



Pathfinder Honour: Trainer's Notes

Waterfalls 1



Instructions to Trainers / Instructors of this Honour

Thank-you for being involved with this Honour. These notes have been developed to assist in teaching / instructing this honour. We recognise that there is much more information available and we are grateful that you should share your expertise.

Please remember that Honours are designed to develop our Pathfinders in many ways; their interests, their knowledge and their relationship with their Saviour and Creator. Your enthusiasm and creativity will have a huge impact on those doing the honour.

To complete an Honour, the following (where applicable) must be completed satisfactorily:

- Physical and Practical Requirements.
- Honour Workbook.
- Honour Assessment Sheet. *(On SPD Honour Website but Leader's level access is required)*

Additional Reference Material

Please see ADDITIONAL RESOURCES on the final page of these Notes.

Acknowledgements

http://en.wikibooks.org/wiki/Adventist_Youth_Honors_Answer_Book/Nature/Waterfalls

Much of these notes is based on this excellent site. Other citations are listed in the following text. Please be aware that the content of the above site and any other sites is beyond the control of the SPD.

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REQUIREMENT 1: Define the following types of waterfalls and give one example of each.

The following terms describe different types of waterfalls. Please note that not all waterfalls fit nicely into a specific type. Sometimes, few type-names are needed to describe the characteristics of a waterfall at the time of viewing.

a. Block

Water descends from a relatively wide stream / river. The waterfall is wider than it is tall.



Picture on left: Millstream Falls on a tributary to the Herbert River on the Atherton Tableland in North Queensland, Australia. It is Australia's widest waterfall.

http://upload.wikimedia.org/wikipedia/commons/b/b6/MillstreamFalls_4467.jpg

Picture on right: Niagara Falls on the border between Canada and the United States on the Niagara River, which drains Lake Erie into Lake Ontario. See page 5 of these notes.

<http://upload.wikimedia.org/wikipedia/commons/1/12/Niag715.jpg>

b. Cascade

Water descends a series of rock steps in quick succession. Cascades can be both gradual and steep.



Picture on left: Roaring Fork Falls in the Blue Ridge Mountains of North Carolina USA

http://upload.wikimedia.org/wikipedia/commons/4/44/Roaring_Fork_Falls.jpg

Picture on right: Courtallam Falls, Courtallam, South India,

<http://en.wikipedia.org/wiki/File:Courtallam.jpg>

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c. Horsetail

Descending water maintains constant or semi-constant contact with bedrock. Horsetail waterfalls can be almost vertical, as well as very gradual.



Picture on left: Steavenson Falls is a waterfall on the Steavenson River near Marysville, Victoria, Australia.

http://en.wikipedia.org/wiki/File:Steavenson_Falls_10_January_1999.jpg

Picture on right: Howick Falls on the Umgeni River at Howick, KwaZulu-Natal Province, South Africa. Many people have been swept over the falls, especially in the pioneer days as some settlers thought the easiest place to cross the river was just above the falls.

<http://upload.wikimedia.org/wikipedia/commons/9/9d/Howick-Falls-November-2009.jpg>

d. Plunge

Water descends vertically, losing most or all contact with the rock face.



Picture on left: Sipi Falls are in Eastern Uganda near the Kenyan border.

http://en.wikipedia.org/wiki/File:Sipi_Falls_Main_Drop.jpg

Picture on right : Bridal Veil Falls (Māori Waireinga) is a plunge waterfall located along the Pakoka River in the Waikato area of New Zealand.

http://en.wikipedia.org/wiki/File:Waireinga_Falls.jpg

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e. Segmented

Distinctly separate flows of water resulting in multiple falls to occur side by side.



Picture on left: Laja Falls on the Laja River in south-central Chile.

http://en.wikipedia.org/wiki/File:Salto_del_Laja_1.jpg

Picture on right: Dry Falls, also known as Upper Cullasaja Falls, is located in the Nantahala National Forest, northwest of Highlands, North Carolina USA.

Note: It is also a Plunge Waterfall.

http://en.wikipedia.org/wiki/File:Dry_Falls2.JPG

f. Tiered

Water drops in a series of distinct steps or falls



Picture on left: Yosemite Falls is in Yosemite National Park in the Sierra Nevada of California USA. It is the highest measured waterfall in North America being a total of 739m (2,425 feet) from the top of the upper fall to the base of the lower fall.

http://en.wikipedia.org/wiki/File:Yosemite_falls_winter_2010.JPG

Picture on right: Ebor Falls are on the Guy Fawkes River near Ebor on the Waterfall Way in the New England region of New South Wales, Australia.

http://en.wikipedia.org/wiki/File:Upper_ebor_falls_small.jpg

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REQUIREMENT 2: Choose 10 waterfalls, including 2 from near the area or state in which you live, and list the following information about them: Name, Total Height, Waterfall Type, Watercourse and Location.

For those doing the honour, we are asking them to focus on their 'local' waterfalls first and enter the relevant details in their Workbook.

A list of resources is provided at the final page of these notes.

To help you getting started, we are indebted to the following example from Wikibooks:
http://en.wikibooks.org/wiki/Adventist_Youth_Honors_Answer_Book/Nature/Waterfalls

Name: Niagara Falls is actually three falls. From largest to smallest, the three waterfalls are the Horseshoe Falls, the American Falls and the Bridal Veil Falls. The Horseshoe Falls lie on the Canadian side and the American Falls on the American side, separated by Goat Island. The smaller Bridal Veil Falls are also located on the American side, separated from the other waterfalls by Luna Island. The international boundary line was originally drawn through Horseshoe Falls in 1819, but the boundary has long been in dispute due to natural erosion and construction.

Total Height: vertical drop of more than 50 m (165 feet)

Waterfall Type: Block

Watercourse: Niagara River

Location: Between Niagara Falls, Ontario and Niagara Falls, New York.

REQUIREMENT 3: Complete two of the following activities.

a. Visit a waterfall and write a paragraph telling about your experience.

Visiting waterfalls is heaps better than looking at a picture. Consider including these visits with hiking activities (Hiking honours etc). Perhaps it could also be done in conjunction with the photography honours.

b. Choose a waterfall (other than ones in Requirement 2) of interest to you and record facts and interesting information about the waterfall that you have selected.

Please refer to the final page of these notes for some additional resources. Besides the statistics of the waterfall, it's worthwhile considering the eco-system surrounding the waterfall. This includes and the fauna and flora that make their home there.

c. Watch a 'decent' video about a waterfall or waterfalls.

The intent is a meaningful video - not just a 2 minute tourist video. Here is one worth watching: [BBC Natural World - The Falls of Iguacu](#)

The focus is more on the wildlife around the falls but very interesting to see the eco-system that the falls supports.

d. Make a scrapbook about waterfalls. Include pictures of waterfalls and important information about each one. This may be a group project.

This could be a great project for the Scrapbooking 1 Honour. For those technically minded, this can be an opportunity to use electronic wizardry!

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- e. Using information on waterfalls, create a crossword, a word search puzzle or a fascinating-facts file on waterfalls..

Source: http://en.wikibooks.org/wiki/Adventist_Youth_Honors_Answer_Book/Nature/Waterfalls

- Angel Falls: Tallest waterfall in the world at 979 m (3212 feet) in Venezuela.
- Browne Falls: Tallest waterfall in New Zealand 836 m (2,744 feet).
- Dettifoss Falls: Waterfall flowing from a glacier in Iceland.
- Havasu Falls: Waterfall on an Indian reservation in Arizona.
- Huangguoshu Falls: Largest waterfall in China.
- Iguazu Falls: 275 falls on the border of Argentina and Brazil.
- Langfoss Falls: Giant cascade in Norway, falling 612m (2008 feet).
- Mardalsfossen Falls: Well known tiered waterfall in Norway.
- Multnomah Falls: Tiered waterfall along the Columbia Gorge in Oregon.
- Niagara Falls: Most powerful waterfall in North America.
- Shomyo Falls: Tallest year-round falls in Japan.
- Takkakaw Falls: Cree Indian name for a waterfall in British Columbia.
- Tugela Falls: 2nd tallest waterfall in the world, found in South Africa 948 m (3,110 feet).
- Victoria Falls: Largest waterfall in the world.
- Yosemite Falls: Popular tourist attraction in a National Park in California.
- Yumbilla Falls: 5th tallest waterfall in the world, 2nd tallest in Peru 896 m (2,938 feet).

- f. Create a simple model (or models) which demonstrates at least two (2) of the waterfall types listed in Requirement 1.

Besides learning about the basic types of waterfalls, this requirement can be heaps of fun especially in summertime. The following examples were constructed of very basic materials that were just lying around: concrete pavers and a piece of timber.



Picture on left: Block waterfall



Picture on right: Plunge waterfall

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REQUIREMENT 4: Water is mentioned in each of the following verses. Describe what is happening in each verse, then tell what the water symbolizes.

Based on: http://en.wikibooks.org/wiki/Adventist_Youth_Honors_Answer_Book/Nature/Waterfalls

a. John 9:11

He answered and said, "A Man called Jesus made clay and anointed my eyes and said to me, 'Go to the pool of Siloam and wash.' So I went and washed, and I received sight." (NKJV)

In this verse, a man who was born blind was explaining to the Pharisees how he had been healed of his blindness by Jesus. Rather than recognizing the divinity of Jesus, the Pharisees ignored the fact that Jesus had healed the man's blindness, but rather seized on the detail that Jesus had "made clay" which was "in violation of the Sabbath."

They were indeed "straining out a gnat and swallowing a camel." (Matt 23:24).

The water in this verse represents faith, because the blind man was not healed until he acted on faith and washed as instructed.

An immediate parallel is the story of Naaman (2 Kings 5) in which Naaman was not healed of his leprosy until he acted on faith as instructed, and washed in the River Jordan.

b. John 13:5

After that, He poured water into a basin and began to wash the disciples' feet, and to wipe them with the towel with which He was girded. (NKJV)

This verse takes place during the Last Supper. The disciples had been arguing among themselves about who of them was the greatest, so none of them wanted to stoop down to serve the others by washing their feet.

That was a job for the lowliest servant in a household, not for someone who aspired to the Secretary of the State in the New Kingdom.

All of them knew that someone needed to perform this task, but none would.

The disciples were greatly embarrassed when they realized that Jesus himself was doing this.

The water here represents cleansing from sin. Just as He was the only one willing to take the role of a servant, Jesus was also the only One able to rid them of their sin.

c. Matthew 3:16

When He had been baptized, Jesus came up immediately from the water; and behold, the heavens were opened to Him, and He saw the Spirit of God descending like a dove and alighting upon Him. (NKJV)

This verse describes the baptism of Jesus. Baptism represents our own death, burial, and resurrection. We die to ourselves, are 'buried' in the water (representing the grave), and then resurrected as new, born-again Christians.

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ADDITIONAL RESOURCES

World Waterfall Database: <http://www.worldwaterfalldatabase.com/>

List of Waterfalls: http://en.wikipedia.org/wiki/List_of_waterfalls_by_type

Types of waterfalls: <http://en.wikipedia.org/wiki/Waterfall#Types>

List of waterfalls by location: http://en.wikipedia.org/wiki/List_of_waterfalls

List of waterfalls by height: http://en.wikipedia.org/wiki/List_of_waterfalls_by_height

List of waterfalls by flow rate: http://en.wikipedia.org/wiki/List_of_waterfalls_by_flow_rate

List of waterfalls in Australia: http://en.wikipedia.org/wiki/List_of_waterfalls_of_Australia

Types of waterfalls in New Zealand: <http://waterfalls.co.nz/more/types-of-waterfalls>

World's tallest waterfalls: <http://www.worldwaterfalldatabase.com/tallest-waterfalls/total-height/>