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Exploring **Science**
and **Engineering** with the INEEL

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

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THE NEW YELLOW BUS



*A Vehicle of the Future,
in Yellowstone Today*

Some day when you go to Yellowstone National Park, you might get to ride in a special **futuristic** bus. Park officials asked Kerry Klingler, an engineer at the INEEL, to build a new kind of bus to take visitors

See **YELLOW BUS**, page 2



PD03-0312-01

Microscopic Fact



Yellowstone National Park was the very first national park and was "born" March 1, 1872.

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YELLOW BUS, *continued from page 1*

around in deep snow. But Kerry wanted his bus to do more than that. He calls his bus the *New Yellow Bus*. At first, it looks almost like your school bus, but when they put the snow tracks on, it starts to look a little like a tank. Kerry says that with these tracks, the bus can go almost anywhere – maybe even to the North Pole.

The *New Yellow Bus* has lots of tricks. When you go inside, you will notice the floor is very close to the ground. This makes it easier for people in wheelchairs to get on and off. The seats in the back are higher

than the seats in front – just like in a movie theater – so you can see over other people’s heads. When you sit down, you might watch a big **monitor**, which is a TV screen located behind the driver. The monitor can show you interesting things about where you’re going, like what time Old Faithful will spout, or it can even show you nearby animals filmed from a camera on top of the bus. By pushing a button, the driver can make the roof slide open to give you a better look around. Kerry says the best thing about this bus is that it protects the **environment** because it can use clean fuels like natural gas, propane or hydrogen. What a fun way to get around!



Kerry Klingler, who designed the New Yellow Bus, answers reporter’s questions. The Yellow bus is fun for kids and grownups alike!



Microscopic Fact

INEEL engineers have designed other futuristic vehicles including electric cars and commuter trains.

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FUEL FACT QUIZ!

Natural Gas

Propane

Hydrogen

Where we get it from in nature	Underground Natural Gas Deposits	Oil and Natural Gas	Water and Natural Gas
What we get after it's burned	Carbon-Dioxide and Carbon-Monoxide	Carbon-Dioxide and Carbon-Monoxide	Water
Color of Flame	Blue	Yellow and Blue	Invisible
Common Uses	Heating Houses, Making Hydrogen	Barbeques, Lamps, Heating Houses, Powering Forklifts	Making Plant Food, Refining Oil, Making Peanut Butter

The *New Yellow Bus* can use many different kinds of fuel that are better for the environment than gasoline. Read the facts about these three clean fuels and answer the questions below.

A. Which fuel is found in nature in the same form as the fuel we use?

B. Which fuel has a flame you can't see?

C. Which fuel can be used to make other kinds of fuel?

D. Which fuel doesn't make carbon dioxide when it is burned?

E. Which fuel is used for powering vehicles like forklifts?

The New Yellow Bus could be used other places than the Park. Here it is being used to take kids to the museum.



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STORY QUIZ!

- i. Kerry Klinger designed a _____.
- ii. Old Faithful is located in _____.
- iii. Clean fuels include propane, hydrogen and _____.
- iv. Our environment includes land, air and water and _____ and _____ that live in them.

MATCHING!

- a. Geyser ___ Seeming like it's from the future
- b. Predictable ___ Land, water, air and, the plants and animals that live in them
- c. Futuristic ___ Always happens when you expect it to
- d. Environment ___ A TV screen
- e. Monitor ___ A natural hot spring that spouts hot water from deep inside the earth

WORD SCRAMBLE!

Find the words from the story in the scrambled letters

EWLEYSOTNLO TAANONLI RPKA
 NNEERTNIVM
 GEEERNNI



Key Definitions

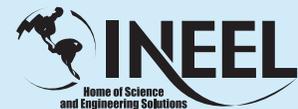
- a Clean Fuels** – Fuels that can power cars, trucks, homes or businesses without pollution.
- b Environment** – All the things that surround us in nature including the land, the air, the water and all the plants and animals that live in them. We can all be careful of the environment by not polluting it.
- c INEEL** – Short for the Idaho National Engineering and Environmental Laboratory. It is a place where people think of new ways to build things to make our lives better. Some of these things are very futuristic, or in other words, they seem like they are from the future. The *New Yellow Bus* has many futuristic features, but it is real.
- d Old Faithful** – The most famous geyser in Yellowstone Park. A **geyser** is a natural hot spring that spouts water. Every day, Old Faithful spouts hot water high in the air from inside the earth. It is so **predictable**, or always on time, that the people at the park can tell almost exactly when it will spout. That's why they call it Old Faithful.
- e Vehicle** – Anything with wheels, tracks or runners that can carry people or things.



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