

Water in the Solar System Solitaire (1 Player Card Game)

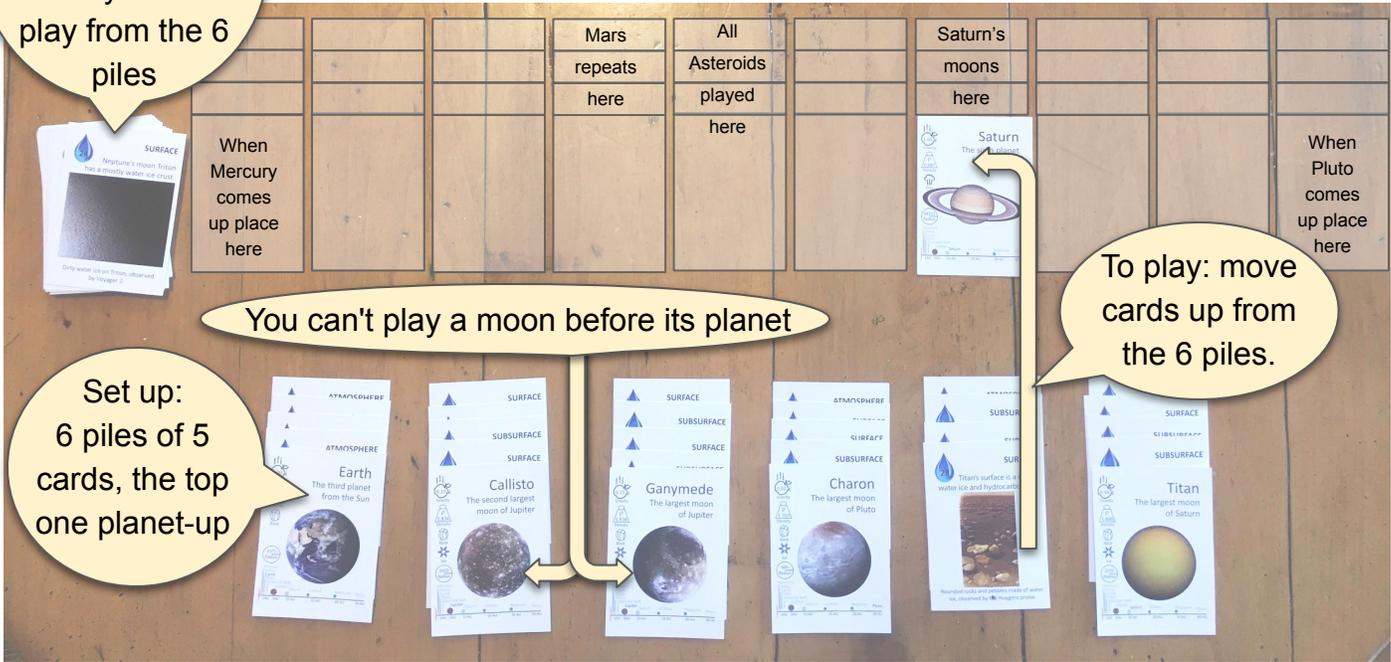
For a quicker game, make piles of 3 instead of 4.



Set up

This is your draw pile: Use these only when you can't play from the 6 piles

- ★ Shuffle the cards
- ★ Make 6 piles of 5 cards. The rest form a draw pile.



Set up: 6 piles of 5 cards, the top one planet-up

Game Play (similar to the card game Solitaire)

- ★ Goal: Build the solar system in order from the Sun
- ★ To play: Move cards from the 6 piles to the blank spaces and flip the next card in that pile over.
- ★ Move planets first. Moons & repeat planets go under (no particular order) their respective planet.
- ★ If 1 of the 6 piles runs out, you can place cards you can't play there to uncover more cards
- ★ If you can't play any of the top cards in the 6 piles or draw pile, start over and try again.
- ★ When you run out of cards, you've won!

So where's the water?

After you win a round, spread out each pile so you can see all cards in each planetary system

↓

Flip all the cards over so you can see each water drop.

Which planetary system has the most water?

↪ Show your family or Take a picture and post it using #PlanetsSTEM

Level up! Engineer a way to reuse water with your family!



It seems like all this water in the solar system is either frozen or dirty...

If we melted it, could we clean it like we do here on Earth?

Maybe, let's try to engineer a way to filter dirty water

Cool... where do we get dirty water?

What your design needs to do:

- ★ Filter out particles in water you can see
- ★ Make water usable for watering plants
- ★ Not waste clean water

Engineer it!

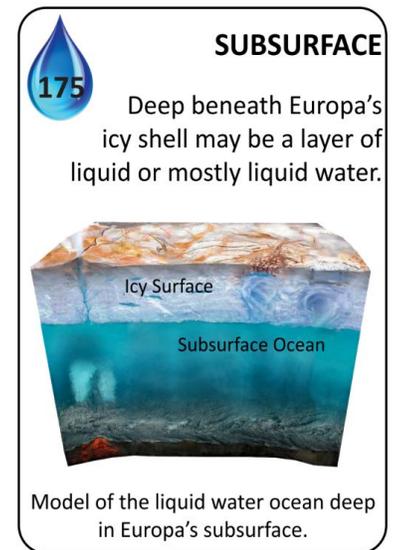
- ★ Draw your plan on the back of this page
- ★ Find materials around your house & build your filter

Test it

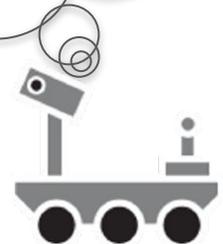
- ★ Try your filter with half your dirty water
- ★ Compare before and after
- ★ Does one have less visible particles?
- ★ If not, try drying out your filter to see what it caught.
- ★ Do you think it's clean enough to water plants?

Improve

- ★ If your water didn't look cleaner, that's okay! Failure teaches engineers how to improve their designs.
- ★ Talk to your family about how to improve your filter.



Hmm... how about used water from cooking, washing hands, or brushing teeth?



Wow, you engineered a water filter! Show it off or post a picture #PlanetsSTEM

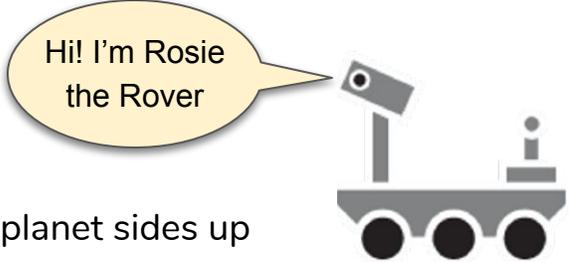


More Games - Planetary bodies of the Solar System

2-5 player card games

Accretion (like the card game war)

- ★ Goal: Win all the cards
- ★ Shuffle the cards while keeping the planet sides up
- ★ Deal cards evenly among players
- ★ Each player flips over their top card
- ★ The card with the highest gravity number takes all cards played and adds them to their hand
- ★ If the gravity is the same, there is a battle
 - Each player in the battle places 1 card planetside-down and 1 card planetside-up
 - Whoever has the highest gravity number
 - wins all cards played



Reservoir - A place where large amounts of water are stored.

Crazy Earths (like Crazy 8's)

- ★ Goal: Get rid of all the cards
- ★ Mix up the cards
- ★ Deal 6 cards to each player, leaving a draw pile
- ★ The top draw pile card starts the game
- ★ Players play cards that match one of the "suits"
- ★ You can play a crazy Earth anytime, and declare the next suit
- ★ If you don't have a card you can play, then draw a card and either play it or end your turn.



SUITS

1. Water Reservoir Type

ATMOSPHERE	SURFACE
SUBSURFACE	RINGS

2. Composition

Rock	Ice	Gas	
Rock	Ice	Gas	Ice

3. Solar System Location