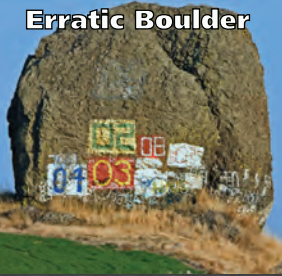


Check off what you've seen on the Ice Age Floods Trail

Try to get 3-in-a-row!

★ Bonus challenge! Can you get a blackout?

Erratic Boulder



Squirrel



Petrified Wood



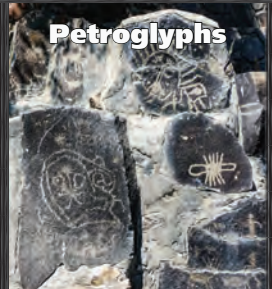
Ripple Marks



Basalt Columns



Petroglyphs



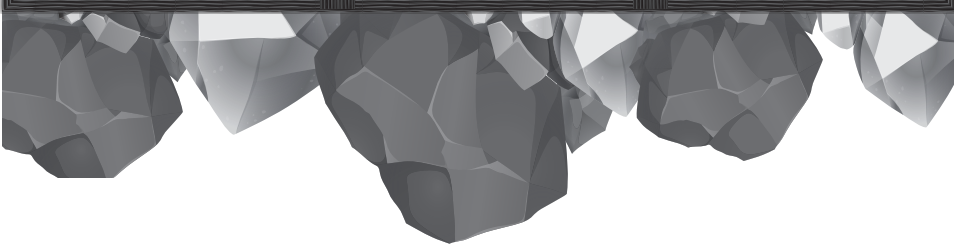
Waterfall



Deer



Field Ranger



Do You See Me?
**BIRDS
OF
PREY**

Osprey ☐

Check off any birds
you've seen!



Hawk ☐



Falcon ☐



Raven ☐



Eagle ☐



Owl ☐



Solving the *Megafood Mystery!*



Uniformitarianism

Founded by geologist James Hutton, a theory that landscapes were shaped through slow, continuous, uniform processes. These processes are the same in the past, present, and future. We can observe these processes today and know they have happened before, and will happen again.

Examples:

River valleys, the Grand Canyon, mountain-building.

Catastroph**ism**

Theory that landscape features are primarily formed from catastrophic events that were sudden, violent, rare, and widespread. These were short-lived events outside our present experience, knowledge, or nature and have greatly modified the surface of the earth.

Examples:

Volcanic eruptions, earthquakes, landslides, asteroid impacts.

*How can we explain the unusual
landscape of the*

Channeled Scablands?



When geologist J Harlen Bretz first came to the area, he knew something was up. River valleys are usually v-shaped, but the Columbia gorge is u-shaped which suggests something greater had happened. Something...
catastrophic.

J Harlen Bretz



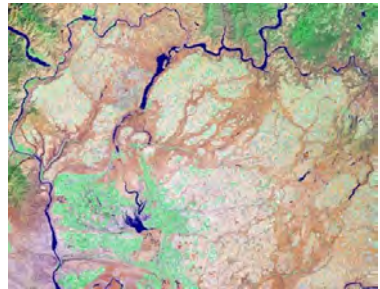
With reinforcement from geologist Joseph T. Pardee's previous research, Bretz found clues around the channeled scablands to prove his theory!

Joseph T. Pardee



Pardee discovered these giant ripple marks, ranging from 13 to 30 feet tall, formed from flood waters traveling at a rate of at least 50 miles per hour.

Satellite images of the scablands, from the Mariner 9 spacecraft, revealed braided-stream patterns similar to riverbeds. This reinforced Bretz's cataclysmic flood theory.



This is a massive erratic boulder from a different area, carried from miles away by the megafloods.

Which theory explains these clues? Circle one.

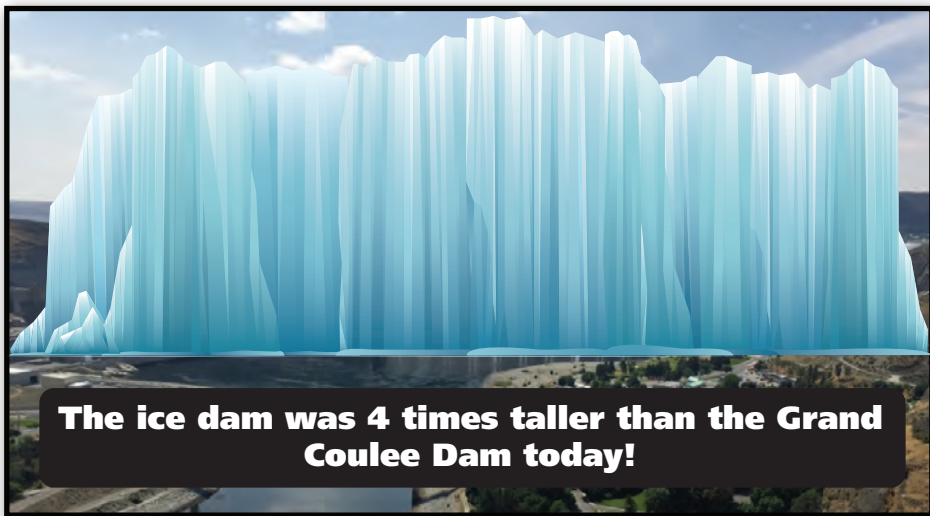
Uniformitarianism

Catastrophism

Grand Coulee Dam Visitor Center

Coulee Dam, Washington

The Grand Coulee Dam sits at the location of another kind of dam: an enormous ice dam! It formed from the **Okanogan lobe** of the Cordilleran Ice Sheet. When the ice dam burst, it sent walls of water gushing through the **Grand Coulee**, carving out what we see today!



The ice dam was 4 times taller than the Grand Coulee Dam today!

Look around at the displays and **watch a video** they are showing in the theater upstairs.

Which video did you watch?

What ecosystem do you see around the dam?



Sun Lakes-Dry Falls

State Park

Coulee City, Washington

During the last ice
age, Dry Falls was a
waterfall

**10 times
bigger**

than Niagara Falls!



Before the Cascade Mountain Range was formed, the area was lush and home to rhinoceros and camels. A few miles from Dry Falls, the bones of a rhinoceros were found! It is now known as the **Blue Lake Rhino** and is said to be 14.5 million years old!

Mega flood Wordsearch

Z	Z	A	Q	K	I	P	C	G	H	K	O	W	E	D
T	J	O	K	H	Z	H	A	N	F	F	X	V	T	D
E	M	Z	D	S	N	B	L	L	H	Q	G	C	L	R
R	N	R	H	Y	T	H	M	I	T	E	S	U	A	O
B	T	J	E	O	F	B	Q	Y	F	S	G	Q	S	M
K	C	X	Y	D	B	R	J	B	K	W	S	Z	A	I
Z	A	C	K	Y	I	R	H	R	W	E	E	T	B	L
Z	R	Y	C	K	A	V	A	L	Y	E	L	V	V	C
X	A	A	H	Q	N	M	J	M	I	L	O	H	E	Z
H	T	X	E	M	E	C	X	G	E	U	H	T	R	O
C	A	G	T	L	H	A	X	X	E	O	T	I	U	H
R	C	U	P	T	S	X	V	T	G	C	O	O	S	T
X	O	P	G	E	C	M	H	J	Y	W	P	B	S	I
W	I	L	M	M	H	G	Z	U	W	M	R	X	I	I
R	K	P	L	E	I	S	T	O	C	E	N	E	F	I

Potholes

Swirling whorls of water that grind giant, pit-like depressions into the rockbed.

Mesa

A flat-topped hill with steep sides (like Steamboat Rock!)

Ripplemarks

Tall and long grooves in the landscape caused by flooding.

Coulee

A dry, steep-walled, trench-like gorge or valley representing an abandoned river channel.

Bretz

Last name of geologist J Harlen Bretz, the first to come up with the “catastrophic flood theory.”

Rhythmites

Thick, graded, horizontal layers of flood deposits that are evidence of multiple floods years apart.

Basalt

The type of rock that makes up the Columbia Plateau.

Pleistocene

The time in which the last Ice Age occurred.

Cataract

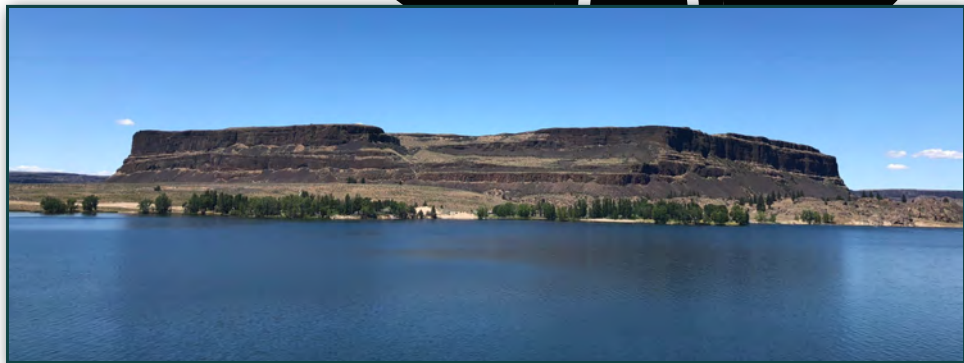
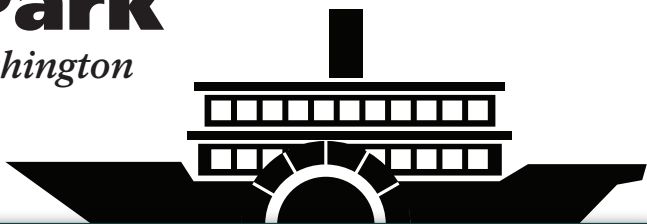
A tall, now-dry cliff formed during the Ice Age Floods.

Fissure

Giant cracks in the ground that oozes lava.

Steamboat Rock State Park

Electric City, Washington



Steamboat Rock was created when Steamboat Falls eroded basalt on both sides of the geologic feature we see today. This geologic formation is

800 feet tall and **4,000 feet wide!**

Circle which formation Steamboat Rock is!

Buttes are *taller*
than they are *wide*.

Mesas are *wider*
than they are *tall*.

Butte

or

Mesa

Dry Falls Visitor Center is full of info on the Ice Age Floods and the Grand Coulee! Walk around and write down 3 things that you learned.

1. 

2. 

3. 

