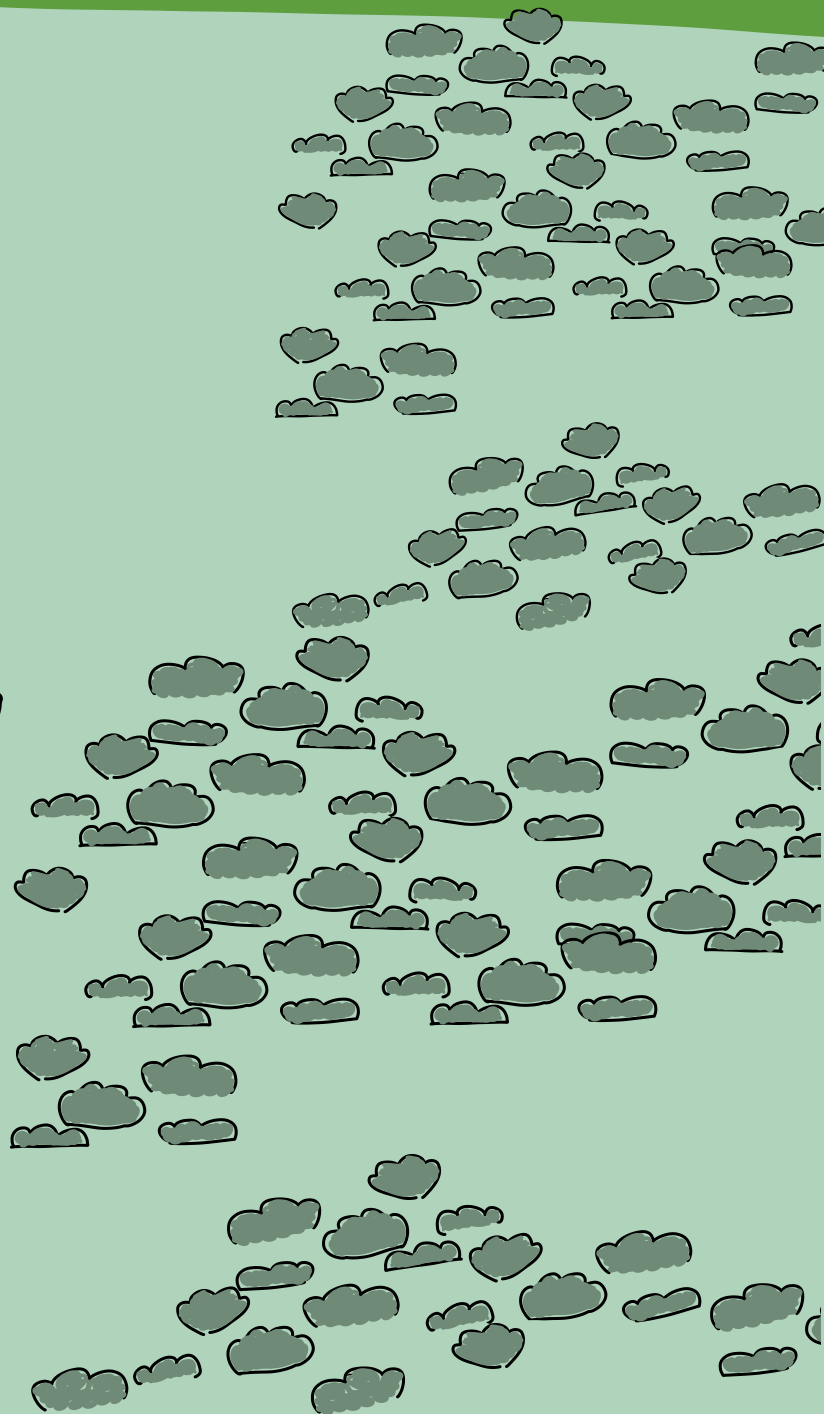
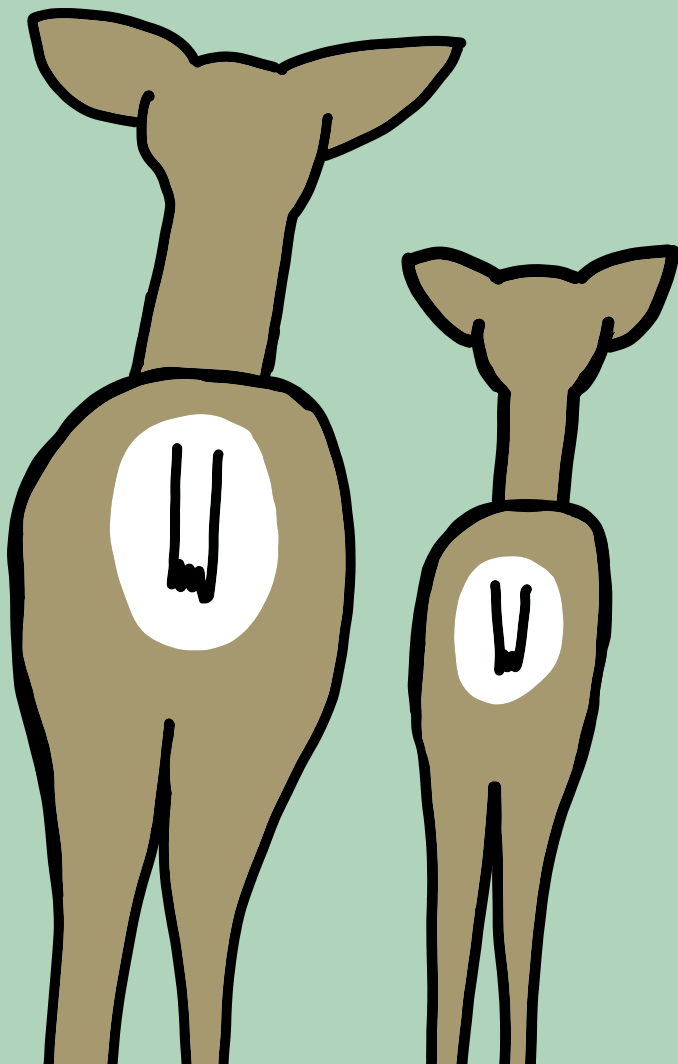


# A Mule Deer Year

A board game about life as a mule deer.





# Directions to play A Mule Deer Year

Life as a mule deer is tough. They live in landscapes that are full of obstacles, including fast-moving vehicles, raging rivers, and steep mountain ranges. In addition to dealing with these obstacles, many mule deer also raise fawns, and try to make it through harsh winters.

All of this requires energy! Mule deer get energy by eating nutritious plants and often store this energy as fat. If they don't have fat stored up, they won't be able to survive harsh winters or raise their fawns!

## That's where our game comes in.

We're going to try to live a year as a mule deer. We will leave our summer ranges and head out for our fall migrations. We just spent all summer fattening up on summer range, so we'll start with a nice bank of fat tokens. Before we start out, we have to divide these fat tokens between us (the mom!) and our fawns. If you can raise 2 fawns, you'll help the population grow, but it's very hard to do!

As we migrate, we can gain extra fat tokens based on the cards we draw. If we don't have enough fat tokens before we head into winter, we'll die!

Some of the fat tokens depend on the season you're in, and you will probably notice that you can get more fat tokens in spring. That's because mule deer "surf the green wave." As plants start growing across the landscape, mule deer will migrate to match their movements with fresh plants. If they can surf, they can eat better food!

But, life as a mule deer isn't as simple as just getting fat. Sometimes they encounter things in their landscapes that cause them to burn energy, like running away from a predator or human. When you draw those cards, you'll have to give up fat tokens!

When mule deer are migrating, they often pause to recharge at places that scientists call "stopovers." Stopovers are like gas stations, where you can refuel before continuing your journey. Because plants are just starting to grow, stopovers are especially helpful in spring. When you encounter a stopover card in spring, you can choose to give up one of your turns to roll and keep as many fat tokens as the number you roll. But, you only have 20 turns to make it through the whole game. Don't stay too long, or you won't be able to finish your migration in time!

Mule also tend to stick to their migratory routes. So, when you have the option to pick a migration route, choose wisely! You'll have to take the same path when you're migrating in the spring, for better or worse.

With all of this biology in mind, are you ready to try to live a year as a mule deer?

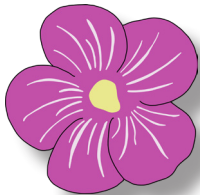
### The rules.

The rules are simple. Roll a die, and move that many circles along the migration route. When you land on a circle with no numbers, draw a card from the deck. When you land on a circle with numbers, refer to the cheatsheet on the next page to see what happens! As you encounter features on the board, follow the prompts.

Before you start, decide whether you want to try to raise 1 or 2 fawns. Then split your 10 beginning fat tokens between you and your fawns, and place these tokens in the "Fat Bank." If you or your fawns end up with zero tokens at any point throughout the game, you or your fawns will die! If one of your fawns dies, you can keep any of their remaining fat tokens. You can give tokens to your fawns at designated spots on the board.

The goal is to make it all the way back to summer range with your fawns with 5 fat tokens to spare, which is enough to raise next year's fawns. Remember that you have to complete this journey in only 20 turns!

### The supplies.



#### Fat tokens

Fat tokens are our resources. The flower on the fat token is a geranium!



#### Marker

Use one of these hoofprints to keep track of where you are on the board and the other to see how many turns you've taken so far! Two people can play at once.

If fall, you find a green patch from summer.



+1 for adult

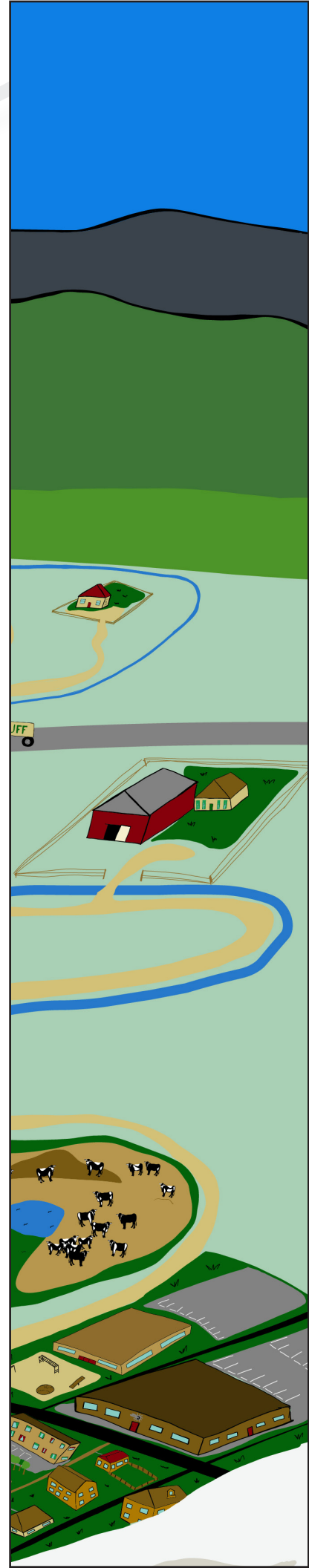
If spring, you're surfing the green wave!

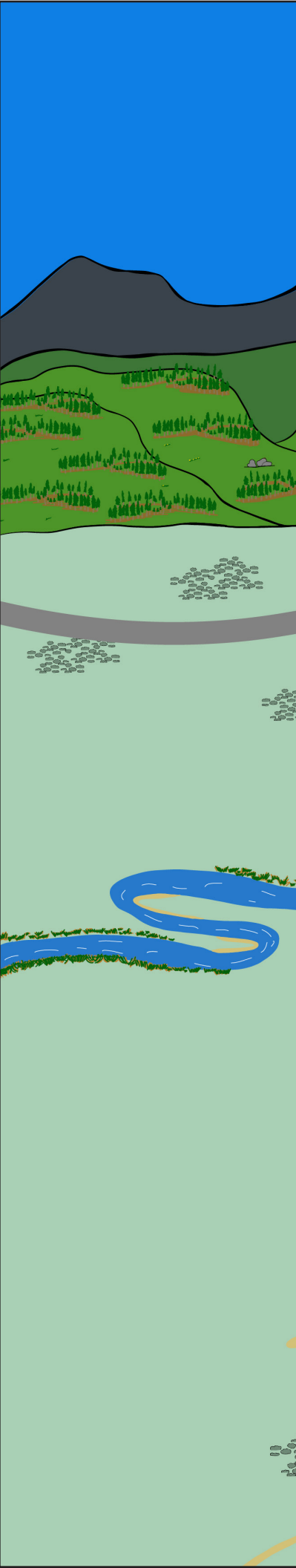


+2 for adult

#### Cards

Draw a card from the deck for each move! Some cards will change depending on which season you're in. If you're headed towards winter range, you're in fall. If you're headed away from winter range, you're in spring! Some cards apply to fawns, and some apply to you as an adult!





## Numbered spots

If you land on a circle with numbers, find out your fat token situation below. How many tokens you gain or lose are on the right of each line!

### Left migratory route—through energy development

Orange 1: You want to avoid the well pad, so you just keep moving. +/- O

Orange 2: Stopover! You can roll for extra fat tokens using an extra turn, or just stay put until your next turn (+/- O). Keep the number of fat tokens you roll!

Orange 3: You're spooked from the road, so you just keep moving. +/- O

Orange 4: You run into a habitat treatment. Thanks, Wyoming Game and Fish Department! +2

Orange 5: You want to avoid the well pad, so you just keep moving. +/- O

### Middle migratory route—up and over a hill

Pink 1: You run into a habitat treatment. Thanks, Wyoming Game and Fish Department! +2

Pink 2: Ah! You didn't see that mountain lion there—run! -1

Pink 3: Yum, sagebrush! +2

Pink 4: You just had to hike up a big hill. -1

Pink 5: Yum, sagebrush! +1

Pink 6: You run into some hikers, so you sneak away! +/- O

Pink 7: Yum, sagebrush! +2

### Right migratory route—through agricultural development

White 1: You're being chased by a cattle dog! -1

White 2: Munch on some leftover hay from a hay field. +2

White 3: Cows are not your friend, so you just keep moving. +/- O

White 4: You're spooked from the road, so you just keep moving. +/- O

### Winter

Winter 1: You find a drainage to hunker down in. +/- O

Winter 2: You're able to nibble on some sagebrush today. +/- O

Winter 3: Your fawn is chased by a mountain lion. -1 (fawn)

Winter 4: A blizzard rolls in, and you shiver to keep warm. -1

Winter 5: Your fawn is very cold and struggling to make it. -1 (for fawn)

Winter 6: You find a drainage to hunker down in. +/- O

Winter 7: A blizzard rolls in, and you shiver to keep warm. -1

Winter 8: You're chased by a mountain lion. -1

Winter 9: You find a drainage to hunker down in. +/- O

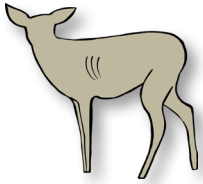
Winter 10: You're able to nibble on some sagebrush today. +/- O

Winter 11: Your fawn is spooked by snowmobilers. -1 (for fawn)

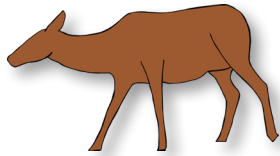
Winter 12: Some shed hunters come out and chase you. -1

Winter 13: A late season blizzard rolls in, and you shiver to keep warm. -1

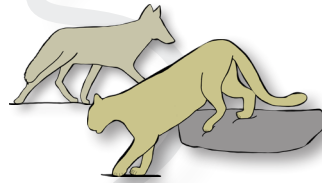
Want some more biology? Check out some of the science behind the game!



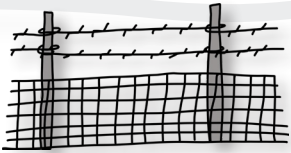
Chronic wasting disease, or CWD, is a disease that infects species like mule deer, white-tailed deer, moose, and elk. It is always fatal. Infected animals lose weight over a few years and eventually die.



Elk live in very similar habitat to mule deer, and the 2 species often eat similar foods. Mule deer sometimes fine-tune their behaviors to avoid interacting with elk. Scientists are studying how elk might be negatively affect mule deer.



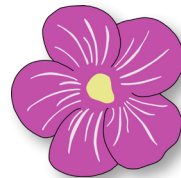
Predators like coyotes and mountain lions are natural parts of ecosystems. Coyotes often target fawns because they are easier to catch, but mountain lions often target adults.



As humans continue to expand, we bring our fences along with us. Depending on the type of fence, mule deer can get their legs stuck when they hop over. Some fences are especially hard for fawns to cross.



Mule deer depend on the food in their habitat for survival. Efforts like habitat treatments can improve places where the food isn't plentiful or nutritious.



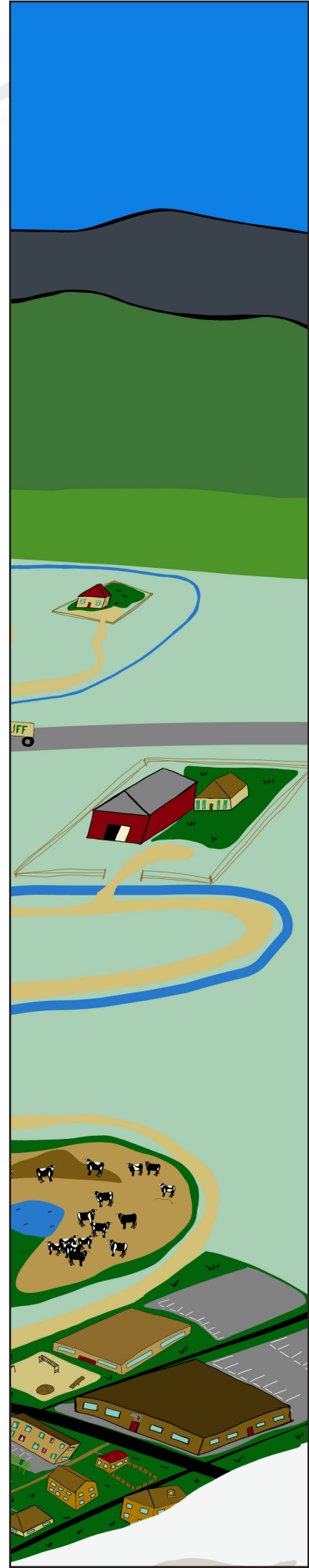
Not all plants are the same to a mule deer. Some plants, like the geranium that is our fat token, are extra nutritious for mule deer. Even these nutritious plants will be worth more or less depending on the season!

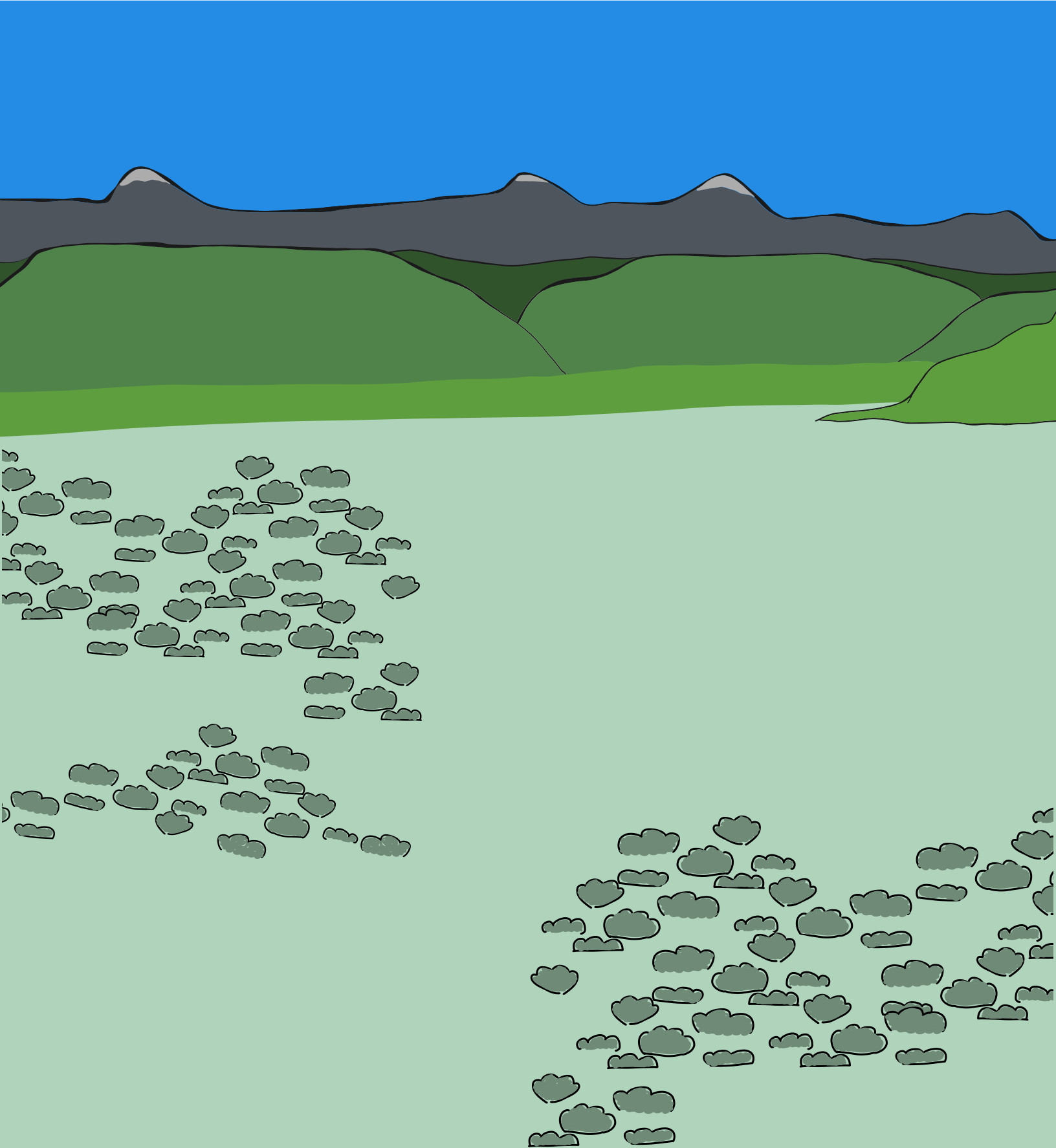
**As you play A Mule Deer Year, think about these questions.**

What things are similar in the year of a mule deer and our own lives? What is different?

What do mule deer need to make sure they can survive the entire year? Do they have those things where you live?

What would it take for a mule deer mom to raise 2 fawns to be 1 year old? How hard is it, and what are humans doing to make it harder?





# LINGULATE COMPENDIUM

Board game by B. Hays, R. Jakopak, & B. Wagler