

Your Final Training

IN THIS GAME, WE WILL TACKLE THE KNAPSACK PROBLEM. IN THREE ROUNDS, YOU WILL ENCOUNTER DIFFERENT MONSTERS. YOU NEED TO CHOOSE WHICH MONSTERS TO DEFEAT AND WHICH TO AVOID. FIGHTING A MONSTER WILL LOWER YOUR HIT POINTS AND REWARD YOU WITH GOLD. YOUR GOAL? GATHER AS MUCH GOLD AS POSSIBLE!

1

Your Final Training

AT EACH LEVEL, YOU WILL HAVE A LIMITED AMOUNT OF HEALTH. YOU WILL NEED AT LEAST 1 POINT OF HEALTH REMAINING TO PROGRESS TO THE NEXT STAGE AND FINISH THE GAME.

END EACH LEVEL WITH AT LEAST 1 HIT POINT LEFT!

2

YOU START WITH 16 HIT POINTS.

3

Your Final Training

DRAW THE FOLLOWING TEN DUNGEON CARDS AND LAY THEM FACE UP BEFORE YOU. PICK WHICH DOORS YOU WILL OPEN AND WHICH MONSTERS YOU WILL DEFEAT.

BEGIN LEVEL 1: DRAW 10 CARDS.

2



5



17

Zorgoiln the Zombie

UNDEAD

4

1

5

1

Hermy the Hermit Crab

BEAST

6

4

15

5

19

14

55

1

7

1

8

1

9

Ghost of your past

UNDEAD

1

Marion of the Haron

HUMANOID

1

Gerald the Gunk

Ooze

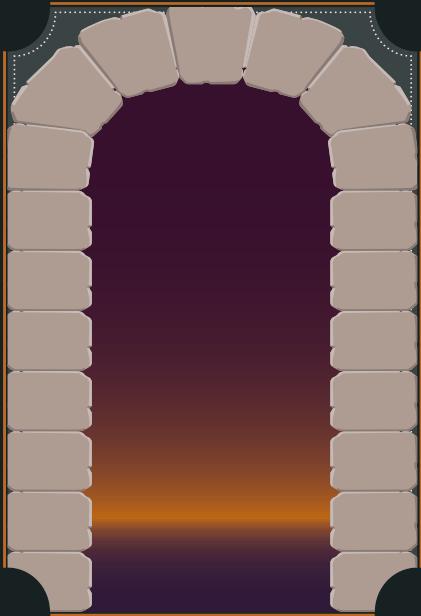
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The Dungeon Door

YOU STAND IN FRONT OF THE DUNGEON DOOR. THE ONE YOU HAVE PASSED COUNTLESS TIMES DURING YOUR TRAINING, BUT TODAY, YOU GET TO ENTER IT. THE PLAQUE ON THE DOOR STATES THE RUIN'S MOTTO.

"ONLY OPEN THE DOORS YOU CAN HANDLE; A DEAD HERO SAVES NO ONE"

FLIP ME

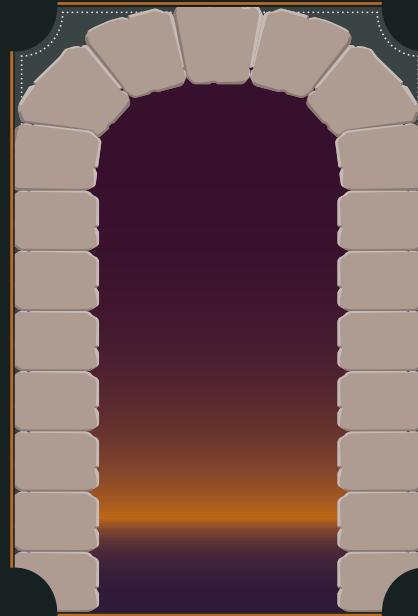


Are You Ready?

HILMOR, YOUR MENTOR OF THE LAST FEW YEARS, SLAPS HIS HAND ON YOUR SHOULDER.

"YOU HAVE FINISHED YOUR TRAINING; ALL THAT'S LEFT ARE THE DUNGEONS BELOW." HIS FACE TURNS SERIOUS. "BE CAREFUL DOWN THERE. REMEMBER, TAKE ON ONLY THE MONSTERS YOU CAN DEFEAT. YOU CAN REST BETWEEN THE STAGES TO RESTORE YOUR VITALITY, BUT IT WOULD BE BEST IF YOU WALKED OUT OF THAT DUNGEON ALONE. I DON'T WANT TO GET DOWN THERE TO GET YOU."

FLIP ME



Your Final Training

WE WELCOME YOU TO KAIRASUS AND HOPE YOU HAVE A LOVELY TIME. IN HERE, YOU'LL GROW AND FIND FORTUNE. BUT FIRST, THERE ARE PROBLEMS TO SOLVE AND PUZZLES TO CONQUER. FIND THE OPTIMAL SOLUTIONS AND GET YOUR HERO TO THE END OF THEIR STORY. TODAY, AS YOUR HERO, YOU WILL START AT THE RUINS OF BALINDOR, WHERE YOUR LAST TRAINING AWAITS. THE DUNGEONS BELOW OFFER RICHES. YOUR GOAL IS TO PROVE YOURSELF WITH THE BLADE, THAT YOU CAN MAKE WISE DECISIONS AND GATHER THE MOST Gold POSSIBLE.

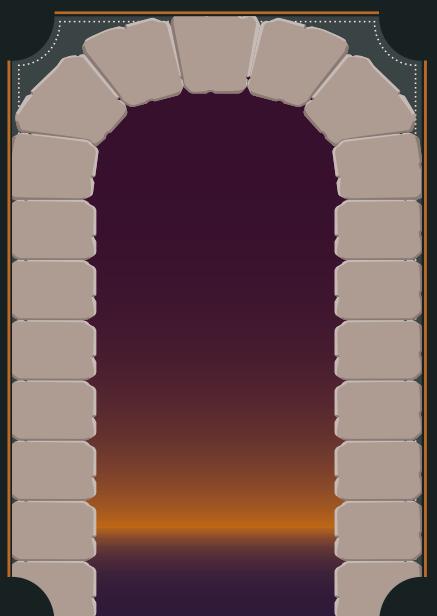
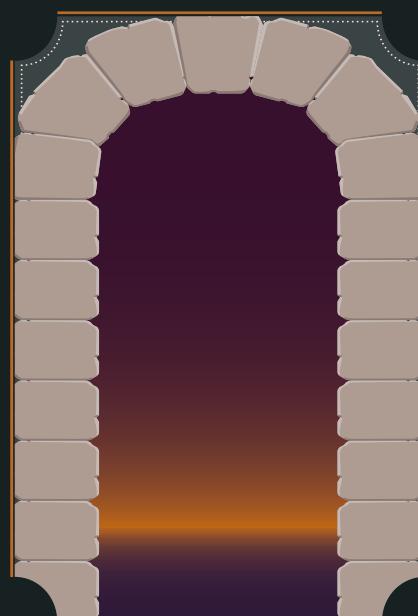
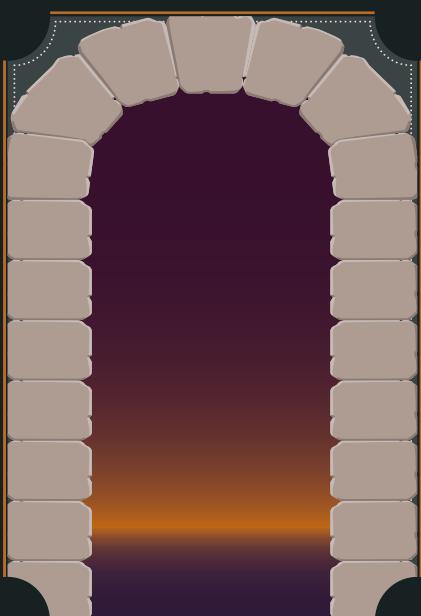
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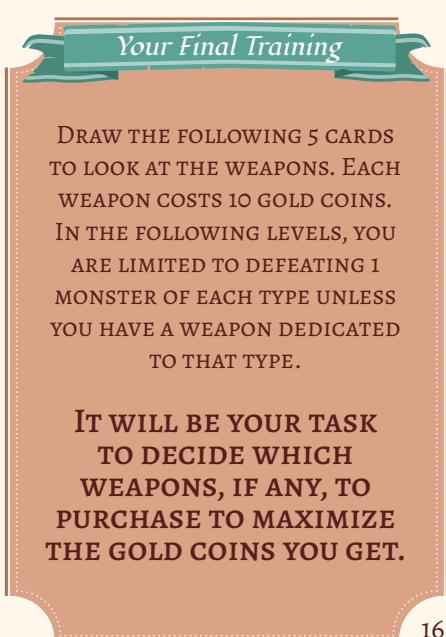
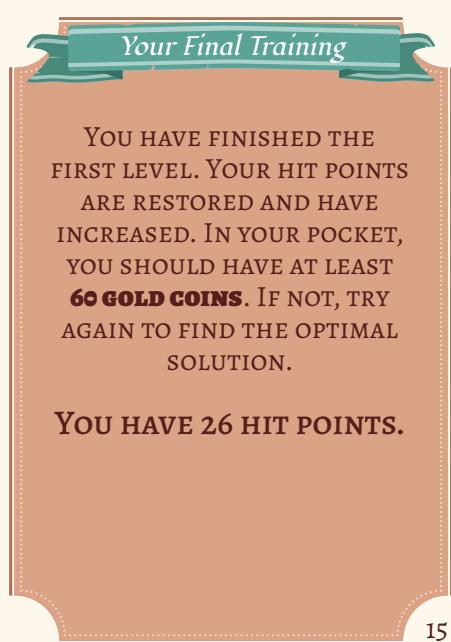
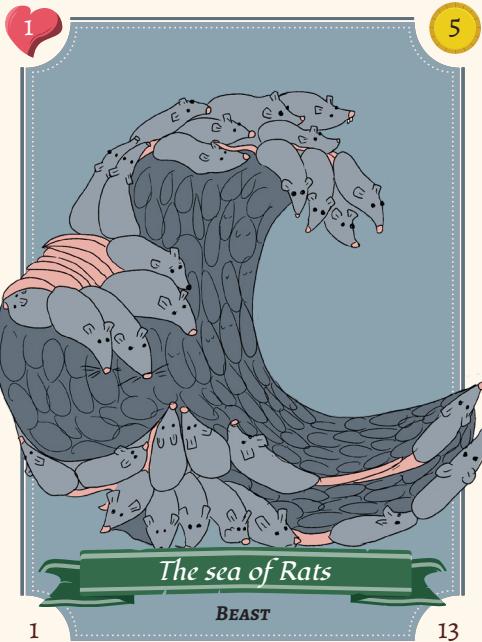
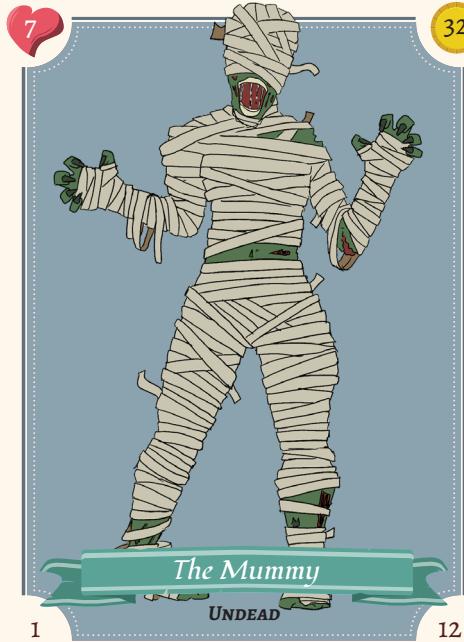
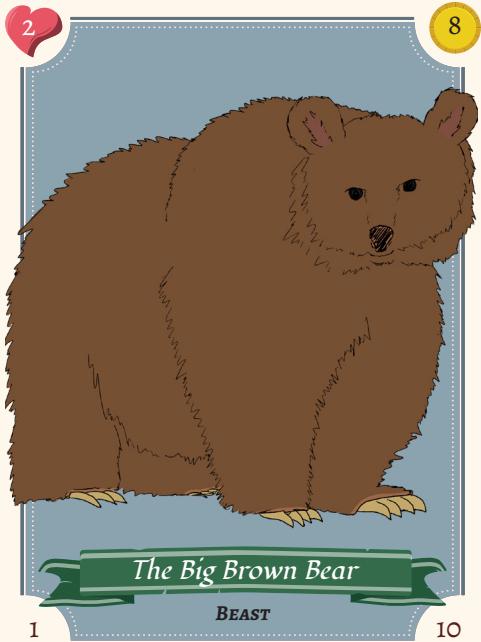
The Doors to Choose

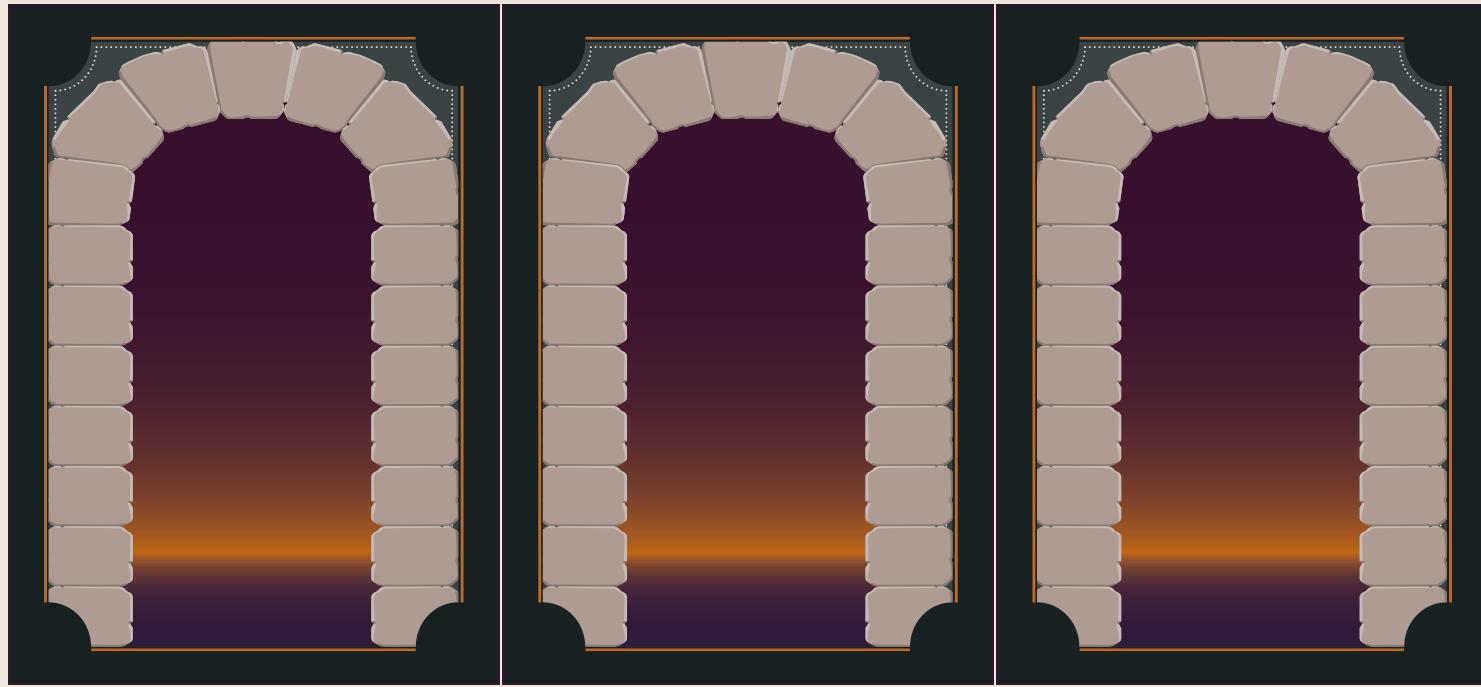
YOU FEEL A COLD DRAFT IN THE DUNGEONS; YOU CAN'T IMAGINE THAT ANY MONSTERS STAY IN THEIR ROOMS FOR FUN. STILL, IN FRONT OF YOU ARE THE DOORS. TEN, TO BE EXACT.

YOU FEEL ANXIOUS TO DEFEAT YOUR FIRST MONSTER ALONE BUT MUST DECIDE WHICH ONE TO DEFEAT. WHICH DOORS TO OPEN TO CLAIM THE MOST Gold POSSIBLE?

FLIP ME





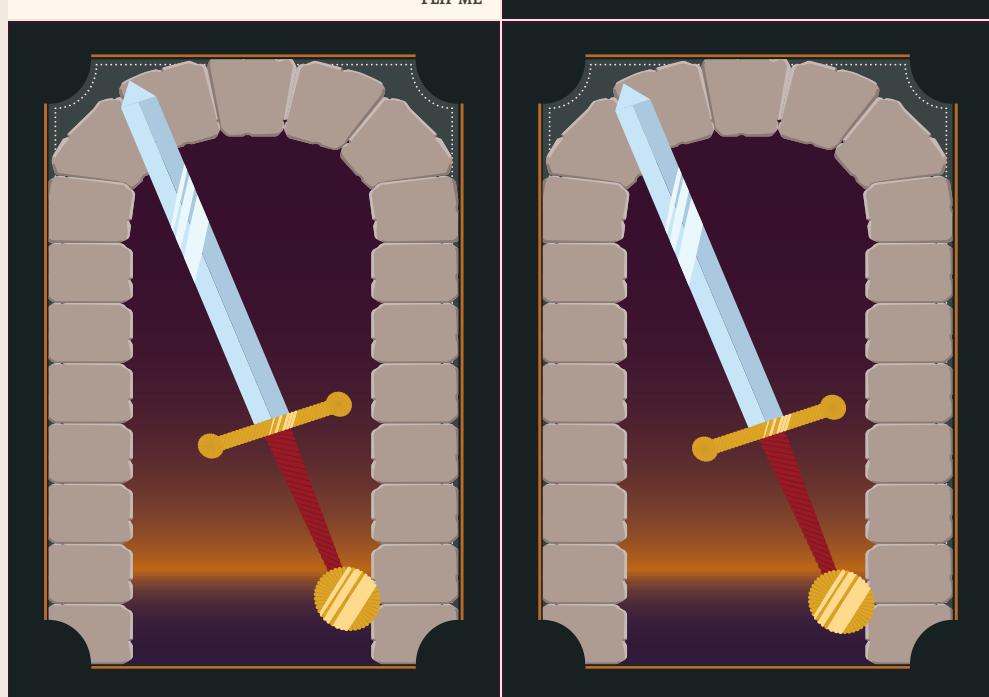
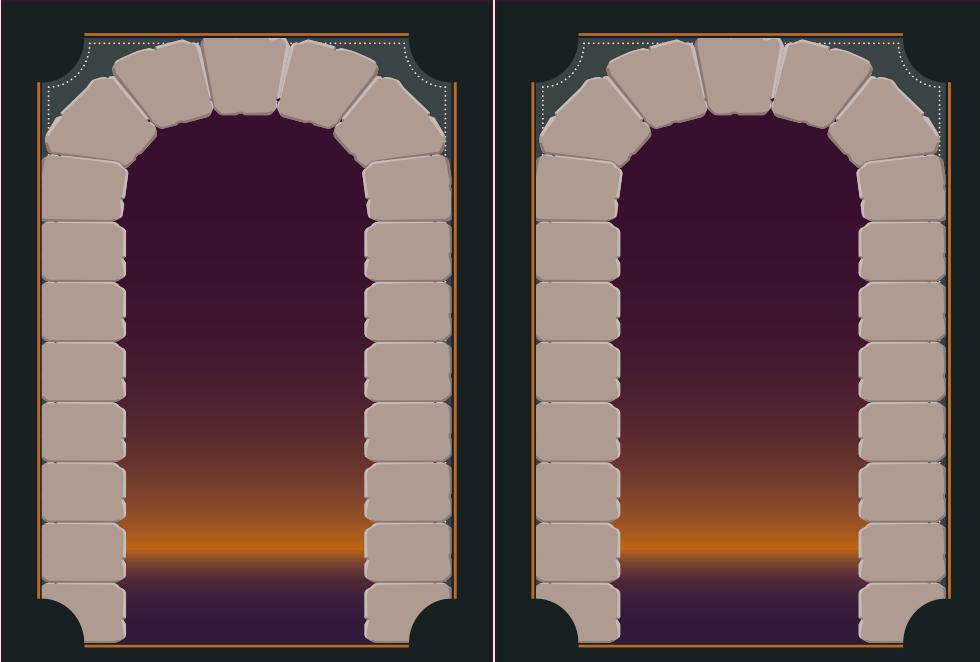


You Made It!

YOU FEEL GREAT, EXHAUSTED, BUT GREAT. YOU HAVE DEFEATED YOUR FIRST MONSTERS! THE FIRST STAGE IS COMPLETED.

AFTER WALKING DOWN THE STAIRS, YOU ENTER A LITTLE ROOM WITH CUSHIONS, FOOD, AND WATER—A PERFECT PLACE TO CATCH YOUR BREATH AND PREPARE FOR THE NEXT STAGE.

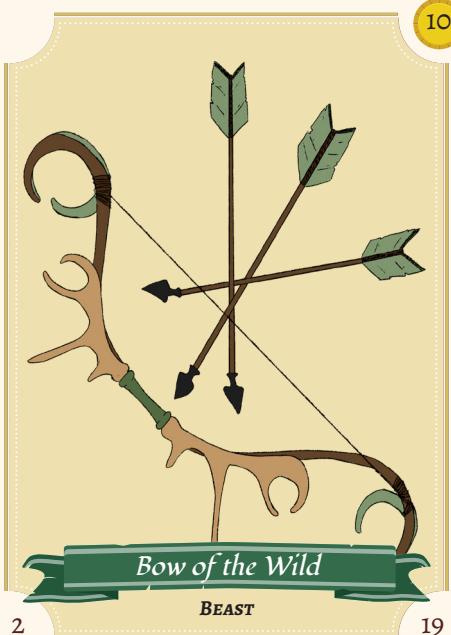
FLIP ME



Choose Wisely

AFTER RESTING, YOU GET UP AND WALK TOWARDS THE NEXT DOOR. NEXT TO IT STANDS 5 CHESTS, LOCKED. A COIN SLOT IS MOUNTED INTO THE WALL. IT STATES THAT YOU NEED TO CHOOSE YOUR WEAPONS. EACH WEAPON COSTS 10 GOLD COINS. IT ALSO STATES THAT FROM NOW ON, SLAYING MONSTERS OF THE SAME TYPE BECOMES INCREASINGLY MORE DIFFICULT AFTER THE FIRST ONE. ONLY A SPECIALIZED WEAPON WILL ALLOW YOU TO CONTINUE SLAYING YOUR FOES OF THAT TYPE.

FLIP ME



2 19



2 20



2 21

Your Final Training

PLEASE TAKE THE FOLLOWING 20 CARDS AND SHUFFLE THEM. THEN, PICK 15 CARDS; THESE WILL BE YOUR OPTIONS FOR THE SECOND LEVEL. REMEMBER, YOU CAN ONLY DEFEAT 1 MONSTER OF EACH TYPE UNLESS YOU HAVE A WEAPON TO DEFEAT MORE OF THEM.

TAKE 20, SHUFFLE, AND DRAW 15 CARDS.



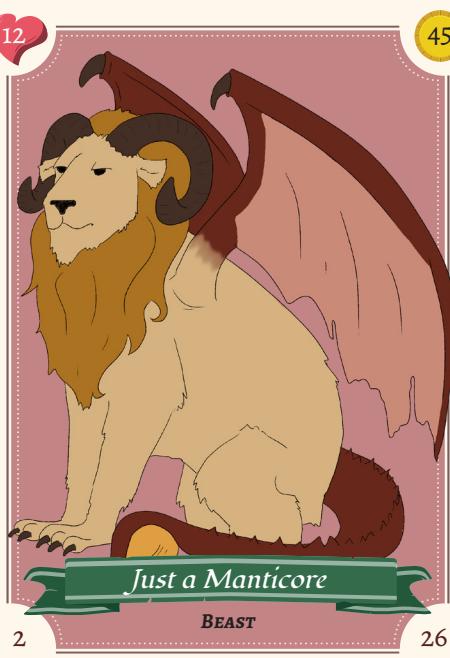
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2 24



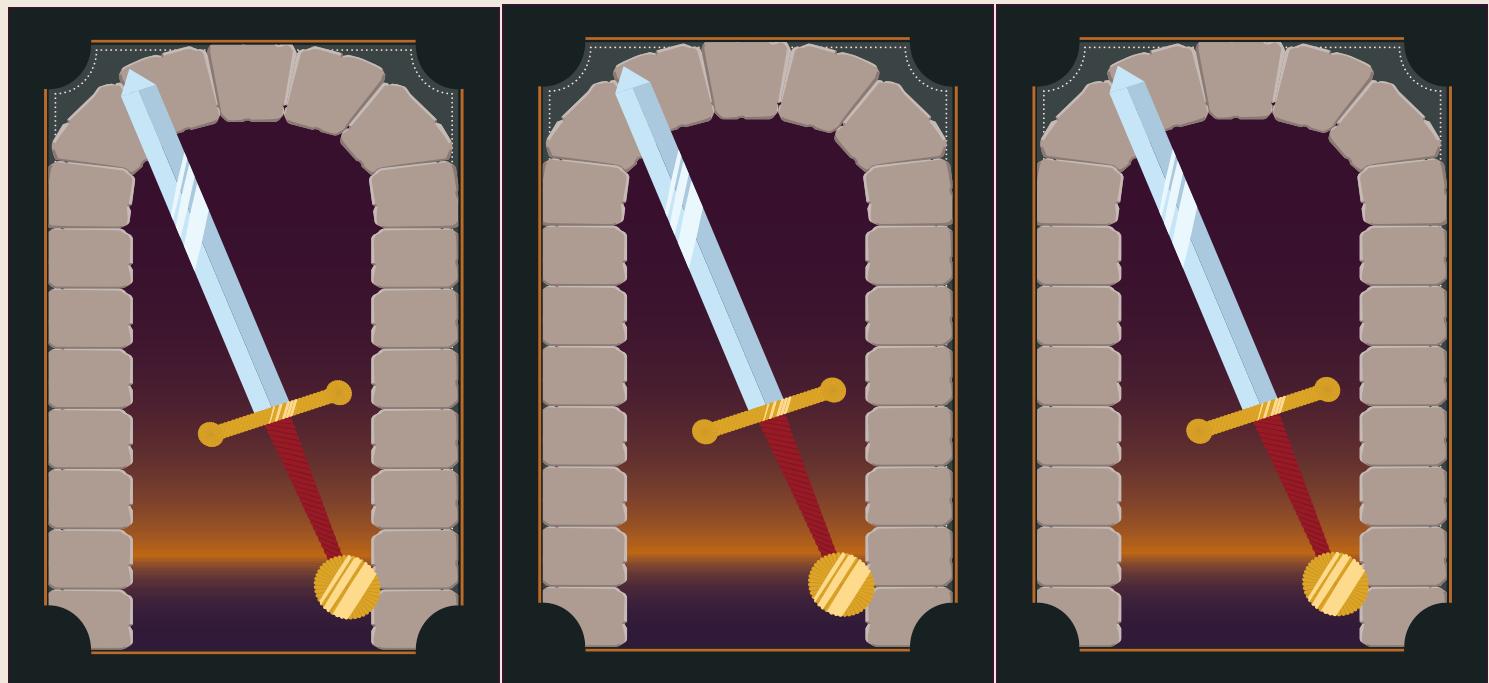
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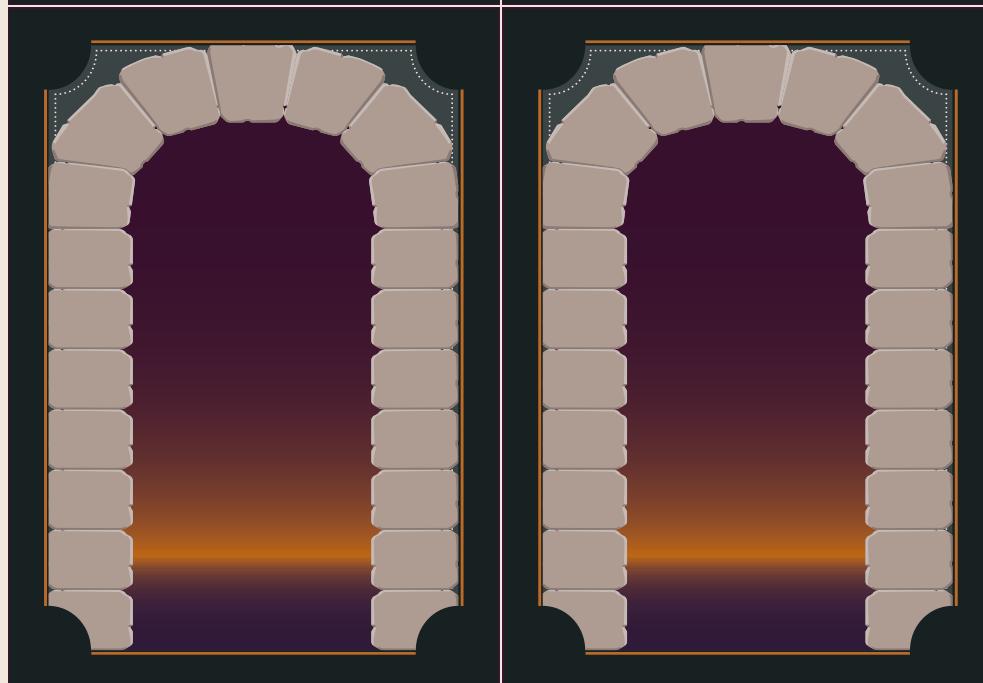


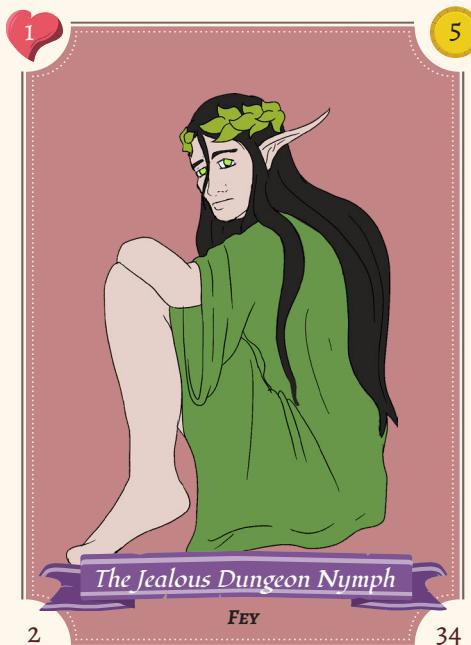
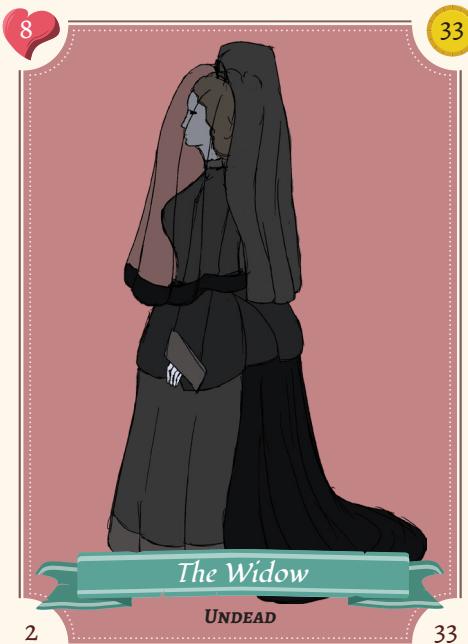
More Doors

YOU ARE READY TO FACE THE SECOND STAGE OF THE CHALLENGE. WHEN YOU STEP ON THE LANDING, THE DOORS SHIMMER AND SHIFT IN FRONT OF YOU BEFORE THEY SETTLE. IF CHOOSING BETWEEN 10 DOORS IS LABORIOUS, THESE 15 DOORS PROVE A MORE SIGNIFICANT CHALLENGE SINCE YOU CAN'T JUST WILLY-NILLY SLAY MORE MONSTERS OF THE SAME TYPE! BUT BEING AN EXPERT IN OPTIMIZATION, YOU SELECT THE APPROPRIATE WEAPONS ACCORDING TO THE 15 OPPONENTS (IT COULD ALSO BE THAT NO WEAPONS ARE NEEDED)).

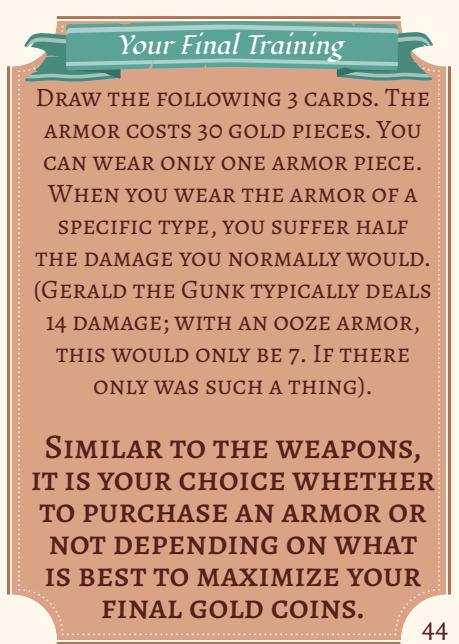
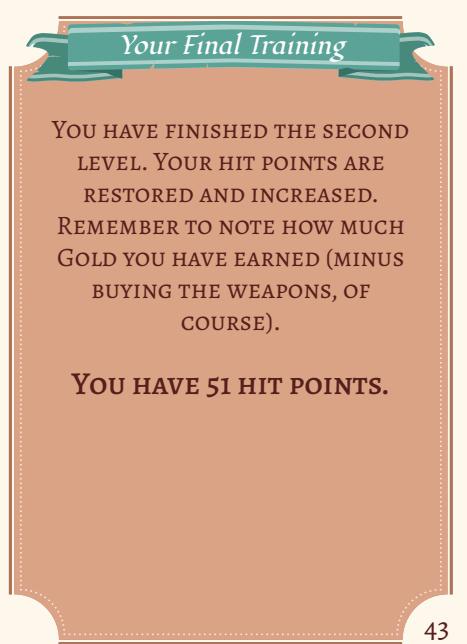
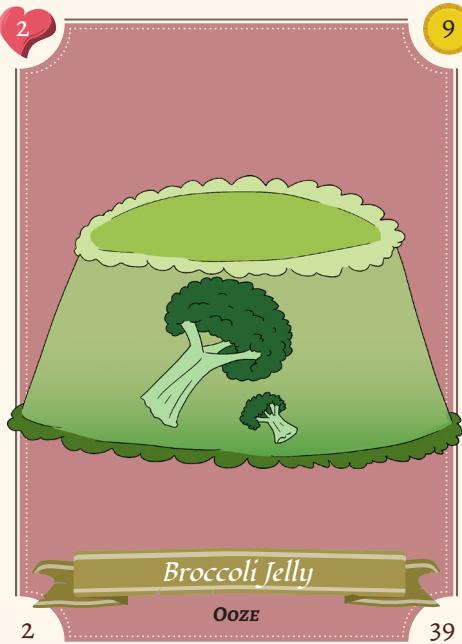
YOU FEEL READY. YOU CAN DO THIS!

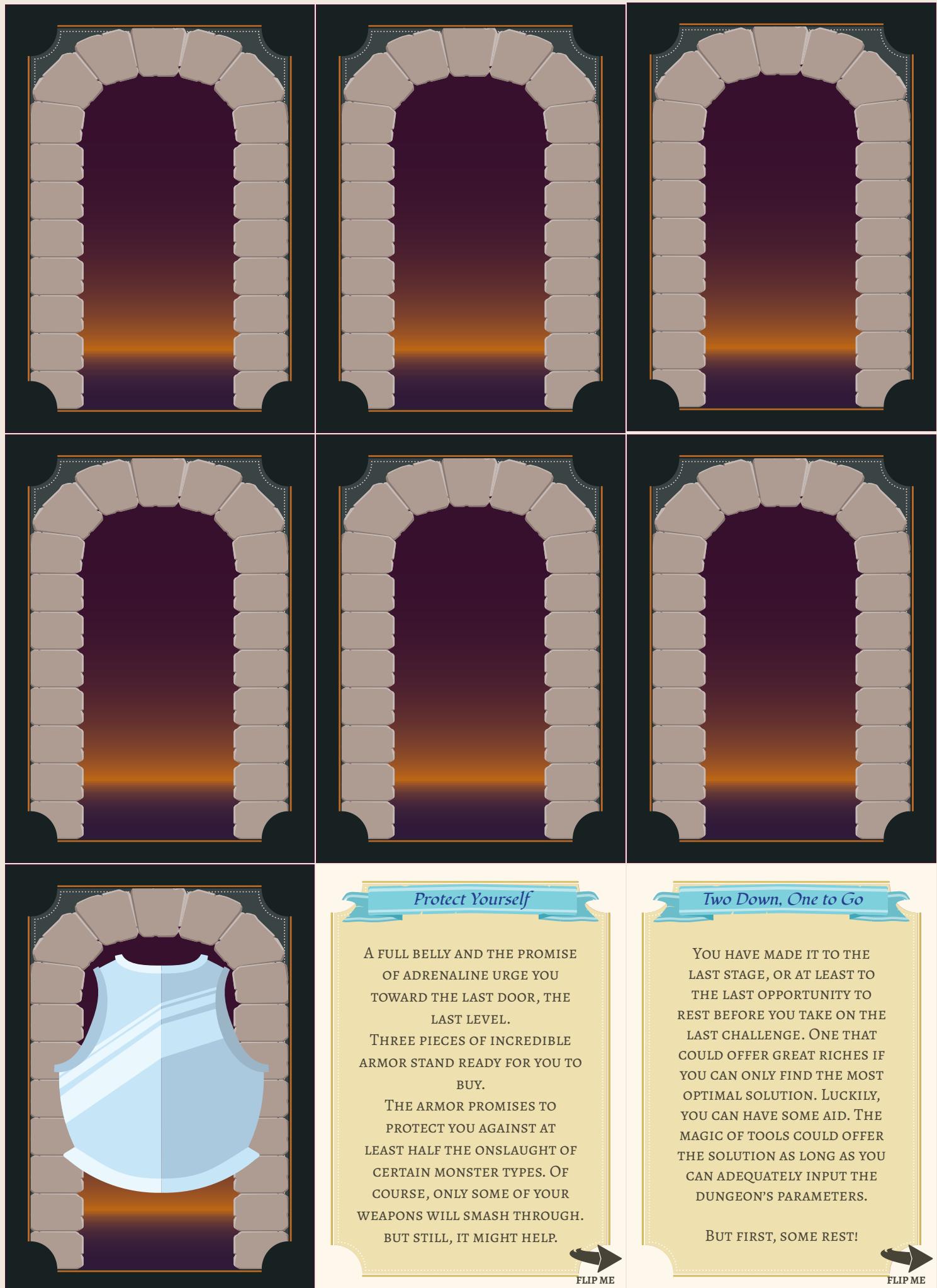
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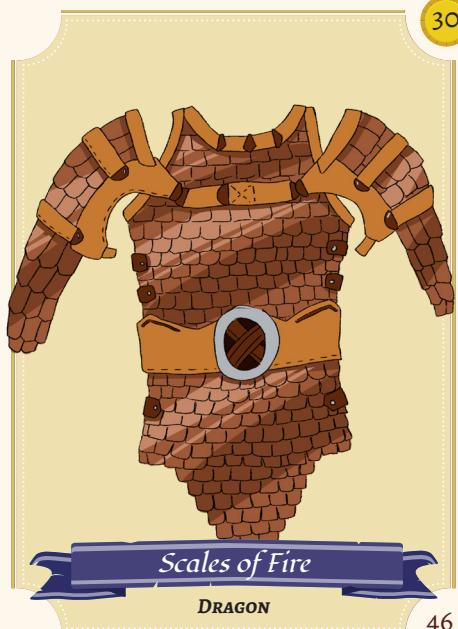








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Scales of Fire

DRAGON

46



Frostmantle

FIEND

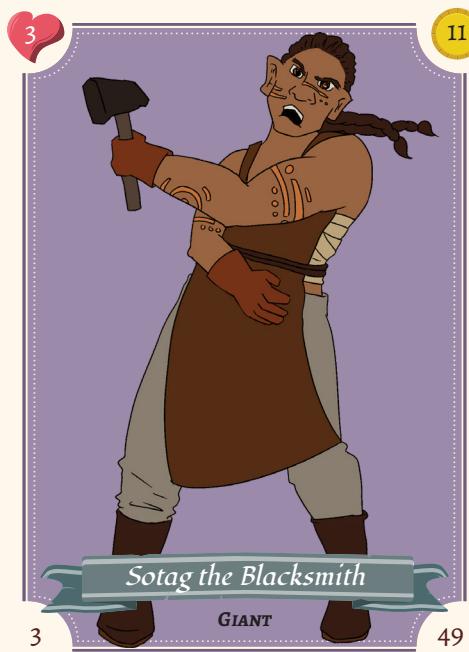
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Your Final Training

TAKE THE FIRST 10 AND SECOND 20 CARDS FROM THE EARLIER LEVELS. COMBINE THEM WITH THE NEXT 20 DUNGEON CARDS AND SHUFFLE ALL 50 CARDS TOGETHER. DRAW 40 CARDS AND PLACE THEM IN FRONT OF YOU TOGETHER WITH THE 5 WEAPON AND 3 ARMOR CARDS. FIND THE OPTIMAL SOLUTION. YOU CAN STILL ONLY DEFEAT MULTIPLE MONSTERS OF 1 TYPE IF YOU HAVE A CORRESPONDING WEAPON! 1 TYPE OF MONSTER WILL ONLY DEAL HALF DAMAGE, BASED ON YOUR ARMOR.

REMEMBER, YOU CAN USE AN
OPTIMIZATION CODE!

48



Sotag the Blacksmith

GIANT

3

11

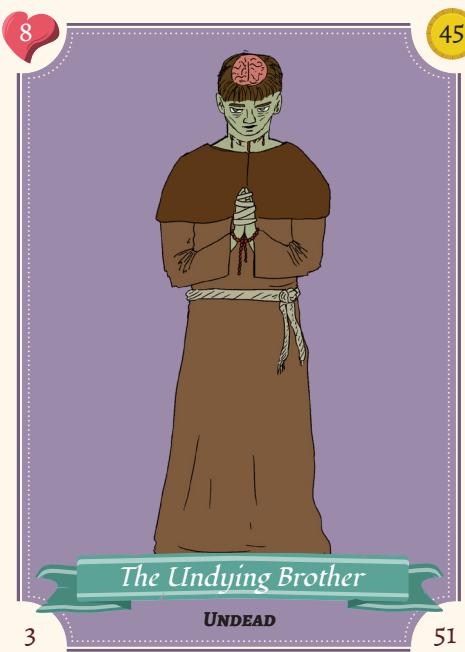


Steve from town

HUMANOID

3

10



The Undying Brother

UNDEAD

3

45



Troll of the Tower

GIANT

3

29



The Sludge of the Dark

OOZE

3

24



The Giant Spider King

BEAST

3

17

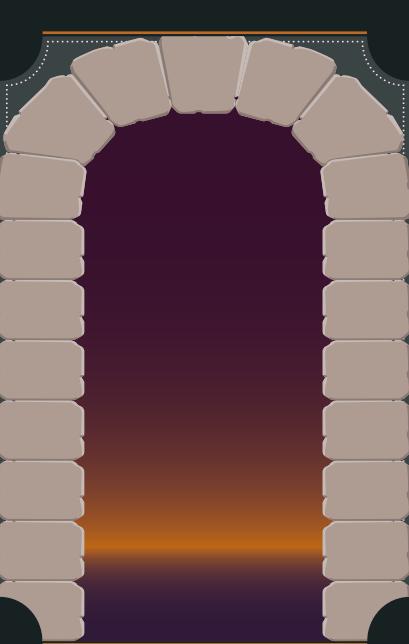
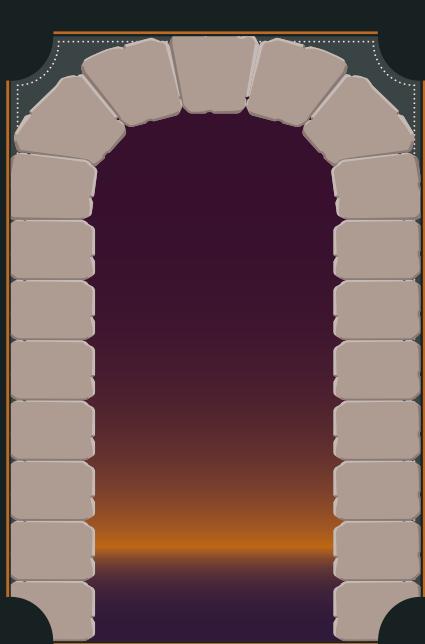
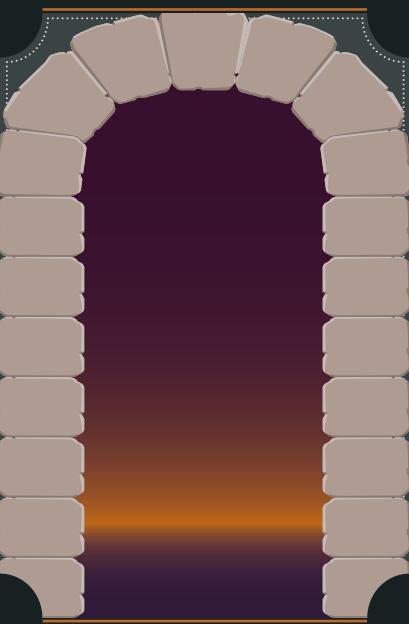
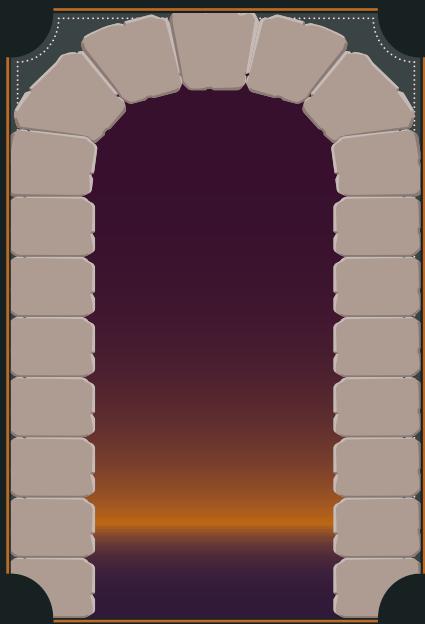
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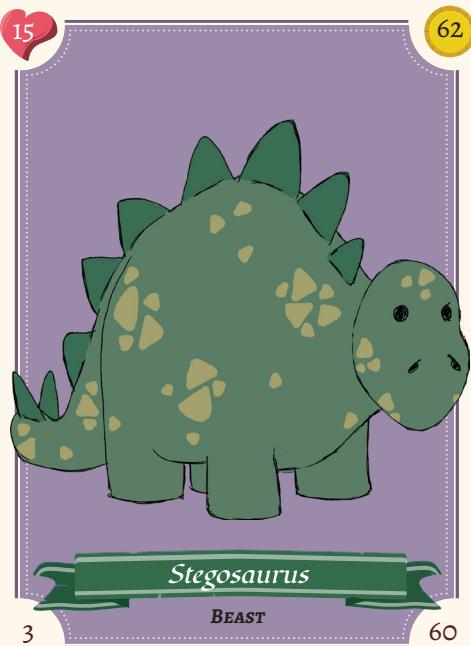
The Largest Stage

ARMOR ADORNED, WEAPONS IN HAND, YOU ARE READY FOR THE LAST CHALLENGE BEFORE OFFICIALLY GRADUATING FROM YOUR TRAINING. AGAIN, THE ROOMS SHIFT BEFORE YOU, AND THEN THEY, ONE BY ONE, SOLIDIFY BEFORE YOU. NOT 10 OR 20, 40 DOORS STAND BEFORE AND AROUND YOU. ALTHOUGH THEY STOPPED SPINNING, THEY ARE SHIFTING AROUND YOU. HOW ARE YOU GOING TO FIND THE OPTIMAL SOLUTION?

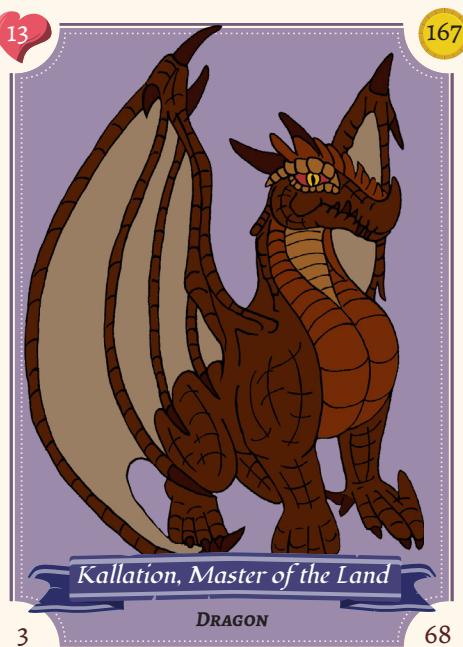
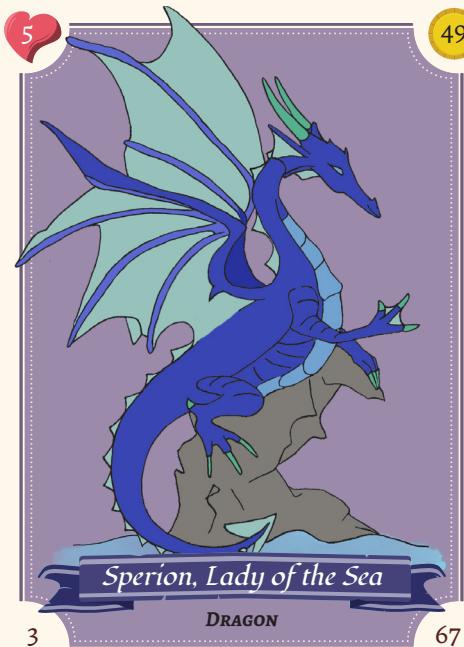
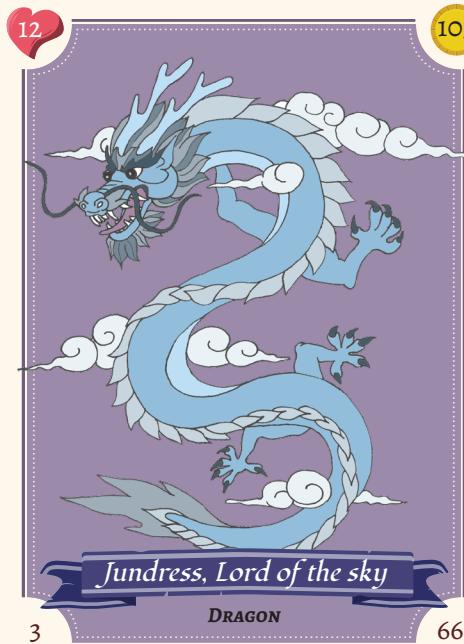
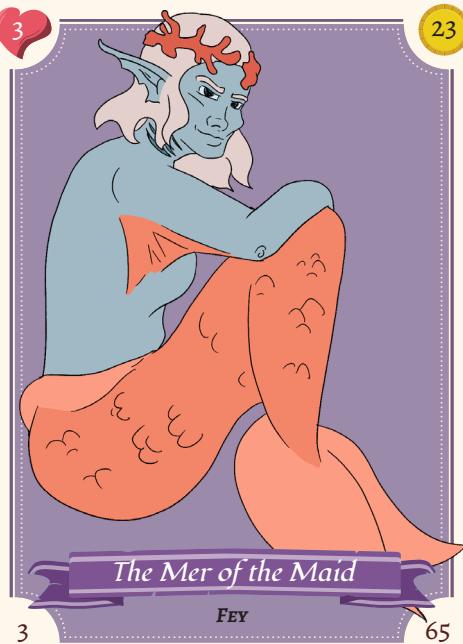
CERTAINLY NOT BY HAND, ARE YOU?

FLIP ME 









Your Final Training

YOU HAVE SOLVED ALL THREE PUZZLES. TAKE SOME TIME TO LOOK OVER THE FOLLOWING DEBRIEF QUESTIONS, ANSWER THEM FOR YOURSELF, AND DISCUSS THEM WITH A FELLOW STUDENT.

HOW DID YOU DO?
DO YOU THINK THE GAME WAS FAIR?
COULD YOU HAVE GOTTEN TO THE OPTIMAL SOLUTION MORE QUICKLY?
IF YOU WOULD DO THE GAME AGAIN, WOULD YOU CHANGE YOUR CHOICES?
DURING THE FIRST PHASE, COULD YOU FIND THE OPTIMAL SOLUTION YOURSELF?
HOW DID YOU GO ABOUT IT?
WHAT STEPS DID YOU TAKE TO FIND THE SOLUTION?

69

Your Final Training

DID YOUR APPROACH CHANGE DURING THE SECOND AND THIRD PHASES? WHY AND HOW?
DID YOU UTILIZE CODE TO FIND THE OPTIMAL SOLUTION?
HOW DID YOU ALTER THE CODE TO FIND THE OPTIMAL SOLUTION?
IF YOU LOOK AT THE GAME'S MECHANICS, WHICH ELEMENTS DO YOU RECOGNIZE?
CAN YOU WRITE DOWN THESE ELEMENTS IN MORE GENERIC TERMS?
WHERE DO YOU SEE SIMILAR PROBLEMS IN YOUR LIFE AND WORK/STUDY?

70

Through Hills and Brambles

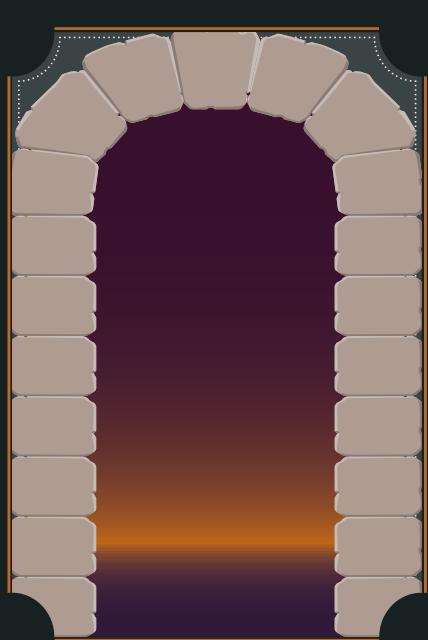
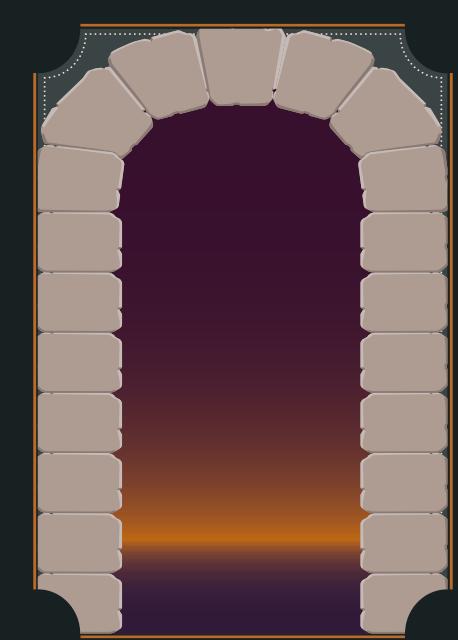
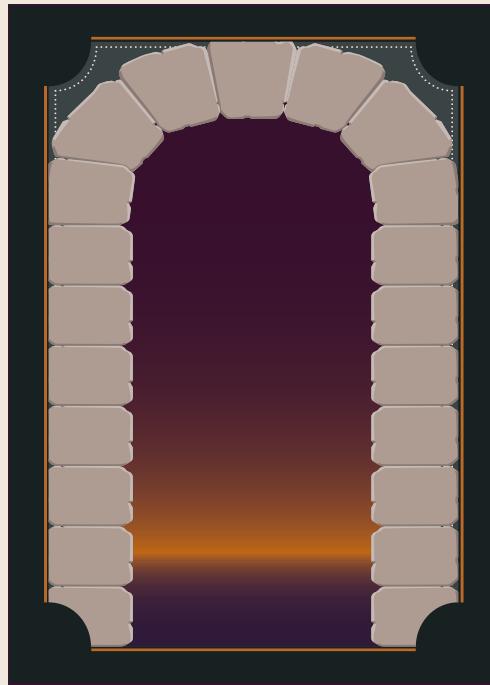
WELCOME TO THE STOCHASTIC ANALYSIS PROBLEM. YOU WILL USE THE SAME MONSTERS AS THE FINAL TASK PROBLEM (KNAPSACK). YOU WILL USE ALL THE GIANTS, OIZES, AND UNDEAD.

1

Through Hills and Brambles

YOU WILL RECEIVE A TABLE WITH POSSIBLE ENCOUNTERS AND A NUMBER FOR THE NIGHT ENCOUNTERS. USE A D100 OR A NUMBER GENERATOR BETWEEN 1 AND 100 TO DETERMINE WHICH MONSTER SHOWS UP.

2



Congratulations!

HILMOR AWAITS YOU WHEN YOU LEAVE THE DUNGEON, YOUR ARMS FILLED WITH GOLD AND RICHES.

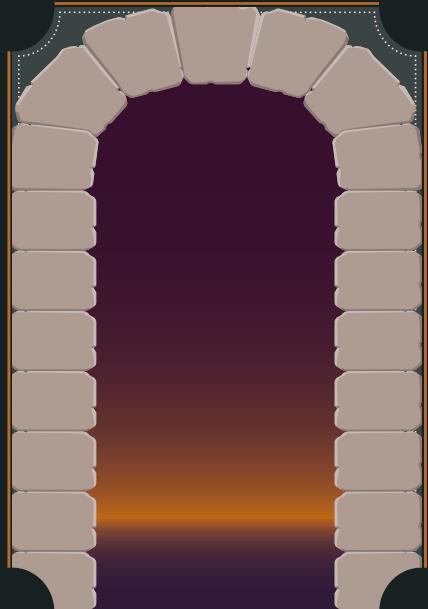
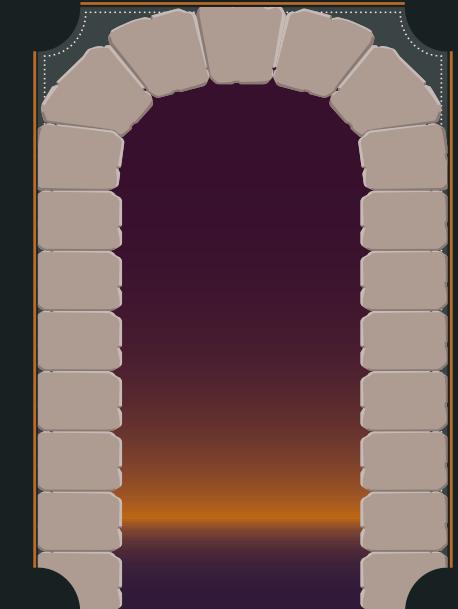
"AH, I SEE YOU HAVE FOUND YOURSELF QUITE SOME GOLD. I AM GLAD. I ALWAYS KNEW YOU WOULD BE ONE OF MY BETTER STUDENTS." HE OFFERS YOU AN ALE AND YOUR ADVENTURER'S BADGE. YOU DISCARD THE ARMOR AND WEAPONS, POCKET THE GOLD, AND CELEBRATE.

YOU MADE IT; YOU ARE OFFICIALLY AN ADVENTURER.

FLIP ME

Your Task

THE TASK REMAINS TO GET THEM THERE SAFELY AND STILL TRYING TO COLLECT AS MANY COINS AS POSSIBLE, WHICH IS MORE CHALLENGING THAN IT SOUNDS. DURING THE DAY, YOU WILL BE ABLE TO ENCOUNTER MONSTERS AND SHOW YOUR STUDENTS THE BASICS WHILE YOU KNOW THAT AT NIGHT SOME OTHER MONSTERS WILL TRY TO AMBUSH YOUR GROUP. SIMILAR TO THE PREVIOUS LEVELS, YOU CAN CHOOSE WHETHER TO DEFEAT A MONSTER (AND GAIN COINS) OR NOT. YOU ARE CERTAIN ABOUT THE MONSTERS YOU FACE DURING THE DAY, BUT THE NIGHT MONSTERS WILL ONLY SHOW UP AT DUSK. IF YOU LOSE TOO MANY HIT POINTS DURING THE DAY, THEN YOU MIGHT NOT BE ABLE TO COLLECT ANY GOLD AT NIGHT.



Back Home

YOU HAVE GAINED EXPERIENCE AS AN ADVENTURER, AND PEOPLE LOOK UP TO YOU. ASPIRING ADVENTURERS SEEK YOU OUT FOR ADVICE AND TO LEARN FROM YOU. HOWEVER, THIS WOULD PUT THEM IN DANGER DURING YOUR DANGEROUS QUESTS.

THEREFORE, YOU OFFER A GROUP OF APPRENTICES TO GUIDE THEM TOWARDS THE ADVENTURER'S ACADEMY AT THE RUINS OF BALINDOR, WHERE YOU TRAINED.

Teach Us!

A BUNCH OF YOUNG RECRUITS GATHER AROUND YOU DURING YOUR FAREWELL PARTY. THEY HOPE TO LEARN TIPS AND TRICKS FROM SOMEONE WHO MASTERED THE DUNGEON. ONCE THEY START QUESTIONING, THEY CAN HARDLY STOP.

"WHAT DID YOU LEARN DOWN THERE?"
"HOW MUCH GOLD DID YOU EARN?"
"HOW DID YOU GET ALL THAT GOLD?"
"DO YOU THINK YOU COULD HAVE EARNED MORE?"
"DO YOU HAVE ANY TIPS FOR US WHEN WE FINALLY GO DOWN?"

FLIP ME

Through Hills and Brambles

THE TRIP WILL TAKE 2 FULL DAYS. DURING EACH DAY, YOU WILL FACE MONSTERS AND DECIDE WHICH ONES TO DEFEAT (IF ANY). YOU ALSO KNOW THE REMAINING MONSTERS WHOM YOU MIGHT FACE AT NIGHT, BUT NOT EXACTLY WHICH ONES WILL SHOW UP. THIS IS DETERMINED BY THE NIGHT ENCOUNTER DICE AFTER YOUR DAILY ENCOUNTERS ARE OVER. AT NIGHT, YOU CAN STILL DEFEAT MONSTERS IF YOUR HIT POINTS ALLOW IT (AND COLLECT MORE COINS) OR DO NOTHING AND REST FOR THE NEXT DAY.

3

Through Hills and Brambles

EACH DAY, YOU HAVE 21 HIT POINTS. HENCE, YOU CAN SPEND 20 BETWEEN THE DAY AND NIGHT ENCOUNTERS. WHICHEVER HIT POINTS YOU LOST AT THE END OF DAY 1, THEY ARE RESTORED AT THE START OF DAY 2 AFTER SOME WELL DESERVED SLEEP.

DURING THE FIRST DAY, YOU WILL ENCOUNTER UNDEADS, WHILE DURING THE SECOND DAY YOU WILL ENCOUNTER OOZES AND GIANTS WHO HAVE JOINED FORCES. GIVEN THE ACCRUED EXPERIENCE, YOU DO NOT NEED SWORDS ANYMORE AND CAN FIGHT MULTIPLE MONSTERS OF THE SAME TYPE IF NEEDED. ARMORS WERE TOO HEAVY, HENCE YOU CANNOT USE THEM AND NEED TO CONSIDER THE FULL DAMAGE WHEN DEFEATING AN OPPONENT.

4

Through Hills and Brambles

TOTAL HEALTH PER DAY 21 - KEEP 1 TO SURVIVE THE DAY!

DAY ENCOUNTER:

ZORGOL THE ZOMBIE, GHOST OF YOUR PAST, THE MUMMY, PETE WHO DIED, RIMIDALV

NIGHT ENCOUNTER:

THE WIDOW & UNDYING BROTHER (1-15)
THE WIDOW & LICH OF 1200 YEARS (16-30)
THE WIDOW & SCREAM OF THE WIGHT (31-50)
THE LICH OF 1200 YEARS & UNDYING BROTHER (51-65)
THE UNDYING BROTHER & SCREAM OF THE WIGHT (66-80)
THE LICH OF 1200 YEARS & SCREAM OF THE WIGHT (81-100)

5

UNDEAD

Through Hills and Brambles

CONGRATULATIONS, YOU HAVE FINISHED THE GAME. TAKE SOME TIME TO LOOK OVER THE QUESTIONS BELOW.

HOW DID YOU DO?
DO YOU THINK YOU COLLECTED AS MUCH GOLD AS POSSIBLE?
IF YOU WERE TO PLAY THE GAME AGAIN, WOULD YOU MAKE THE SAME CHOICES?
HOW DID THE UNCERTAINTY AFFECT YOUR CHOICES IN THE GAME?

6

Through Hills and Brambles

SOME LAST QUESTIONS

WHAT ASPECTS OF THE GAME DO YOU RECOGNIZE IN REALITY?
IN WHAT WAYS DOES THE GAME DIFFER FROM REALITY?
HOW WOULD YOU NEED TO ALTER THE CODE PROVIDED WITH THE BOOK TO ACCOUNT FOR THESE REAL-LIFE ELEMENTS?
CAN YOU WRITE DOWN THE ELEMENTS OF THE GAME IN MORE GENERIC TERMS?
COULD YOU CREATE A GAME IN A DIFFERENT SETTING USING THESE ELEMENTS?
WHERE DO YOU SEE SIMILAR PROBLEMS IN YOUR LIFE AND WORK/STUDY?

9

7

OOZES AND GIANTS

8

10

Death's Bramble

DURING THE FIRST DAY, YOU WILL MOVE THROUGH THE UNDEAD TERRITORY. YOU SEE FIVE SHADED FIGURES APPROACHING. THESE ARE 5 DAILY ENCOUNTERS. YOUR INFORMANT HAS ALSO TOLD YOU THAT ONLY 2 OUT OF THE 4 REMAINING UNDEADS WILL TRY TO SNEAK UP ON YOU AFTER DUSK. YOU HAVE NOTED DOWN THE CHANCES OF SPECIFIC ENCOUNTERS.

 FLIP ME

Your Apprentices' Skills

YOU TEACH YOUR APPRENTICES NOT TO BE GREEDY AND TO SAVE SOME OF THEIR AVAILABLE 21 HIT POINTS FOR THE NIGHT ENCOUNTERS IF THEY BELIEVE THAT TO BE WISE. AS AN ALTERNATIVE, THEY CAN STILL USE ALL OF THEM DURING THE DAY, BUT THIS MEANS NO GOLD WILL BE COLLECTED AT NIGHT. REMEMBER THAT SOME GOOD SLEEP WILL RESTORE THE 21 HIT POINTS BETWEEN DAY 1 AND 2.

Pick your Battles

YOU WILL MOVE THROUGH 2 DIFFERENT AREAS. EACH AREA WILL TAKE A FULL DAY OF TRAVEL. IT IS A LONG JOURNEY, BUT IT ALLOWS YOU TO TEACH YOUR APPRENTICES SOME BASICS. YOU WILL HELP THEM DEFEAT WISELY THE VARIOUS MONSTERS KAIRASUS HAS TO OFFER IN THESE PARTS WHILE GETTING GOLD IN RETURN. IN ADDITION, YOU WILL TEACH THEM NOT TO BE GREEDY DURING THE DAY AND (MAYBE) TO SAVE SOME ENERGY FOR NIGHT ENCOUNTERS.

Everoozing Swamp

YOU CAN BE PROUD OF YOUR ASPIRING ADVENTURERS. EVEN THOUGH THE UNDEADS WERE TOUGH OPPONENTS AND THE NIGHT WAS COLD, THEY BATTLED THROUGH IT ALL. THIS IS GOOD BECAUSE NOW YOU WILL ENTER THE EVEROOZING SWAMP, WHERE THEIR SOCKS WILL ALWAYS BE WET, OOZES AND GIANTS HAVE JOINED FORCES. YOU HAVE 10 FIERCE OPPONENTS IN FRONT OF YOU (5 OOZE AND 5 GIANTS). WHICHEVER CHOICES YOU MAKE NOW, YOUR INFORMANT TOLD YOU THAT TONIGHT 2 ADDITIONAL OPPONENTS WILL TRY TO SNEAK ON YOU (1 OF THE 3 REMAINING OOZES AND 1 OF THE TWO REMAINING GIANTS). SIMILAR TO DAY 1, YOU HAVE NOTED DOWN THE CHANCES OF SPECIFIC ENCOUNTERS

 FLIP ME

Death's Bramble

Home Sweet Home

YOU HAVE MADE IT! YOUR APPRENTICES BELIEVE THEY HAVE LEARNED ENOUGH FROM THE JOURNEY THAT THEY NO LONGER NEED THEIR EDUCATION. BUT YOU KNOW BETTER. YOU KNOW THAT THEY MIGHT HAVE LEARNED HOW TO USE THE FIST, BUT TO BECOME A GREAT ADVENTURER, YOU ALSO NEED TO BE ABLE TO USE YOUR MIND AND MAKE THE RIGHT DECISIONS.

Before You Go

THE MOST STUDIOS OF YOUR APPRENTICES CORNERS YOU BEFORE YOU LEAVE THEM TO THEIR STUDIES. SHE ASKS YOU SEVERAL QUESTIONS ABOUT YOUR METHODS AND WAYS OF DECIDING WHAT TO ATTACK. THIS WAY, SHE HOPES TO START HER STUDIES STRONGLY, AND WHO COULD BLAME HER?

HOW DID YOU PREPARE FOR THE NIGHT ENCOUNTERS?
HOW MUCH GOLD DID YOU END WITH?
COULD SHE HAVE SOME OF IT?
WOULD YOU DO SOMETHING DIFFERENTLY IF YOU MADE THE JOURNEY AGAIN WITH A DIFFERENT GROUP?