JOIDES Resolution Playing Cards

Age: all

These JOIDES Resolution playing cards depict images from the JOIDES Resolution drill ship, and can be used in a variety of different ways. There are four groups of cards: People, Places, Drilling, and Recreation, and each group has eight pairs of images. In addition, there is one card without a match.

Use these cards with students to:

- **Assign groups:** Pass out one card to each student. Students find the person with their matching card to create partners, or matching cards within the same category to form small groups.

- **Generate questions:** Pass out a different card to each student or student group. Students generate three questions about the people, the science, and/or the ship that they would like to investigate. They can then use the JOIDES Resolution website www.joidesresolution and other Deep Earth Academy resources (http://www.oceanleadership.org/education/deep-earth-academy/) to learn more.

- **Highlight collaboration:** Using the People cards, students work in groups or rotate between students with other cards to discuss ways in which the different people might collaborate on the ship. They could then use the Places cards and/or the other cards to discuss how each of the people might use that area or tool.

- **Preparing to follow an expedition:** Before a videoconference or following an expedition, students could use the cards to become familiar with the different elements of scientific ocean drilling on the cards. Students could generate interview questions from the cards to submit through www.joidesresolution.org or during a video broadcast.

You can also use the cards to play games like Memory, Go Fish, or Old Maid, or make up one of your own!

Find them at:

http://joidesresolution.org/node/2165
Technicians work in the labs to help process the core samples retrieved during the expedition.

Technicians help scientists collect, prepare, and analyze samples, and record data.

The photographer takes pictures of people, equipment, events, and samples.

The imaging specialist is responsible for taking and organizing images of the samples.

Engineers design, build, and maintain all of the equipment needed during the expedition.

There are many different kinds of engineers on board, such as electrical, mechanical, and marine.

Teachers sail on the JR to help communicate all the cool things scientists are studying.

Teachers work with scientists, engineers, and technicians to learn all about the expedition.

Fun Fact: People

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**Doctor**
The ship's doctor can handle many medical issues from seasickness to a heart attack.

**Fun Fact:**
- The doctor can use digital images to collaborate with doctors on shore to determine treatments.

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**Scientist**
Scientists on the JR study the rocks and sediments, water, environment, and life in the deep sea.

**Fun Fact:**
- Research scientists, post docs, and grad students make up the science party on an expedition.

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**Captain**
The captain is responsible for the vessel and for the safety of everyone onboard.

**Fun Fact:**
- The captain oversees the dynamic positioning (DP) system, which keeps the ship in place on location.

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**Driller**
The driller controls the drawworks, the machine that raises and lowers the drill string.

**Fun Fact:**
- The driller oversees the crew that works on the rig floor to make sure everything is done right.
Core Lab

Cores are measured, photographed, and analyzed on the instruments in the core lab.

Fun Fact: Places

Chemistry Lab

There are 14 instruments in the chem lab that are used to prepare and measure samples.

Fun Fact: Places

Rig Floor

The rig floor is where the drill crew works, connecting each stand of pipe to make up the drill string.

Fun Fact: Places

Catwalk

The catwalk is where the core is first processed once it comes onboard. Scientists and technicians gather on the catwalk when they hear the call, “Core on Deck!”

Fun Fact: Places

Core Lab

Measure samples. Need to prepare and curate in the chem lab that are solids, liquids, and gases.

Fun Fact: Places

Core comes up 24 hours a day, so lab technicians work quickly to curate and process samples.

Fun Fact: Places

There is a lot of heavy equipment that moves quickly, so the crew has to be careful.

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Fun Fact: Places

Solids, liquid, and gases are analyzed to determine the chemical properties of the core samples.
Engine Room
Seven EMD 16-cylinder diesel engines produce the electricity needed to run the ship.

Fun Fact: Places
Fresh water, used onboard for washing, cooking, and drinking, is made in the engine room.

Fun Fact: Places
The hospital is equipped with an X-ray machine for diagnosing broken bones and other injuries at sea.

Fun Fact: Places
The hospital has defibrillators and other lifesaving machines you might find in an emergency room.

Fun Fact: Places
The moon pool is a hole right through the middle of the ship, through which the drill string passes.

Fun Fact: Places
The moon pool is 7 meters (22 feet) wide so that big things like re-entry cones can fit through it.

Fun Fact: Places
The captain and his officers navigate the ship from the bridge, which has a good view.

Fun Fact: Places
The bridge has equipment to monitor the vessel, the surrounding traffic, and the weather.
Drawworks
The rig can suspend up to 9,150 meters (30,020 feet) of drill pipe. That’s almost 6 miles!

Fun Fact: Drilling
The drawworks are used to raise and lower the drill string, piece by piece, to and from the seafloor.

Re-entry Cone
Re-entry cones are one way to make it possible to return to the same hole for more operations.

Fun Fact: Drilling
Re-entry cones are painted in patterns that make it easier for them to be seen on the video screen.

Derrick
The derrick stands 58 meters (190 feet) above the water line. That’s almost 20 stories tall.

Fun Fact: Drilling
The derrick needs to be tall enough so that long stands of drill pipe can be held upright.

Drill Bit
There are different bits for drilling in different types of substances, like sediment or hard rock. The bits are usually made of harder materials, and that have knobs on the end that have knobs on the end that have knobs.

Fun Fact: Drilling
Harder bits are made of steel, with cones on the end that have knobs made of harder materials.
Sediment can contain microscopic fossils of plankton that can be used to date samples.

Scientists study the physical, geological, chemical and biological composition of sediment.

These long, skinny instruments are lowered into the empty borehole using a long cable. Measurements are taken to provide more information about the formations below the seafloor.

The JR can drill in 75 to 8230 meters of water, with a maximum drill string length of 9100 m.

Each stand of pipe is about 28 meters long (93 feet) and weighs as much as a large draft horse.

Hard rock cores are drilled with an RCB bit (rotary core barrel), which cuts around the central core. Hard rock cores usually consist of basalt, gabbro and peridotite, but composition can vary.
Stateroom
Most staterooms have bunk beds so two people can share the room. Scientists and crew members share a room with someone on the opposite 12-hour shift.

Mess Hall
The galley crew prepares and serves 4 meals every day so everyone gets a chance to eat. Delicious dishes from many different countries make up the menu on the JR.

Movie Room
There are more than 1000 movies in our collection of DVDs and Laser Discs. Often, groups of people will choose a movie to watch together and make it a movie night.

Lounge
The lounge is a great place to unwind and read a book, watch TV, or play a game. We have an ever-changing library of paperback books for people to read onboard.
RESOLUTION
EXPLORING BENEATH THE OCEAN FLOOR
resolve.joidesresolution.org
Steel Beach isn’t really a beach: it’s the highest deck on the ship, so it gets a lot of sunshine.

Steel Beach is a great place to watch the sunset, or the sunrise if you’re up early enough.

The JR carries all the food needed to feed 120 people for 60 days on each expedition.

More than 12,000 pounds of meat, 15,000 eggs, and 400 gallons of milk are used on each expedition.

With lots of different machines, the gym is a great place to get a workout after your shift.

There are treadmills, exercise bikes, a rowing machine, an elliptical machine and weights.

The soft-serve ice cream machine is available 24 hours a day.

Most of the time it’s filled with vanilla ice cream, but sometimes they switch it to chocolate.
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**Memory/Concentration**
Set out any number of pairs, facedown and mixed up, on a desktop. One player turns over two cards. If the images match, he or she collects the pair and takes another turn. If they don’t match, the cards are turned back over in the same spot, and the turn moves to the next player. The player with the most pairs at the end of the game wins.

**Go Fish**
Remove the single, non-matching card, then shuffle the deck and deal out 5 cards to each player. The first player asks any other player for the match to a card he holds in his or her hand. If that player has that card, it is given to the asking player, who sets aside the match and takes another turn. If that player doesn’t have that card, he or she says, “Go Fish,” and the asking player takes a card from the stack of remaining cards and the turn moves to the next player. The player with the most pairs at the end of the game wins.

**Old Maid**
Shuffle the deck and deal out 5 cards to each player. Players hold up their cards in a fan in front of them with the backs facing out. The first player chooses a single card from the hand of any other player. If it matches a card that he/she has in his/her hand, the match is set aside. Play continues until all matches have been made. The player left with the single “Bubba” card loses.

**Directions for assembly:**
Print out a set of card backs on the back of each page of card images. If you have access to a copier or printer that can duplex, this is easy and can be done automatically. If not, you can print out all of the card images first, then run them through the printer a second time to print out the card backs. Alternatively, you can print out all images, then cut them out and glue them together, back to back, to create double-sided cards. Thie single, “Bubba” card will have to be printed separately; printing two copies of this page back to back will result in two, double-sided copies of the card. Printing on card stock or laminating cards will help them last longer.