



GAME-BASED LEARNING TO RAISE AWARENESS ABOUT WATER SUSTAINABILITY

An easy & fun game about **WATER!**

Ages 8 to 12 years

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Full Tank!

"Full Tank!" is a fun game developed for children which addresses the issue of water usage and wastage in daily life.

The game is an attempt to..

- **provide comparisons** that put pressure on water resources
- **emphasise that water, though renewable, can deplete** between actions that are water-conserving and water-wasting
- **expose children to an array of activities** and much of daily life is inherently connected to availability of water

Through this game, we hope to raise **Awareness** about **Water**; as an **essential resource** which needs to be conserved.

About the game

- ◆ The game is played using the '**Water Tank Scale**' board & water **Activity Cards**.
- ◆ The markings on the **Tank Scale Board** depict the water level in the tank. The water **Activity Cards** provide information on various human activities & the associated water usage and wastage.
- ◆ The activity can be supervised by a Teacher (as a Moderator).
- ◆ All the **NEW** water **Activity Cards** made by students should be approved by the teacher before using them in the game.



Instructions

1. **Players start by keeping their markers at the 'Start' position. Shuffle all of the cards and place them in a deck.**
2. **Players in turns pick one card at a time and read aloud the water activity and the specifics of the activity. The others are asked to guess if the marker would rise or fall on the water tank scale.**
3. **Players then read out the rest of the card** and accordingly move their marker Up (RISE) or Down (FALL).
4. **If the deck runs out of cards before the game ends, reshuffle the played-cards and use again.** Reshuffling can take place at a maximum number of 2 (for 2 players) or 3 times (for 3 players).
5. **The game ends when a player reaches '180L' or '0L,'.** But if no one reaches 180 or 0 even after the cards are consumed for the second or third time, then the player who is at the top of the water tank scale wins.

Game Elements

Activity Cards | Tank Scale | Markers



Make your OWN cards!

DIY Rules

- Students can create **NEW** water Activity Cards!
- In the new card, it is mandatory to write an activity that uses water directly or indirectly.
- The card should feature the quantity of water (in multiples of 5 in the range of 5-30 Litres) either consumed or saved. This number is only meant to be indicative of Rise/Fall in water.
- Students and teachers can work together to create new cards. More cards, more fun!

Create Yourself

1. Activity

NAME of the Water consuming Task or Activity that is carried out..

Write down,
'WHAT is that activity?'

2. Specific

The manner or medium using which that Activity is taking place..

Write down,
'HOW activity is carried out?'

3. Quatity of Water

Level of water Risen or Fallen based on whether water is Saved or Wasted.

Write down as per framework,
'Number of Liters'

Water activity

Specifics of activity

Water in
Litres

Rise/Fall
.....

The reason behind water
level rising or falling

5. Reason

Mandatory! Reason shows your logic & observation skills.

Write down,
'WHY this activity is Wasting or Saving water?'

4. RISE or FALL

Water Level in the TANK
SCALE going up or down

Playtesting



Nutan Vidya Mandir, Mankhurd

Testing of the initial version of the Full Tank game

- ◆ **Play tested with minimal facilitation**
- ◆ **Rules were informed, basic idea of game too**

Observations & Learning

- Students enjoyed playing the game together.
- Marker movement on Tank Scale was engaging.
- Players read only Liter value & moved the marker on tank scale, only intention was to win fast.
- Post-testing changes were made that initiated reading the Activity Card & then answer Rise/Fall.



Government School, Akola

Testing of the Revised version of the Full Tank game

- ◆ **Students from non-english background**
- ◆ **Game was moderated & explained by teacher**

Observations & Learning

- Students read the whole card, recalled it too.
- After 1st moderation, played it independently.
- In discussions, they pointed out activities carried out in their villages e.g. washing cow, etc.
- Teachers made a Tank Scale on playground & as per liters on card, asked students to Hop-scotch.

Inclusivity

The base purpose of this educative play framework was to ensure Inclusivity

i.e. equal & equitable access across the socio-cultural strata of the society.

The card framework & the game structure is designed to ensure this inclusivity in an easy and comprehensive way.

GRAM- game 2

- ▶ The game Gram is more complex in its nature, theme, mechanics, and game play.
- ▶ It is a co-operative game where the focus shifts from *individual actions to working together as a team* towards a shared goal of making the Gram water-sufficient and facing the consequences of the actions taken together.
- ▶ The objective of this game is to make students aware of how water fares in daily use in small households and in communities.

Conclusion

The games discussed in this paper are designed with the intention of having a larger reach as it will be available in English, Hindi and Marathi & because of its minimal dependency on resources.

The frugal and scalable design of both the games can be easily printed on paper, cut as per instructions, set-up easily & played.

The game mechanics are simple, based on real life situations and grounded in the information to be disseminated which can be adapted as per contextual needs.





SUMMARY



- The objective of our project was to look at alternative media to aid active learning, engagement, and play-based learning methods for maximum student participation.
- The game "Full Tank" is an attempt to introduce the issues related to water conservation in one's surroundings through play. In the game, students need to pay attention to their surroundings and **identify** ways in which water is being wasted or conserved.
- The visual metaphor of using a water tank as a game board and students observing the rise and fall of water was found to be an engaging and playful way to learn about water consumption.
- The most important feature of the game is that there is an option to **make your own 'Water Activity Cards'**, so that players can bring in local experiences and add them to the game in their **local languages**, thereby enhancing engagement and the scope of the game.
- **Skills developed by making the DIY cards:** observation of surroundings, problem identification, looking at issues from multiple perspectives, communication and collaboration.