



## Laboratory Animal Research Jeopardy

This is a great way to attract participants to the booth and quickly teach them facts about animal research. Have a computer at your booth and ask participants to pick a category and answer the question to earn a prize. You can also use this for larger groups in classrooms or even create your own with facts about research being conducted at your institution!

### Instructions:

1. Start the game on the home screen

NAME THAT ANIMAL	CARING FOR OUR ANIMALS	DISEASES	CURES	MIXED BAG
<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>
<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>
<u>800</u>	<u>800</u>	<u>800</u>	<u>800</u>	<u>800</u>
<u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>

2. Ask the participant to select a topic and the number of points they are playing for.
3. Click on the number to see the question.
4. Click anywhere on the screen to see the answer.
5. Additional information about the topic can be found below and in the “Notes” section of the game. Share this information with the participants. Some slides indicate that you can click again for additional information or click a link to watch a video.
6. This image of a house can be found in the bottom right corner of each answer slide. Click on the house to return to the home screen.



### **Column 1: Name that animal**

Have the participant name the animal and then ask if they know what type of research the animal is involved in.

#### **200 Points**

Answer: Dog – Doberman

Additional information: Dobermans can have a genetic defect that causes narcolepsy, a disorder that prevents them from controlling their sleep-wake cycles and causes them to lose muscle control and even fall asleep spontaneously. This disorder impacts humans as well, so we can study the condition in dogs. Click the link to see a video of narcoleptic dogs.

#### **400 Points**

Answer: Chinchilla

Additional information: Chinchillas and non-human primates are used to study the vestibular system which is responsible for maintaining posture stabilization and spatial orientation.

#### **600 Points**

Answer: African clawed frog

Additional information: African clawed frogs are used for embryology studies and oocyte harvests. They produce eggs year-round, and their embryos are a fantastic model for vertebrate development.

#### **800 Points**

Answer: Ferret

Additional information: What is unique about the ferret's anatomy? They have very long necks and as a result, very long and thin tracheas, which makes them great models of neonatal intubation. They also have large lungs for their body size and are useful for respiratory studies, including influenza.

#### **1000 Points**

Answer: Stump-tailed macaque

Additional information: Check out the strange hair pattern on this animal. The stump-tailed macaque is used to study both male and female pattern baldness.

## **Column 2: Caring for our animals**

### **200 Points**

Question: True or false? There are laws and regulations in place to make sure animals involved in research are treated humanely.

Answer: True

Additional information: There are federal regulations overseeing the care and use of animals in biomedical research. These are a few of the documents outlining how laboratory animals should be cared for.

### **400 Points**

Question: True or false? Research involving animals only benefits humans.

Answer: False

Additional information: Research with animals helps both humans and animals live longer, happier, and healthier lives. Vaccines, antibiotics, pain medication, preventive medication, and more help humans and animals!

### **600 Points**

Question: The frequency in which laboratory animals must be observed by care staff

Answer: Every single day

Additional information: The regulations require all animals to be fed, watered, and observed daily.

### **800 Points**

Question: The use of this device

Answer: For fun and to encourage natural behaviors

Additional information: We provide environmental enrichment to our animals to keep them happy, entertained, and stimulated.

Top left: Chinchillas - hut and chew bone

Top middle: Dogs - frozen broth with treats in it (takes a while to get to the treats), kong, chew toy

Top right: Non-human primates – challenger ball with treats inside, foraging items, including a paint roller covered in peanut butter and seeds

Bottom left: Rodents - various huts, nesting material, and bedding

Bottom right: Pigs – items they can toss around with their snout, including giant apple and jolly ball

### **1000 Points**

Question: The use of this device

Answer: To watch TV!

Additional information: We provide environmental enrichment to our animals to keep them happy, entertained, and stimulated. This includes giving them radios and televisions. Monkeys love to watch movies!

### **Column 3: Disease**

#### **200 Points**

Question: Name 3 common allergens

Answer: Pollen, dust mites, pets, dander, and cigarette smoke

Additional information: Mice are used to study allergen induced asthma, including asthma induced by these substances.

#### **400 Points**

Question: Alzheimer's, autism, and addiction all affect this part of the body

Answer: The brain

Additional information: The brain is a very complicated part of the body, and we can study different aspects of the brain in various species.

#### **600 Points**

Question: Something that can happen when this organ does not function properly

Answer: A heart attack

Additional information: Cats can naturally develop a heart condition that can cause heart failure. We can use them to better understand why it happens and how to treat it.

#### **800 Points**

Question: The part of the eye responsible for receiving light and converting it into a signal for the brain to interpret

Answer: The retina

Additional information: Rabbits are commonly used to study ocular diseases and the retina given the size of the globe. There are differences between the rabbit eye and the human eye, but many findings in the rabbit can be applied to humans.

#### **1000 Points**

Question: Glioblastomas are tumors in this part of the body \*Hint: it's in the head!

Answer: The brain

Additional information: Glioblastomas are the most common and lethal brain tumor in adults and can cause headaches, nausea, stroke, and personality changes. These three species have been used to study this tumor and try to find treatments.

## **Column 4: Cures**

### **200 Points**

Question: The term for a person who has all 4 limbs amputated

Answer: Quadruple amputee

Additional information: This is Brendan Marracco. He lost all 4 limbs when a bomb exploded in Iraq. Johns Hopkins University performed the first bilateral forearm transplant in the US on Brendan, completely changing his life! Click the link to see a video.

### **400 Points**

Question: The drug that diabetics take to control their blood sugar level

Answer: Insulin

Additional information: Dogs, mice, rabbits and monkeys have all been used to develop this drug as a treatment for diabetes.

### **600 Points**

Question: 1 in 8 women are diagnosed with this each year

Answer: Breast cancer

Additional information: Mice can be implanted with human breast cancer, and we can then study the tumors and try to find a cure

### **800 Points**

Question: The virus that causes AIDS

Answer: Human Immunodeficiency Virus (HIV)

Additional information: Pigtail macaques and rhesus macaques are used to study Simian Immunodeficiency Virus (SIV) which is a lot like HIV. We hope to understand more about the disease and how to prevent and treat HIV.

### **1000 Points**

Question: The insect that transmits malaria

Answer: Mosquitoes

Additional information: 500,000 children around the world die annually due to malaria infection, a disease transmitted by mosquitoes. It is endemic in Tanzania, Uganda, and other African countries. Scientists are working to develop a vaccine to prevent malaria infection in owl monkeys and eventually, humans.

## **Column 5: Mixed Bag**

### **200 Points**

Question: This species makes up less than 0.5% of the animals in research

Answer: Dogs

Additional information: There is a misconception that dogs are used in a lot of animal research, but in reality, most of the research is done using mice.

### **400 Points**

Question: The condition that is studied in this animal

Answer: Obesity

Additional information: More than 36.5% of U.S. adults are considered obese. We can feed specific diets or change genes in these mice to make them obese and study treatment and risk factors.

### **600 Points**

Question: The type of research this animal is used for

Answer: Vocal development and behavior

Additional information: Male zebra finches develop a unique song by 3 months of age, and they can tell us a lot about behavior and development!

### **800 Points**

Question: This species has blue blood and is used to detect bacterial contamination

Answer: Horseshoe crabs

Additional information: Horseshoe crab blood contains a special amebocyte that is separated and then used in FDA testing. The blue color comes from copper in the blood, and the blood contains a special clotting agent used to make Limulus amebocyte lysate or LAL. A small amount of LAL will detect and encase gram-negative bacteria, so this blood is ultimately used to test for contamination of drugs and other substances.

### **1000 Points**

Question: The result of gastroparesis

Answer: Delayed stomach emptying

Additional information: This can happen in people who have Parkinson's disease or multiple sclerosis. We can use animal models to find ways to stimulate the spinal cord and cause the stomach to contract and move food along.