

ACTIVITY: TOUR QUESTIONS

DURATION

Length of tour

MATERIALS

- *Stave Falls Powerhouse: Tour Questions* handouts for students, or pairs of students (provided by Visitor Centre staff)

PREPARATION

- Decide what is best for your students – to complete the tour questions after the tour, or use the handout as an interactive tour activity.
- If you wish, you may preview some or all of the questions with students before the trip or on the school bus.
- Visitor Centre staff will provide the handouts, if the tour questions are to be used during the tour.

ACTIVITY INSTRUCTIONS

Interactive Tour Questions:

1. Explain the purpose of the tour questions: to keep everyone focused, suggest questions to ask, provide a preview of what is coming ahead and highlight some of the important learnings.
2. Hand out question sheets to each student, or to pairs of students.
3. Provide time and reminders for students to answer the questions at appropriate times during the tour.
4. If students are working in pairs, consider a challenge to see who can complete their questions the quietest.

POWER HOUSE AT STAVE FALLS - TOUR QUESTIONS

Name: _____ Date: _____

Use this question sheet during, or following, your tour of the Power House at Stave Falls. You will find most of the answers to these questions by paying attention to your tour guide and to the information displays you see on the tour.

An answer key is available at the reception desk.

1. What natural process is explained in the short film *Rain*?

- a) nutrient cycle
- b) carbon cycle
- c) hydrologic cycle
- d) circle of life

2. Describe one interactive exhibit you experienced in *Electrica* and explain what you learned.

3. Was electrical power generation considered an essential service during World War II?

Circle one. Yes No

4. Choose the animal species that is NOT common to this area.

- a) marmot
- b) osprey
- c) banana slug
- d) salmon

5. What was the first mechanical device installed in the power house?

6. Write two words to describe your experience at the penstock and dam viewing deck.

7. What do the letters CFL stand for? (Hint: not related to football!)

POWER HOUSE AT STAVE FALLS – TOUR QUESTIONS

8. What invention do you think the turbine design was inspired by?

- a) mortar and pestle
- b) water wheel
- c) steam engine
- d) printing press

9. What aspect of electricity do transformers actually transform?

- a) amps
- b) wattage
- c) current
- d) voltage

10. Considering that the Detroit Electric Car was produced in 1912, why do you think there have been so few electric vehicles produced since then?

11. What was the name of the mascot used to encourage saving electricity?

- a) Vera Voltage
- b) Curly Current
- c) Hydro Harry
- d) Reddy Kilowatt

12. Currently, the largest BC Hydro generating station is _____

13. Unscramble the jumbled letters to find out how you can save electricity just as your ancestors may have. (Hint: Doing the laundry) **nagh yrd**

14. A _____ is the name for the area of land that has surface water from all sources draining into a single point.

15. What is the name of the boat anchored just down stream from the power house?

Bonus Question: How did Stave Falls get its name?

POWER HOUSE AT STAVE FALLS – TOUR ANSWERS

1. What natural process is explained in the short film *Rain*?

- a) nutrient cycle b) carbon cycle
c) hydrologic cycle d) circle of life

2. Describe one interactive exhibit you experienced in Electrica and explain what you learned.

3. Was electrical power generation considered an essential service during World War II?

Circle one. **Yes** No

4. Choose the animal species that is NOT common to this area.

- a) marmot** b) osprey
c) banana slug d) salmon

5. What was the first mechanical device installed in the power house?

crane in 1910

6. Write two words to describe your experience at the penstock and dam viewing deck.

7. What do the letters CFL stand for? (Hint: not related to football!)

Compact Fluorescent Light (bulb)

8. What invention do you think the turbine design was inspired by?

- a) mortar and pestle **b) water wheel**
c) steam engine d) printing press

POWER HOUSE AT STAVE FALLS – TOUR ANSWERS

9. What aspect of electricity do transformers actually transform?

- a) amps
- b) wattage
- c) current
- d) voltage**

10. Considering that the Detroit Electric Car was produced in 1912, why do you think there have been so few electric vehicles produced since then?

11. What was the name of the mascot used to encourage saving electricity?

- a) Vera Voltage
- b) Curly Current
- c) Hydro Harry
- d) Reddy Kilowatt**

12. Currently, the largest BC Hydro generating station is G.M. Shrum/WAC Bennett Dam

13. Unscramble the jumbled letters to find out how you can save electricity just as your ancestors may have. (Hint: Doing the laundry) **nagh yrd**

hang dry

14. A watershed is the name for the area of land that has surface water from all sources draining into a single point.

15. What is the name of the boat anchored just down stream from the power house?

MV Shirley

Bonus Question: How did Stave Falls get its name?

White Pine trees were harvested in the area and made into staves to form shipping barrels. Goods were sent in these barrels as far away as Hawaii.

ACTIVITY: TIMELINE

DURATION

20 minutes

MATERIALS

- timeline cards (provided by Visitor Centre staff)
- timeline overview

PREPARATION

- Review the timeline to familiarize yourself with the items to be discussed.

ACTIVITY INSTRUCTIONS

1. Find an area (inside or outside) big enough for your class to form a circle, and ask students to form the circle as quickly and quietly as possible.
Tip: with hands on hips, elbows should be touching for a good size circle.
2. Hand out one timeline card for each pair of students. Retain extra cards, if any.
3. Find a place for yourself between two students.
4. Have students hold their card in front of their chest so all cards are visible to the class.
5. Go around the circle and have each student read aloud his or her historical event.
6. Tell students they will have a limited time (about five minutes) to arrange themselves in chronological order from the earliest event to the most recent. For younger grades, ask them to share strategies for success before starting, and guide them with suggestions as needed.
7. At the end of the five minutes, recognize their efforts and check for accuracy. Rearrange the order as needed.
8. Read aloud the correct order of events.
9. Ask students to consider any or all of the following questions:
 - What event has been the most significant to your life and the lives of British Columbians?
 - What event do you think has had the biggest impact on Stave Falls?
 - Is there a significant event or invention that should be included here but is not? Why?
10. Collect the timeline cards to return to the tour guide.

EXTENSION

- Back in the classroom, have students choose an invention or event and research details about the impact it has had on society.
- Back in the classroom, have students create their own timelines starting with their birthday and choosing what they believe are the most significant events or inventions in their lives to the present day.

STAVE FALLS TIMELINE

1. **45 million years ago:** Coast Mountains formed
2. **2 million years ago:** Last Ice Age begins
3. **10-20,000 years ago:** Glaciers retreat
4. **8-10,000 years ago:** Sto:lo inhabit the Fraser Valley
5. **300:** Waterwheel invented
6. **1792:** Captain George Vancouver enters Burrard Inlet
7. **1880:** Light bulb is patented by Thomas Edison
8. **1907:** Building of Power House at Stave Falls begins, washing machine invented
9. **1912:** Stave Falls generates electricity for public use
10. **1969:** NASA lands on the Moon
11. **1973:** Personal computer invented
12. **1977:** Cell phone invented
13. **2001:** New Stave Falls Visitor Centre opens
14. **2010:** Vancouver Winter Olympic Games

ACTIVITY: SCAVENGER HUNT

DURATION

20 minutes

MATERIALS

- scavenger hunt checklist (provided by Visitor Centre staff)

SPECIES SCAVENGER HUNT

The species scavenger hunt is a tool intended to provide students with an opportunity to increase their awareness of the living world found in the Stave Falls area. Teachers and students may spot many of the species listed, although some are most active between dusk and dawn or can be more frequently seen during certain times of the year. Encourage students to challenge their observation skills by finding as many species within the timeframe (or on later nature explorations) as they can.

ACTIVITY SUGGESTIONS

- Remind students to **Leave no trace: leave only footprints and take only memories** while exploring the outdoor spaces. Tell them not to collect any natural objects.
- Suggest to students that sightings are only “official” once they have shared it with another student.
- Many animals are most active at dawn and dusk and may be harder to locate outside those periods. Students can continue to look for species back at school or in their neighbourhoods also.
- In some cases, the signs of local species are more evident than the species themselves (e.g., woodpecker holes, bird nests, animal scat or tracks, etc.).
- This list is a small sample considering that “B.C. is Canada’s most biologically diverse province containing significant numbers and variety of plants, animals, and ecosystem types including: 488 species of birds, 480 species of fish, 136 species of mammals, 20 species of amphibians, and 16 species of reptiles.” (BC Ministry of Environment, 2011)
- See the Green Schools link in the resources section of the Stave Falls: Power and Place resource to learn more about integrating environmental education across the curriculum.

SCAVENGER HUNT

The Stave Falls area is home to a variety of living things and historical treasures. Use your observation skills and senses to discover them.

Name _____

- Beaver (or signs)
- Bald Eagle
- Duck
- Raven
- Loon
- Canada Goose
- Woodpecker (or signs)
- Bird's nest
- Garter snake
- Frog
- River Otter
- Squirrel
- Deer
- Spider
- Spider web
- Banana Slug
- Cedar
- Douglas Fir
- Salmonberry
- Waterfall
- MV Shirley
- Others _____
- _____
- _____

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- Cedar
- Douglas Fir
- Salmonberry
- Waterfall
- MV Shirley
- Others _____
- _____
- _____