

*Psyc 587*  
*Fall 2019*

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# Token Economies

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# Conditioned Reinforcement

- ❖ **Conditioned reinforcer:** previously neutral stimulus acquires the ability to function as a reinforcer through stimulus-stimulus pairing with one or more unconditioned or conditioned reinforcers (learning history required)
- ❖ **Generalized conditioned reinforcer:** type of conditioned reinforcer that has been paired with many unconditioned and conditioned reinforcers
  - ❖ Eg money- can be exchanged for many different back up reinforcers

# Case Example: surgery (Levy et al., 2016)

“Behaviors in humans have been successfully reinforced using the acoustic stimulus from a clicker, where the clicker serves as a conditioned reinforcer that marks the moment at which the criterion has been achieved in a way that is language and judgment free” (Levy et al., 2016).

# What is a token economy system?

- ❖ Token:
  - ❖ object or symbol that can be exchanged for other items
  - ❖ No intrinsic value
  - ❖ Why are tokens considered conditioned reinforcers?
- ❖ Economy: a method of exchanging items for other things

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# Main components

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- ❖ Specified target behavior(s)
- ❖ Tokens that are received for displaying the target behavior(s)
- ❖ Back-up reinforcers

# Benefits of token economy systems

- ❖ Bridge delay between target behavior and back up reinforcement delivery
- ❖ Less susceptible to satiation with regard to specific reinforcers
- ❖ Assist in waiting/impulse control skills (e.g., saving tokens to purchase a more expensive back up reinforcer)

# How to set up a token economy system

- ❖ **Purpose:** what is the social significance of the intervention?
- ❖ **Format:** activity, daily, weekly?
- ❖ **Target behavior(s):** what target behavior do you want to strengthen?
- ❖ **Baseline data:** how often/for how long is the behavior currently happening?
- ❖ **Tokens:** what will be used as tokens?
- ❖ **Back-up reinforcers:** what reinforcers will be used to exchange for tokens?
- ❖ **Reinforcement schedule:** how often will tokens be delivered?
- ❖ **Rate of token exchange for reinforcers:** how many tokens are needed to exchange for back-up reinforcers?
- ❖ **Time and place to exchange tokens for back-up reinforcers:** when and where will tokens be exchanged?
- ❖ **Next steps:** what are the next steps in the implementation of the token economy?

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## Format examples

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- ❖ **Specific routine or activity** e.g., dinner time, grocery shopping outing, morning routine
- ❖ **Daily** e.g., point system- earn a point every 30 min. *5 points = 15 minutes of iPad time*
- ❖ **Weekly** e.g., stamp system- earn 1 stamp each day. *8 stamps = special “outing”*

## Identity target behaviors that will earn tokens

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- ❖ Observable and measurable
  - ❖ Dinner time: sitting in chair
- ❖ Framed in the positive when possible (what you want the learner to do)
- ❖ Begin with only one or a few behaviors
- ❖ Non-examples: being cooperative, staying safe

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# Tokens

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Safe, avoid counterfeiting, easy to transport, easy to be provided immediately, age appropriate

- ❖ Themed token board eg peppa pig, princesses, Thomas the train
- ❖ Points
- ❖ Check marks
- ❖ Coupons
- ❖ Beads on a bracelet
- ❖ Pom poms
- ❖ Stamps
- ❖ Pennies

# Collect baseline data

- ❖ Frequency data: how often client is currently engaging in target behavior
- ❖ Duration data: how long client is currently engaging in the target behavior

# Select the backup reinforcers

- ❖ Try to use naturally occurring activities when possible (e.g., classroom job, special privilege, TV time)
- ❖ Reinforcer survey
- ❖ Ask the client or parent
- ❖ Observe
- ❖ Preference assessment

# X's Store

Silly String 3¢



Water Activity 50¢



YoYo 5¢



Park Outing 60¢



Playdoh 15¢



Nintendo Switch Game



Slurpee 20¢



DS Game



Donuts 30¢





SMALL

MEDIUM

BIG



## WHAT DO I WANT TO EARN TODAY?????

		
KITCHEN HELPER	FIVE MINUTES OF TEACHER TIME	SPECIAL DESSERT
		
FIVE MINUTES WITH MOMMY	FIVE MINUTES WITH DADDY	FIVE MINUTES WHITE BOARD
		
GUM	STICKER	FIVE MINUTES OF MY FAVORITE MUSIC

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## Determine the type of token board or system

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- ❖ Simple
- ❖ Complex
- ❖ Self monitoring

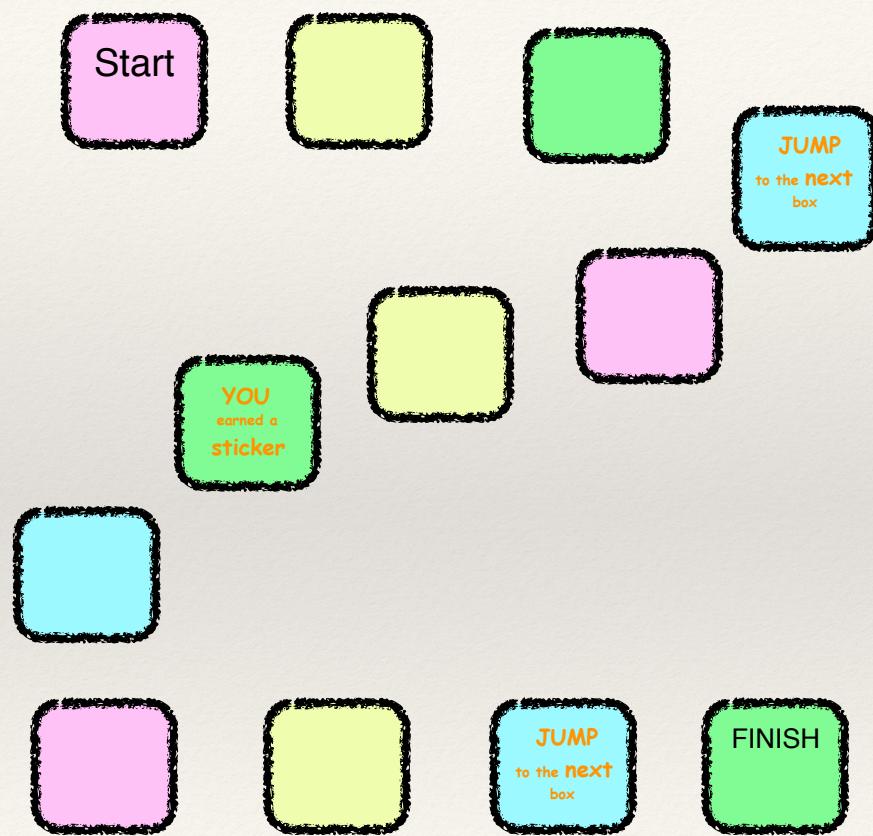


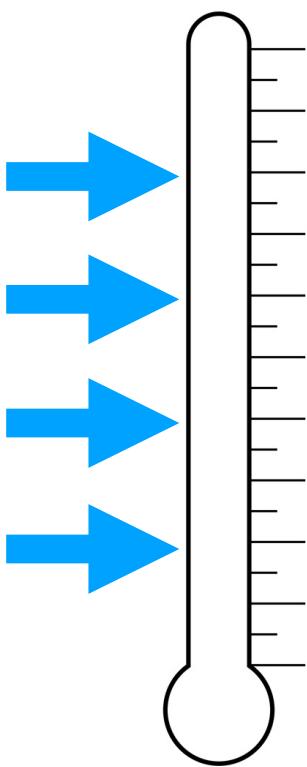
## My Token Chart

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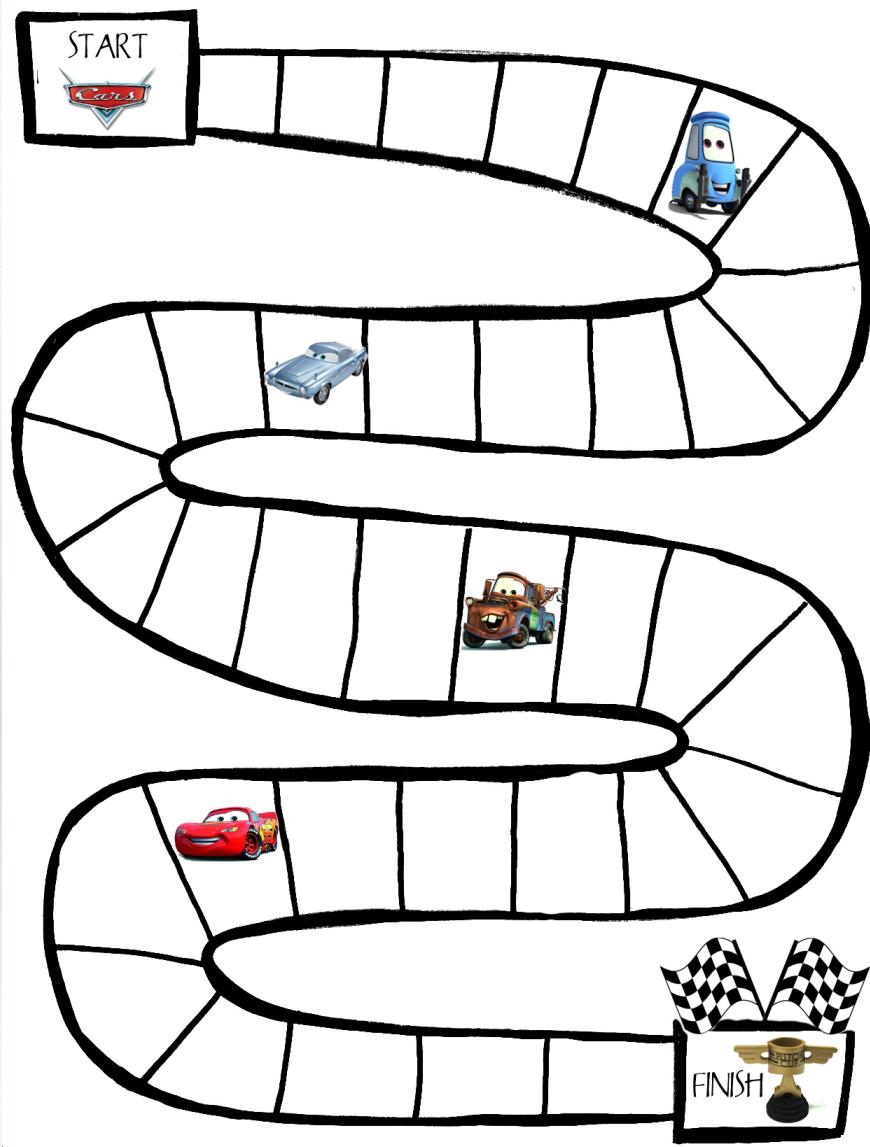


## X'S BOARD GAME





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### X's Reward Chart

Activity To Earn:

I need to:	Did I do it?	
	Yes! :)	Try again :(
Listen to adults		
Keep my hands/feet to myself (no hitting)		
Ask before I leave the room		
Clean up my toys/clothes when I am done		
	Total: _____	Total: _____

## Was I... a good friend?



Did I ask a friend to play **3** times all by myself?



Did I answer questions my friends asked **3** times, all by myself?

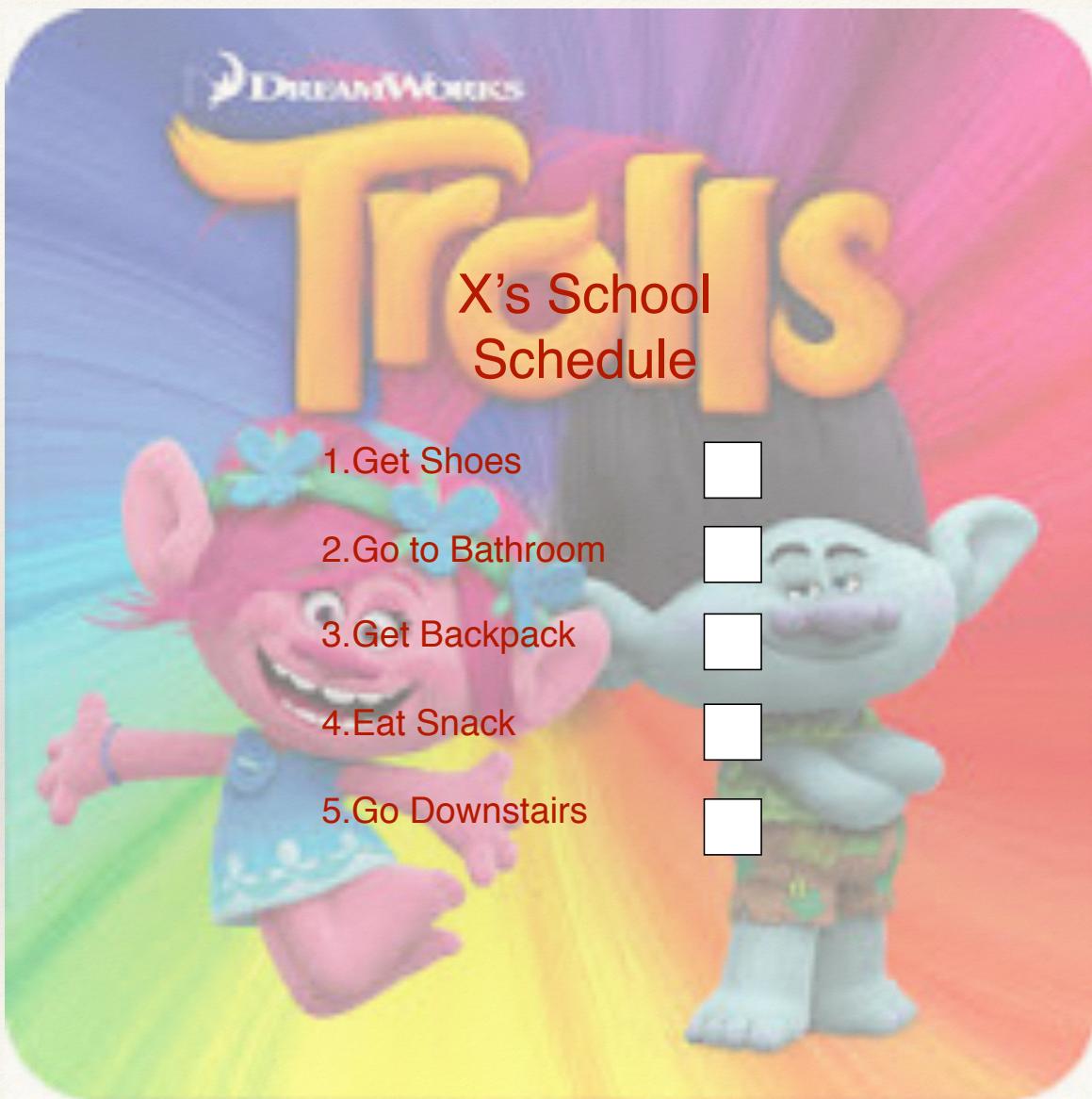


DreamWorks

# Trolls

## X's School Schedule

1. Get Shoes
2. Go to Bathroom
3. Get Backpack
4. Eat Snack
5. Go Downstairs



X's Mission				
My Effort Level 3= by myself 2= a little help (1 reminder) 1= lots of reminders				
Goal #1 Instructor's choice				
Goal #2 X's choice				
Did I earn 2 minutes of iPad time OR 2 tokens?	YES  NO	YES  NO	YES  NO	YES  NO

Goal Bank
<ul style="list-style-type: none"> <li>- Listening to adults without saying "No"</li> <li>- Keeping my hands and body safe</li> <li>- Asking before touching things that aren't mine</li> <li>- Asking before taking materials from someone else</li> <li>- Walking while inside</li> <li>- Giving each activity a try (starting without complaining)</li> </ul>

**Are my eyes and body facing the teacher?**



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All By Myself



1 Reminder



2 or More

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# Reinforcement schedule/rate of exchange

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- ❖ Provide tokens often to start (e.g., every time the behavior is displayed) and keep initial ratios low (i.e., only a small number of tokens needed to exchange for a back up reinforcer)

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# Field test

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- ❖ Tally token delivery for a few days as if tokens were being earned
- ❖ Adjust system based on results of field test

# Case Example

- ❖ **Purpose:** what is the social significance of the intervention?
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## Case Example

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- **Purpose of the intervention / social significance of the target behavior(s):** client's teacher reported that her aide had to constantly prompt her to attend during circle time by calling her name and pointing to the teacher and / or materials. Purpose was twofold 1) to increase duration of client's sustained attention using partial self-monitoring 2) to decrease excessive and intrusive prompts from school aide

# Case Example

- **Format:** within brief mock circle time segments during home ABA sessions (starting with instructor and child each on a chair)
- **Target behavior(s):** attending to instructor/task; with “attending” operationally defined as eyes and body facing the teacher
- **Baseline data:** client attended to the teacher for an average of 30 seconds without prompts from her aide at baseline
- **Tokens:** laminated red, yellow, and green squares placed on a “token board strip”; red token= 2 or more reminders needed, yellow= 1 reminder needed, green=no reminders needed

# Case Example

- **Back-up reinforcers:** a 60 second break in which she could play with preferred toys of her choice
- **Reinforcement schedule:** a MotivAider was set for 15 second intervals to start. Client placed this on her pants. Each time it vibrated, she placed 1 token of the appropriate color on the board depending on the number of adult reminders for attending needed (partial self monitoring). A ‘reminder’ was signified by an adult placing one finger up in the client’s line of vision
- **Rate of token exchange for reinforcers:** to start, once 3 green tokens were earned, the client earned a backup reinforcer

# Case Example

- **Time and place to exchange tokens for back-up reinforcers:** exchange was completed immediately after the 3 green tokens had been earned in the session play room
- **Next steps:** e.g., increase interval duration, increase number of tokens needed before exchanging for back up reinforcer, generalize to group circle time settings with additional distractions mimicking the school environment, add a comprehension component (e.g., answering questions about the book being read) to ensure she is actually attending, fade physical evidence of tokens/board over time, provide materials to school team for generalization purposes

# Other suggestions to promote success

-Give tokens immediately- OR if the token economy is not currently accessible, note that a token was earned with a pen + paper so he can visually see progress.

-Restrict access to reinforcers- whatever your client earns from the token system, he should NOT be earning anywhere else

-Change reinforcers to maintain novelty- switch up your client's reinforcement menu to ensure continued motivation

-Consider use of bonus points- after your client is used to the system, you can award bonus tokens for specific goals (e.g., providing a bonus for earning all tokens 3 days in a row)

# Feasibility of parent or teacher implementation

- ❖ Start with a low response effort system
- ❖ May be helpful to begin using during a short time period during the day to get buy in quickly
- ❖ Natural reinforcers are easier to obtain

Fading

# Some considerations

Goal is for token economy to no longer be necessary over time

- ❖ Pair specific vocal praise with token delivery
- ❖ Number of responses required to earn tokens increased over time
- ❖ Fade to use of more natural reinforcers over time
- ❖ Fade physical evidence of the token over time e.g., moving to tally marks on a small piece of paper in client's pocket

# Competency 3 Assignment