very own adventure. This activity is adapted from the guide created by Walden Media. Go to <u>Walden.com</u> to find more activities.

Here are some ideas for exploration and adventure to get youth started:

Deep sea life

Alien life

Outer space—maybe a specific planet or another galaxy

Cave

Desert

Tropical rainforest

Time travel

Shrinking to the size of a bug

Growing to the size of a giant

Supernatural phenomena



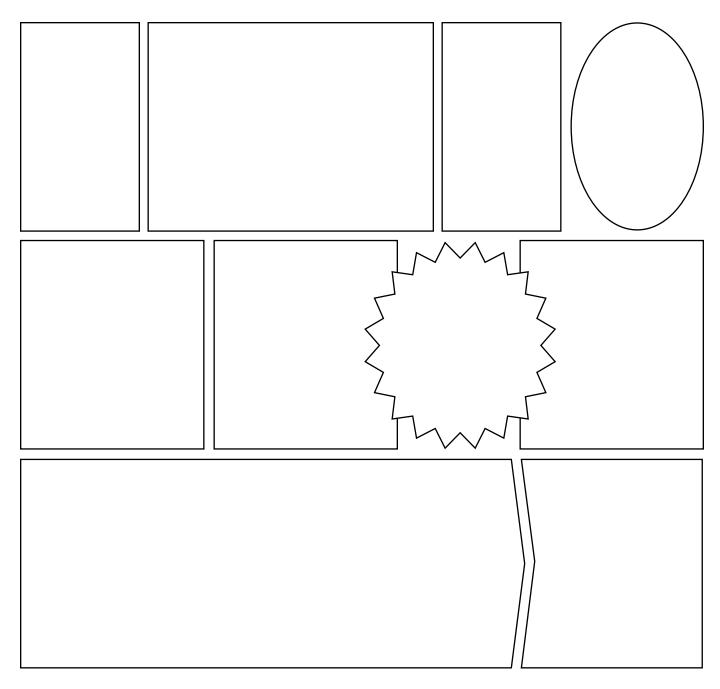
Module Two: Exploration of Science

**ACTIVITY** 



# Activity Two: Science-Fiction Comic Strip (continued)

Use the comic strip below to create an exciting adventure in which you are the star! Fill in the boxes below with drawings and text to make your dream adventure something you can share with others.

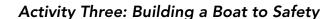


# JOURNEY REINTER # EARTH

# Journey to the Center of the Earth: Embark on Your Journey

Module Two: Exploration of Science

**ACTIVITY** 



Trevor, Sean, and Hannah build a boat to sail across the ocean they discover in the center of the earth. Using the resources available to them they create a vessel to sail to the other side where they are able to blast out of the center of the earth to the surface.

Think about the materials that the three of them had and think about the resources you have available to you. How would you make a boat if you needed to sail across a body of water?

While making a boat to take you across an ocean might be too large an undertaking—not to mention dangerous—making a small vessel to sail across a pond might be the perfect project for you.

### Here's how you can get started:

1. Gather in small groups and collect the materials that you think will allow you to make a small boat that can carry an egg safely across a small body of water.

Examples of items to use for your boat:

Empty milk jugs or soda bottles

**Twigs** 

Plastic bags

Twine

Cardboard

Straws

Popsicle sticks

- 2. In one hour, together with your teammates, build a raft or boat that you think will float and sail with an egg as a passenger. Keep in mind that to sail the vessel it will need to be able to capture the wind, like on the raft Trevor, Sean, and Hannah made.
- 3. Once all the teams have finished their rafts, launch them in a body of water near you. Make certain the egg "passenger" is securely fastened and wait for your adult leader to announce "Start."
- 4. Record which teams' vessels sail, which ones float, and which ones sink.
- 5. Discuss the different vessels, how each was built, and how that resulted in whether it floated, sank, or sailed.
- \*Note: If there is not a body of water nearby this activity can still be done inside by placing the vessels in a large sink or even a plastic tub to see which vessels stays afloat the longest.



Module Two: Exploration of Science

#### **Activity Four: Scavenger Hunt**

In the book and in the movie there are many different types of fossils and rocks—and even dinosaur bones—that the adventurers encounter in their journey. However, youth don't have to travel to the center of the earth to encounter these things; they can explore right in their own neighborhood or classroom by taking part in a scavenger hunt.

#### Instructions for the Facilitator:

- 1. Hide objects that reflect those found in *Journey to the Center of the Earth* in a classroom or a natural setting near your organization. Following is a list of items to help get you started:
  - Specific rocks native to your state or region
  - Leaves and other plant life native to your state or region
  - Fossils
  - Fake diamonds or other gems
  - Plastic dinosaurs
  - Fish stickers
- 2. Make a list of all of the objects you hide, keeping track of how each object can be found (i.e. walk 10 steps north, then 3 steps west)
- 3. Provide each group with a list of the objects and the locations they will find each one. If you have access to compasses for each group provide those as well. If you do not have access to compasses for your group mark the perimeter of the search area with the directions North, South, East, and West so they can keep track of the direction in which they are searching.

If your youth enjoyed this small adventure and are seeking a larger adventure the National Parks Service Junior Ranger Program might be an exciting opportunity to pursue. To learn more about Junior Ranger Programs near you visit <a href="http://www.nps.gov/learn/juniorranger.htm">http://www.nps.gov/learn/juniorranger.htm</a>.

Alternative idea: Split your youth into groups of three and provide each with a bag for collecting rock and fossil samples. Provide each group with photos and descriptions of common rocks in your area. With enough mentors to help lead your youth on a walk, take your group on a nature walk. Instruct each group to focus on finding samples of local rocks, rocks containing fossils, and rocks that have been weathered and eroded in different ways. Additionally, you can instruct your youth to seek out five natural elements they have not taken time to really examine before, such as uniquely shaped leaves or plants. Once each group has found a sample of each rock or five nature items, return to the classroom to do research on the items they have found and write a small description of each one, including its name and why it's important to the environment.

A helpful resource for discovering local rocks in your state is 42eXplore: <a href="http://www.42explore.com/rocks2.htm">http://www.42explore.com/rocks2.htm</a>



Module Two: Exploration of Science

# Activity Five: Exploring Science in the Book and Movie

In the book, both Professor Lidenbrock and his nephew Axel are well-versed in geology and see their expedition as an exciting scientific journey. In the movie, Trevor Anderson is a professor of geology who specializes in Plate Tectonics, but his nephew, Sean, isn't necessarily interested in these academic pursuits. However, along the way Sean learns how cool science is.

#### **Discussion Questions:**

- Did the movie help you learn some cool things about science? What about science do you like the most?
- There are many references to science throughout the book and the movie. However, do all the references correspond with the knowledge you have of science? What things in the movie are fact? What things in the movie are fiction?
- Professor Lidenbrock in the book and Professor Trevor Anderson in the movie are both experts in their fields. Is there any subject that interests you enough for you to want to be an expert in it? Discuss what that is and why.
- In the book, Professor Lidenbrock, Axel, and Hans were prepared with water and food for a portion of their journey. In the movie, Trevor, Sean, and Hannah had not planned on a journey, however they survived this unexpected journey because of Hannah's preparedness. List the supplies you can remember that she had in her backpack. Why did they prove important to their journey? What would you have in your backpack if you were able to begin a journey? What do you have in your backpack, purse, or wallet that helps you on your journey every day?
- How do you use science every day?

Use the activity sheet on the following page to engage your youth in thinking about science in everyday life. Here are some ideas to help you prompt your youth:

- Boiling water on the stove
- Condensation on a glass
- Lights turning on and off
- Watching television
- Seeds sprouting in a garden or grass growing
- Driving cars
- Crumbs sticking to plastic wrap

howstuffworks.com is a useful resource for exploring some of the answers to these and other questions about every day science.



Module Two: Exploration of Science

**ACTIVITY** 



# Activity Six: Everyday Science

Fill in the table below with every day activities that you think use science. Use the internet or your local library to do some research on what's actually happening.

Activites where science occurs	What's happening
Example:  IN THE KITCHEN BAKING A CAKE	A CHEMICAL REACTION CHANGES THE INGREDIENTS FROM LIQUID TO SOLID



**Module Three: Your Personal Journey** 

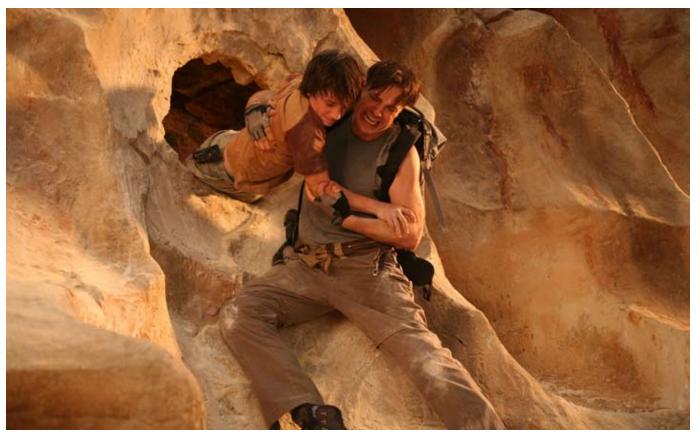
## Module Three: Your Personal Journey

Sean shows up at Trevor's house for a visit without much enthusiasm for the next ten days he will be spending with his uncle. He'd much rather play video games than talk to Trevor. However, as the movie unfolds, Sean becomes more and more interested in what Trevor can teach him. First Trevor helps Sean learn more about Sean's father, who died when Sean was three years old, and then Trevor takes Sean on an amazing journey.

In the movie, we see Sean take a personal journey that helps him learn about himself, his family and the Earth.

### **Objectives:**

Explore your everyday journeys Record today's activities to help you and others tomorrow





**Module Three: Your Personal Journey** 

**ACTIVITY** 



# **Activity One: Living Your Journey**

Sean goes on an extraordinary journey in the movie, and for you everyday life is just as much of a journey. The things you encounter each day, whether good or bad, help in your journey through life from adolescence into adulthood.

Use the chart below to discuss three positive incidents and three negative incidents you have recently experienced. Explain what each taught you and what new skills you learned from them.

	What I learned	New skills and understanding I developed
Positive Experience Example WE WON OUR GOCCER GAME	working well on a team	HOW TO PAGG THE BALL
Positive Experience		
Positive Experience		
Positive Experience		
Negative Experience Example MY BEST FRIEND MOVED AWAY	HOW MUCH I LIKED HIM/HER	HOW TO STAY IN TOUCH AND HOW TO MAKE NEW FRIENDS
Negative Experience		
Negative Experience		
Negative Experience		



**Module Three: Your Personal Journey** 

**ACTIVITY** 



# **Activity Two: Tracking Time**

Throughout their journey, Trevor, Sean, and Hannah were able to use both Jules Verne's story Journey to the Center of the Earth and the notes Sean's dad, Max, made in his copy of the book. Both of these things were very helpful to the adventurers and allowed them to find a way back to Earth's surface.

Think about your day-to-day activities and how they might help people in the future learn what life was like when you lived. Use the following worksheet to record those activities and items you encounter daily. After you and your group have completed your worksheets place them in a time capsule and bury it for future "explorers" to discover.

Name	
Year born	
Current date	
Current grade level	
Favorite subject	
Favorite out-of-school activity	
Favorite movie	
Favorite book	
Hobbies	
Most talked about current event this week	
An interesting fact about you	



Module Four: Looking Into the Future

# Module Four: Looking Into the Future

What your youth want to do today is probably very different than what they will want to do in the future, but ideas in movies and books can help open their eyes to all the possibilities that exist for them. The following sections explore just a few of the careers that exist in the fields of science and exploration. Through examining what their current interests are and what "adventures" certain jobs can bring, they might begin to understand the full realm of possibilities for their future.

## **Objectives:**

Learn about the real world of science Learn about the real world of exploration and adventure Make a positive impact on the world around you





Module Four: Looking Into the Future

# Activity One: Science in the Real World

Trevor Anderson, Sean's uncle, is a professor of geology who specializes in plate tectonics. Plate tectonics is a branch of geology that studies the movement of the earth's outermost layer, the lithosphere. There are many different branches of science that explore the ways all parts of the world work—from the largest things to the smallest.

Below is a list of careers in science and a short description of each. Instruct your youth to pick the career in science of most interest to him or her and to do additional research on it. In their research, encourage them to answer the following questions:

- What are some of the largest contributions this field has given to science?
- Who are some of the most famous scientists in this field?
- Have there been any new discoveries in this field in the last decade? What were some?

# **Geologist** From the physical structure of the earth to the study of soil formation, these scientists study Earth's processes. Geology has contributed to the understanding of the way many events on Earth happen such as earthquakes and volcanoes, in addition to many other things.

- Physicist Physicists study physics, which is the study of matter and motion, and time and space with the goal of understanding the way the universe behaves. Physicists study things as small as particles and atoms and things as large as astronomy, stars, and galaxies.
- **Biologist** Biologists study the way organisms interact with their environment. Biologists study many different organisms, from animals to plants to the tiniest microorganisms.
- Chemists Study chemistry, which is the study of matter and how it behaves and changes during chemical reactions. Chemists work on a very small, detailed level, studying and describing the atoms and molecules that make up matter.
- **Doctor**You are probably very familiar with doctors—from family physicians to eye doctors to dentists, doctors are a part of your life. Doctors are scientists too and have to study many of the sciences described above to get their degree. Science helps doctors understand what is going on inside of our bodies.



## Activity Two: The Real World of Exploration and Adventure

Below is a short list of careers in exploration and adventure, and a brief description of each. Instruct your youth to pick an area of adventure that is most appealing and encourage them to do additional research on it.

Travel

There are many different careers one can pursue in the travel industry. Some might choose to work as flight attendants or on cruise ships to travel to different locations across the globe. Others might choose to work in the tourism industry at a resort or hotel and play host to different travelers from all around the world and encounter many different cultures and people in doing so!

**Nature** 

Careers working with nature are very diverse. Some people choose to educate others about nature by becoming guides on hiking trails or whitewater rafting trips. Some people choose to work as park rangers or work to preserve the natural environment. Others choose to go into camping and work as camp directors and counselors, helping youth learn about such fun things as canoeing, climbing, and even archery. Many camps hire counselors as young as 17, something your youth could begin to consider now.

Disaster Relief Some individuals choose to volunteer with disaster relief services while others make a career out of it. People that work with disaster relief help out in both natural disasters and other events in which many people are injured. The Coast Guard, Navy, Military, police, and firefighters keep us safe on a daily basis as well as during large-scale disasters. Other organizations such as the American Red Cross and the Federal Emergency Management Agency (FEMA) help out when disasters occur. With all of these organizations, it takes a lot of people with diverse skills to get the help to the people who need it most. There are people who work out in the field delivering relief and protection, but there are also individuals who have to think very strategically about how to organize the efforts of thousands of workers and volunteers to help those people in need. This is a field that requires tremendous teamwork.

Here is a list of agencies and the websites where you can find more information:

Nature Conservancy: www.nature.org

YMCA Camps: <a href="http://www.ymca.net/find\_ymca\_camps">http://www.ymca.net/find\_ymca\_camps</a>

National Parks Service: <a href="http://www.nps.gov/gettinginvolved/index.htm">http://www.nps.gov/gettinginvolved/index.htm</a>

Sierra Club Outings: www.sierraclub.org

Outward Bound Wilderness: www.outwardboundwilderness.org

American Red Cross: www.redcross.org

U.S. Army: <a href="http://www.army.mil/">http://www.army.mil/</a> U.S. Navy: http://www.navy.mil Coast Guard: http://www.uscq.mil



Module Four: Looking Into the Future

# **Activity Three: Preserving Your World**

Trevor, Sean and Hannah took a journey that led them to encounter things of the past deep within the earth's crust. They found fossils of ancient creatures as well as prehistoric animals that still roamed the center of the earth. While these three adventurers went on a trip that essentially took them back in time, your youth have opportunities to take part in service projects now.

Following are service project ideas that you and your youth can participate in, to help other people and the environment for future generations.

- Get involved with your local Red Cross in any number of ways. Learn to organize blood drives, become trained for lifeguarding or babysitting, or even become trained to volunteer with the disaster relief programs. Learn more at <a href="https://www.redcross.org">www.redcross.org</a> and visit <a href="mailto:redcross.volunteermatch.org">redcross.volunteermatch.org</a> to find a Red Cross near you.
- Create a fundraising event to support local organizations that go on rescue missions, maintain hiking trails, or engage in scientific exploration. Some national organizations that might get you thinking on a local level include:

National Association for Search & Rescue: <a href="www.nasar.org">www.nasar.org</a>
U.S. National Park Foundation: <a href="www.nationalparks.org">www.nationalparks.org</a>
The Scientific Exploration Society: <a href="www.ses-explore.org">www.ses-explore.org</a>
Student Environmental Association: <a href="www.thesca.org">www.thesca.org</a>

- Help park rangers clear paths/pick up trash in local or national parks.
- Volunteer with a lab technician or science educator at a nearby university.
- Develop a science fair in which proceeds go to scientific research or a health-related cause. Successful Science Fair Projects by Lynne Bleeker is a good resource to begin with: faculty.washington.edu/chudler/fair.html.
- Educate your peers and other individuals about the dangers of energy use and carbon emissions and how to make simple changes in everyday routines. For more information about reducing carbon emissions visit <a href="https://www.carbonfund.org/site/pages/save\_energy">www.carbonfund.org/site/pages/save\_energy</a>.



**Post Program Evaluation** 

Dear Facilitator,

Please take a few moments to answer the questions in the evaluation for the *Journey to the Center of the Earth*: Embark on Your Journey curriculum at <a href="https://www.youthFILMproject.org/evaluations">www.youthFILMproject.org/evaluations</a>.

We value your feedback, and your comments and stories can help inspire others and keep FILM alive. Please visit <a href="www.youthFILMproject.org/evaluations">www.youthFILMproject.org/evaluations</a> at the completion of this curriculum and tell us how you used it. You can also send your stories to <a href="FILMinfo@trulymovingpictures.org">FILMinfo@trulymovingpictures.org</a>.

Thank you for your support!

Sincerely yours,

The FILM team

FILMinfo@trulymovingpictures.org

fle FILM team

FILM curriculum is made possible through the partnership of Heartland Truly Moving Pictures and the National Collaboration for Youth. Heartland is a nonprofit organization that seeks to recognize and honor filmmakers whose work explores the human journey. The National Collaboration for Youth is a nonprofit organization providing a unified voice for its coalition of more than 50 national, nonprofit, youth development organizations, and concentrates on improving the conditions of youth in the United States and enabling youth to realize their full capabilities.





