



Are You Too Hot?

Game Instructions

Object

The object of this game is to get to the space station with minimal radiation exposure.

Instructions

1

Start

Place your token on the Start spot on the board. The student whose birthday is closest to February 14th begins. Play proceeds in a clockwise direction.

2

Determine your Career

Each person should roll the dice to determine their career. Use the list below. Write your occupation on your Tally sheet. Record in the Add column the mrem/year associated with this occupation.

OCCUPATIONS

- 1= Airplane pilot
- 2= Nuclear Medicine Technologist
- 3= Dental hygienist
- 4= Concrete Layer (mason)
- 5= Nuclear Power plant Worker
- 6= Optometrist (making eyeglasses with thorium)

EXPOSURE

- 600 mrem/yr
- 520 mrem/yr
- 300 mrem/yr
- 3 mrem/yr
- 600 mrem/yr
- 11 mrem/yr

3

Determine Where you Live

Roll the dice to determine where you live. Use the list below. Write your place of residence on your Tally sheet. Record in the Add column the mrem/year associated with your chosen residence.

PLACES TO LIVE

- 1= Washington State (Northwest Region)
- 2= Washington State (Northeast Region)
- 3= Directly outside a Nuclear Power Plant
- 4= Living off of the Atlantic Coast
- 5= Living in the Rocky Mountains
- 6= Chicago, Illinois

EXPOSURE

- 240 mrem/yr
- 1700 mrem/yr
- 661 mrem/yr
- 23 mrem/yr
- 90 mrem/yr
- 46 mrem/yr

4

Proceed from the starting position. For each move, be sure to read the square carefully and record on your Tally sheet either the addition or subtraction of mrem.

5

Astronaut Training

Every player must stop at Astronaut Training and roll the dice to determine their age. Use the list below.

If you roll a: Your age is:

1 or 2	= 25 years old
3	= 35 years old
4 or 5	= 45 years old
6	= 55 years old

Record your age and sex on your Tally sheet. Calculate your exposure limits using this formula:

Males	Take your age, and subtract 30. Multiply this by 7500 mrem and then add 200mrem.
Females	Take your age, and subtract 38. Multiply this by 7500 mrem and then add 200mrem

6

Record the number that you calculated from #5 on your Tally sheet. This will be the number that you will use at the end of the game to help to determine the winner.

7

Every player must stop at the Launch site and wait until their turn to roll again.

8

Continue the game until you reach the space station.

9

Once all players finish, everyone must calculate their exposure on their Tally sheet. To do this, you first need to convert all units into the time frame of one day.

10

Determining the Winner

Using the number that you calculated in #5, did your total number exceed your exposure limit? If so, you are disqualified. If not, use the Career Exposure Limits by Age and Sex Table and the player with the lowest exposure limit for sex and age, wins.

Career Exposure Limits by Age and Sex

Sex	Age 25 years	Age 35 years	Age 45 years	Age 55 years
Male	150,000 mrem	250,000 mrem	325,000 mrem	400,000 mrem
Female	100,000 mrem	175,000 mrem	250,000 mrem	300,000 mrem

Tally sheet

	mrem/min	mrem/hr	mrem/day	mrem/year
Sub Totals				
	Divide by 1440	Divide by 24	Multiply by 1	Multiply by 365
Total mrem/day				
Grand Total mrem/day				



Flew during a major SPE.
Add 90 mrem/hr to Tally card.



Flew during a major SPE.
Add 90 mrem/hr to Tally card.



Ask any team member what rem stands
for (Roentgen equivalent man).
**If they know, they subtract 10 mrem/hr
from Tally sheet.**



Ask any team member what rem stands
for (Roentgen equivalent man).
**If they know, they subtract 10 mrem/hr
from Tally sheet.**



Used shielding when sleeping.
Subtract 15 mrem/hr from Tally sheet.



Used shielding when sleeping.
Subtract 15 mrem/hr from Tally sheet.



Get hurt while practicing acrobatics
without gravity.
Add 440 mrem/hr to Tally sheet.



Get hurt while practicing acrobatics
without gravity.
Add 440 mrem/hr to Tally sheet.





Bonus card:

Delete highest exposure on Tally card.



Bonus card:

Delete highest exposure on Tally card.



Exposure high!! Did not watch TEPC reading.

Add 250 mrem/min to Tally card.



Exposure high!! Did not watch TEPC reading.

Add 250 mrem/min to Tally card.



Doctor found radionuclides in your body.

Add 39mre/yr to Tally sheet



Doctor found radionuclides in your body.

Add 39mre/yr to Tally sheet



Checked TEPC readings.

Add 0.1 mrem/min to Tally card.



Checked TEPC readings.

Add 0.1 mrem/min to Tally card.





Found old pocket watch with radium dial.

Add 6-mrem/yr to Tally sheet.

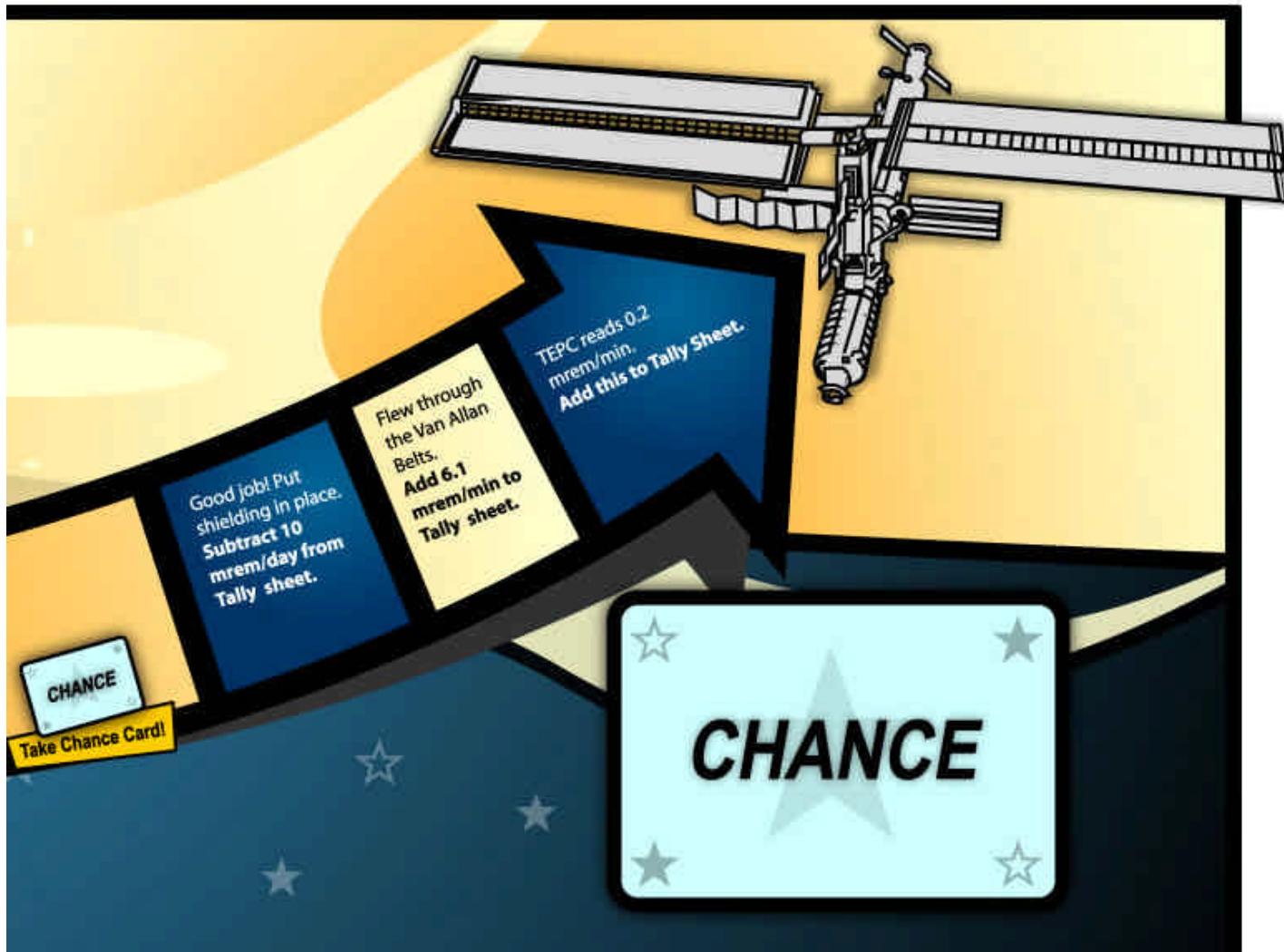


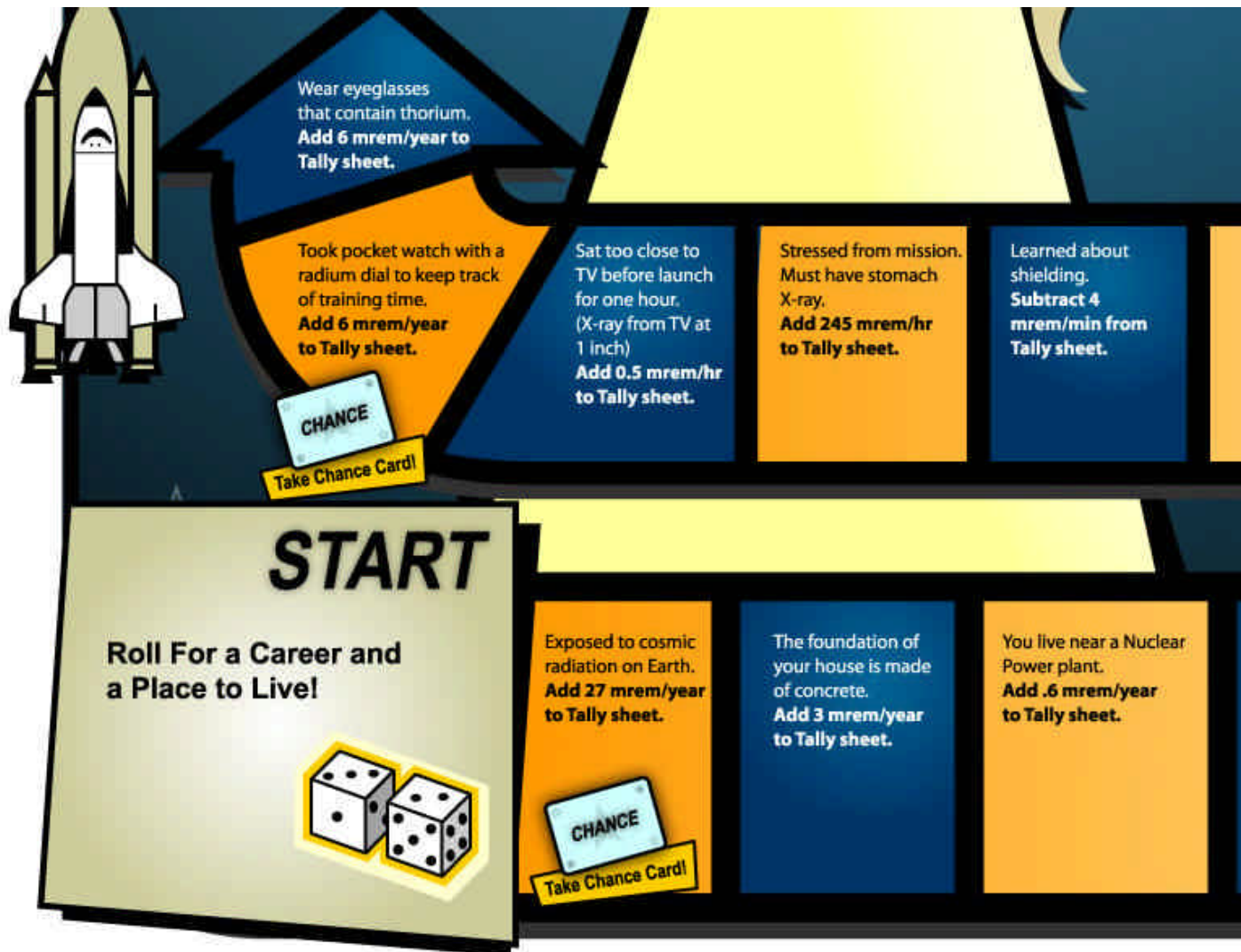
Found old pocket watch with radium dial.

Add 6-mrem/yr to Tally sheet.









ASTRONAUT TRAINING



Roll For an Age!



Practicing for an
EVA. Broken arm.
Need X-ray.
**Add 1 mrem/min
to Tally sheet.**

CHANCE

Take Chance Card!

Chipped your tooth
while eating space
food. Need dental
X-ray.
**Add 10 mrem/min
to Tally sheet.**

Flew from
California to
Florida for
shuttle
mission.
**Add 5
mrem/day
to Tally sheet.**

CHANCE

Take Chance Card!

You heat your home
with Natural gas.
**Add 9 mrem/year
to Tally sheet.**

CHANCE

Take Chance Card!

CHANCE

Take Chance Card!

Hard to breathe.
Need chest X-ray.
**Add 8 mrem/min
to Tally sheet.**

Nuclear
bomb explodes
nearby.
You are dead. Start over.