DESERT CARD GAMES

These cards represent plants and animals of the American southwest (mainly Arizona, New Mexico, Nevada, Utah, California and down into Mexico). There are many forms of life missing from these cards, such as flies, small spiders, gnats, mites, algae, protozoans, and bacteria. You may notice plants or animals that are not here, such as the desert marigold or the road runner. If every plant and animal had a card, the deck would be hundreds of cards in size! Apologies if your favorite critter is missing.

Many types of learning activities can be played with these cards. You could probably use these cards in some way a number of times during your desert unit, each time doing a different activity. The more times you can use them, the more familiar your students will become with the animals and their interrelationships.

You will need:

- copies of the following pages printed onto heavy card stock (I go to a professional printer to get them printed onto heavier card stock than I can run through my home printer. That means the cards are tough and will survive a lot of handling over the years.)
- scissors
- tokens for one of the games

TIP: If you will be making more than one copy of the game, make sure you put some kind of identifying mark on all the cards in each set. For example, I use tiny colored dots on the corners of each card, so that I have the red dot set, the green dot set, the blue dot set, etc. If the cards get mixed up during class, it is very easy to get them sorted out again.

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Scavenger Hunt activity

You can do this in two ways.

First, you could lay out all the cards in a large rectangle and have up to 6 students gathered around looking at them. (For more than 6 students, use more decks of cards.)

Second, you could divide up the deck between 2--4 players making sure that each player gets a random assortment of both plants and animals.

Call out clues and have the students search for a card that matches the clue. For example, “Find a plant with yellow flowers,” or “Find an animal that eats insects,” or “Find a plant that is eaten by beetles.” You can choose clues that are the appropriate difficulty for your students. You know your students, you be the judge of what clues to use. You can play for a short time or a long time, depending on the interest level and attention span of your students.

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Food Chain Challenge

In this activity, students will see how many cards they can use to make a food chain. You have to start with a plant at the top, because they don’t eat anything. Under the plant, put an animal that would eat that plant. Under that animal, put a predator that would eat that plant-eating animal. Under the predator, see if you can find a second predator that would eat that first one. The ultimate end of the of the line is either the vulture or the cougar.

How many cards can you get into a food chain? I think one of my students found a chain at least 10 cards long.

NOTE: You may want to point out that food chains are actually a lot more complicated than this. Often we refer to the food “web” because of all the complicated relationships. The vulture and the cougar will eventually be eaten themselves when the die, if only by bacteria. Microorganisms play an important role in recycling animal nutrients back into the soil. So if we had a bacteria card, we could place it after the vulture or cougar and then place a plant card, starting the cycle all over again.

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"Who Is Missing?"

This game is good for younger players, perhaps 5-7 years old. Lay out all the cards in a giant rectangle. Have players take turns being the person who removes one card while everyone else has their backs turned and/or their eyes closed. Have the remaining players guess which card was removed.

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Desert animal charades

Use only the animals cards for this game. Let players take turns choosing a card at random and then acting out how that animal would move or behave. Let others guess which animal it is. Use a time limit of about 30 seconds for each turn so the game doesn't drag on too long.

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Sideways Bingo (practices these vocab words: herbivore, carnivore, insectivore, omnivore, autotroph, predator)

This is a variation on Bingo, but it is so different that your students might not even recognize it as such. The goal is to get three of your tokens in a row. The cards will be laid in a long row, not in a square. In addition to the cards, you will need tokens for each player. These can be colored pieces of paper, coins, colored candies, whatever suits you. Each player will need about a dozen tokens of the same type. For example, if you use colored pieces of paper, each player can be a different colors. If you use coins, you can have one person be pennies, one nickels, one dimes. The ideal number for each set of cards is three, but you could possibly squeeze on a fourth if you make the line of cards long enough.

You will need a long placing space. If you don't have a table long enough, you could use the floor. Or, you could make your line of cards go around a bend so the track is square or U-shaped. Use as many cards as you can to form the line, perhaps 15-20. (For two players you might be able to use only 10 cards, but you will need more for more players.)

Make sure your players are familiar with these words before you start:

Autotroph: an organism that makes its own food (plants make sugars from sunlight, CO_2 and water)
Herbivore: eats only plants
Carnivore: eats only meat
Insectivore: eats only insects
Omnivore: eats just about anything
Scavenger: eats primarily things it finds already dead
Predator: an animal that hunts its food

Players will take turns placing their tokens on the line of cards. The first player to get three tokens all in a row wins the round. The caller (probably the supervising adult) will call out a type of "vore," and the first player looks to find that type of organism and if he finds it, puts one of his tokens on it. Then it is the second player's turn. Another "vore" is called out, and the second player looks for a card. If he finds one, he places one of his tokens on it. If there is a third players, it is then the third player's turn.

Strategy: If a player has two choices of where to place a token, and one of those places will prevent another player from getting three in a row, that would be the smarter move.

Randomly choose a "vore" each time, or make slips of paper you can pull out of a bag, putting them back in each time they are depleted.

One adult can be the caller for a whole room full of teams. Just make sure you say, "Next player's turn!" before calling out a "vore."

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Weekly/daily research

For older students, you might want to have each student choose a card at random at the end of each day/week and be required to look up three facts about that organism. The next day/week take turns sharing what you learned.

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Ecology Bingo (for older students)

This is for students who have been studying ecological relationships. Players will need to be familiar with the following terms:
Exothermic (cold-blooded, cannot make body heat)
Endothermic (warm-blooded, can make its own body heat)
Producer: organism that makes food, such as plants
Autotroph: an organism that makes its own food (like plants using photosynthesis)
Primary consumer: animal that consumes plants (herbivores)
Secondary consumer: animal that eats herbivores
Commensalism: a type of symbiosis in which one organism receives a benefit and one is unaffected
Mutualism: a type of symbiosis where both organisms receive a benefit
Keystone species: a type of plant or animal that helps to define an ecosystem and without which that ecosystem would be radically different. *For example, the saguaro would be a keystone species, since so many animals rely on it. The collared lizard might not be a keystone species because there are many other types of insectivores that can fill the same insect-eating niche it occupies. (Yes, this is a bit subjective, but it is an important ecology word to know.)*
Population density: the approximate number of organisms per acre *For example, cougars would have a low population density and beetles would have a high population density.*

Have each student choose a random selection of 16 cards (or 25 for a longer game). Put those cards into a square. The cards are rectangular, so you can either have your playing board be a bit rectangular or overlap the cards so that some of the information isn't seen. If you need to access the information during the game, you can still do so.

Make a copy of the following clue page. Cut the clues apart and put the slips of paper into a bag or box. Have the caller pull out clues one at a time. When all clues are used, they can be returned to the bag/box and reused.

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Advanced Bingo clues:

If adjacent organsims demonstrate mutualism, put a token on both.

If adjacent organsims demonstrate commensalim, put a token on both.

If adjacent organisms demonstrate commensalism, put a token on the organsim that receives no benefit.

If adjacent organisms demonstrate commensalism, put a token on the organism who benefits.

If adjacent organisms demonstrate parasitism, put a token on the organsim that is harmed.

Put a token on an animal that is exothermic.

Put a token on an animal that is endothermic.

Put a token on an animal that can eat rattlesnakes.

Put a token on a primary consumer.

Put a token on a producer.

Put a token on an animal that deals with competition by producing toxins. This could be either plant or animal.

Put a token on an autotroph.

Put a token on a plant that deals with heat by dropping all its leaves.

Put a token on an organism that you think could be a keystone species.

Put a token on an organism that can eat plants with spines and needles.

Put a token on a pollinator.

Look at all your cards. Which one do you think has the lowest population denisty? Put a token on it if it does not already have one.

Put a token on an organism that uses camouflage as a survival mechanism.

If adjacent organisms are the same kind of “vores” you may put a token on both.

Put a token on an arthropod.

Put a token on a plant that produces toxins.

Put a token on a plant that exits only as seeds most of the year.

Put a token on an animal that can eat toxic plants.

Put a token on a plant with a high population density.

Put a token on a plant that is eaten by animals who also eat meat.

Put a token on an animal that might be eaten by a giant centipede.

Put a token on an animal that might be eaten by a scorpion.

Put a token on an organism that exhibits cooperative behavior with other members of its own species.

Look for adjacent organisms that compete for the same food source. Choose a winner and put a token on it.

EATS:





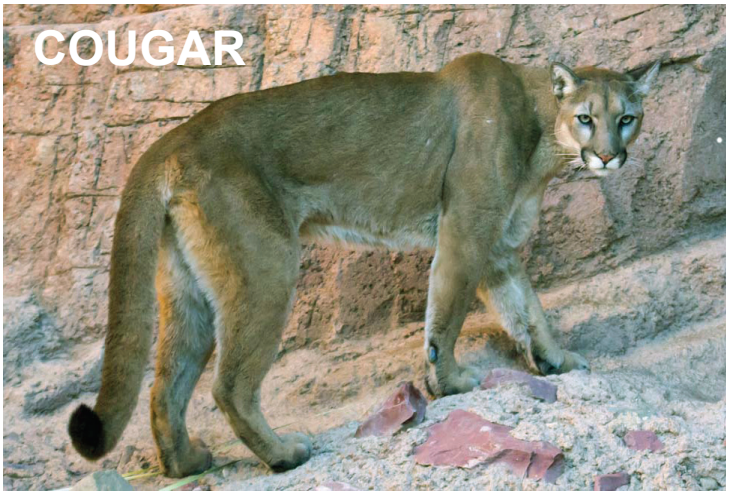








EATEN BY:

EATS:













EATEN BY:

EATS:








EATEN BY:

EATS:

EATEN BY:

MULE DEER

EATS:













EATEN BY:


PECCARY (or JAVELINA)

EATS:












EATEN BY:





LONG-NOSED BAT

EATS:

nectar
insects




EATEN BY:

RINGTAIL

EATS:

EATEN BY:

ANTELOPE SQUIRREL

EATS:








EATEN BY:







RATTLESNAKE

EATS:








EATEN BY:




KANGAROO RAT

EATS:
mostly seeds







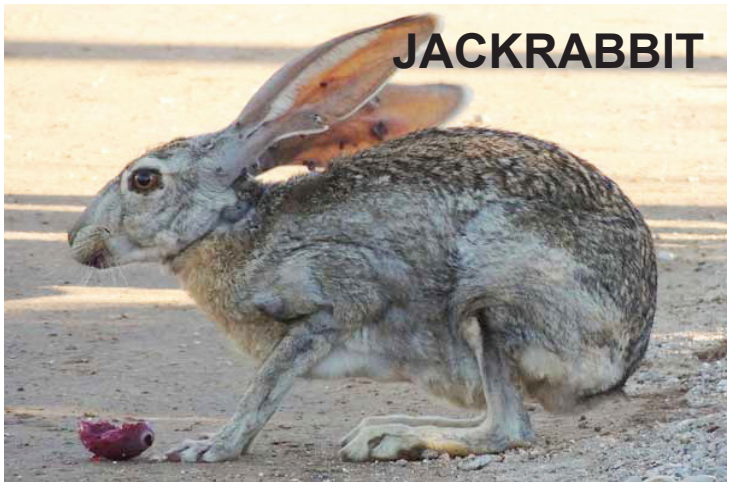


EATEN BY:

DESERT TORTOISE

EATS:

EATEN BY:



EATS:








EATEN BY:






EATS:








EATEN BY:









EATS:




EATEN BY:

EATS:

EATEN BY:

EATS:








EATEN BY:




EATS:







EATEN BY:







EATS:










EATEN BY:

EATS:
only seeds

EATEN BY:

MESQUITE BEAN WEEVIL

EATS:
(bean pods)

EATEN BY:

TERMITE

EATS:
(wood of)

EATEN BY:

BEE

EATS:
(nectar)

EATEN BY:

SPHINX MOTH

EATS:
(nectar)

EATEN BY:

EATS:
(nectar)

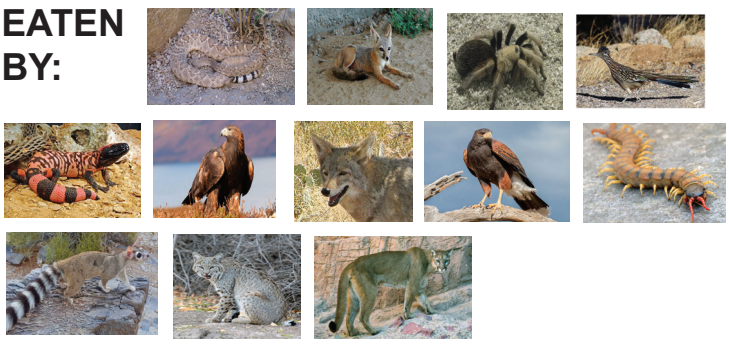
EATEN BY:

EATS:

EATEN BY:

EATS:

EATEN BY:



EATS:

EATEN BY:

EATS:
(nectar)





EATEN BY:













EATS:
adults: nectar
larva: tarantulas





EATEN BY:

EATS:









EATEN BY:




EATS:

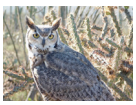
EATEN BY:

GOLDEN EAGLE

EATS:









EATEN BY:


DOVE

EATS:
seeds
fruits








EATEN BY:









HARRIS HAWK

EATS:






EATEN BY:

WOODPECKER

EATS:

EATEN BY:

HUMMING BIRD

EATS:







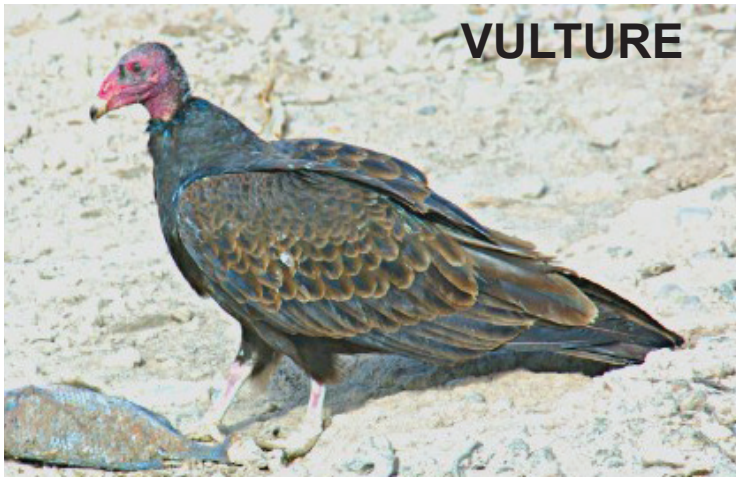
EATEN BY:







VULTURE



EATS:
anything already dead





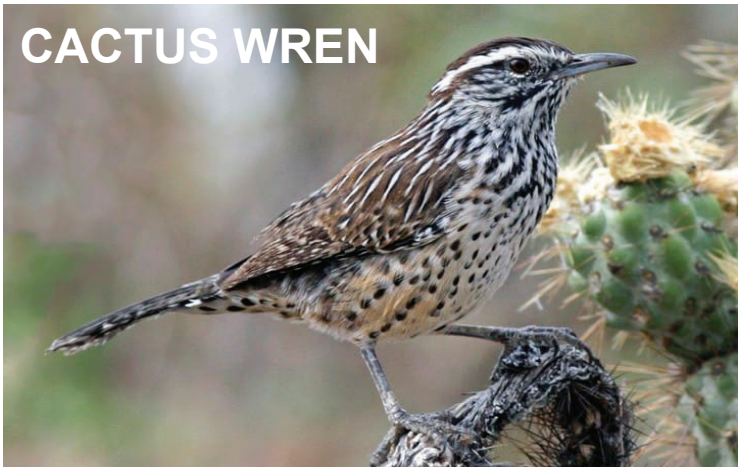




EATEN BY:



CACTUS WREN



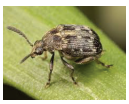
EATS:









EATEN BY:

GAMBEL'S QUAIL

EATS:
fruits seeds

EATEN BY:

PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.
(Many plants can also make fats and proteins.)

EATEN BY:



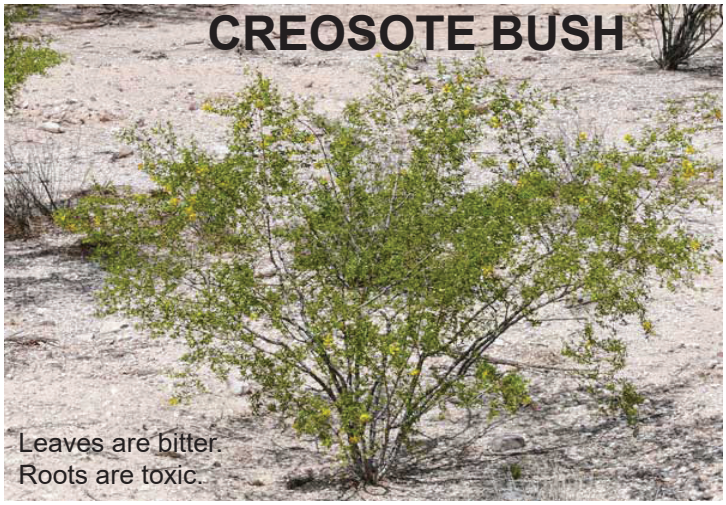










PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.
(Many plants can also make fats and proteins.)

EATEN BY:



(just the seeds)


(just the flowers)

PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.
(Many plants can also make fats and proteins.)

EATEN BY:

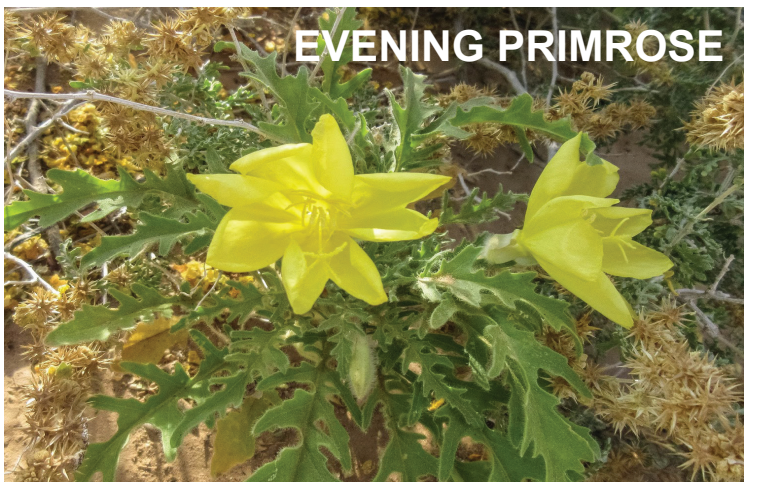








Doves, quails, harvester ants and kangaroo rats eat only the seeds.



PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.
(Many plants can also make fats and proteins.)

EATEN BY:


PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.
(Many plants can also make fats and proteins.)

EATEN BY:

seed pods

PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.
(Many plants can also make fats and proteins.)

EATEN BY:

PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.
(Many plants can also make fats and proteins.)

EATEN BY:

PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.
(Many plants can also make fats and proteins.)

EATEN BY:

PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.

(Many plants can also make fats and proteins.)

EATEN BY:




NOTE: This plant is toxic to grazers. Amazingly, the jackrabbit can eat it.


PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.

(Many plants can also make fats and proteins.)

EATEN BY:








PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.

(Many plants can also make fats and proteins.)

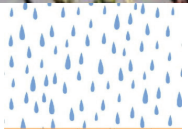
EATEN BY:







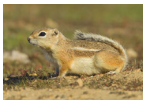

PHOTOSYNTHESIS



Plants use light, water and CO_2 to make glucose sugar.

(Many plants can also make fats and proteins.)

EATEN BY:






PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.

(Many plants can also make fats and proteins.)

EATEN BY:

PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.

(Many plants can also make fats and proteins.)

EATEN BY:

PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.

(Many plants can also make fats and proteins.)

EATEN BY:

PHOTOSYNTHESIS

Plants use light, water and CO_2 to make glucose sugar.

(Many plants can also make fats and proteins.)

EATEN BY: