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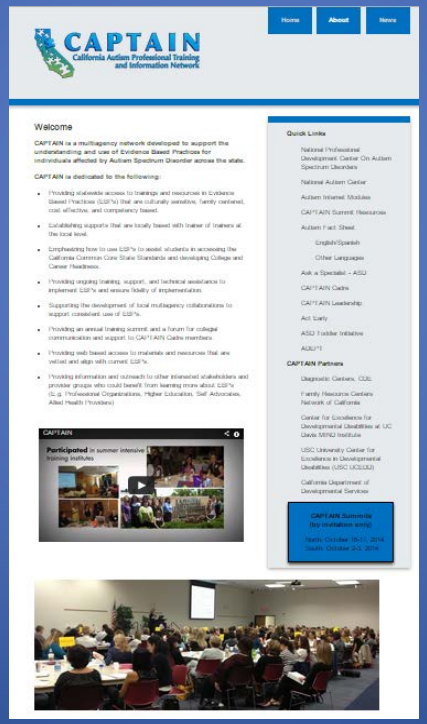

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What You Will Learn

- Definitions and uses of positive, negative and token reinforcement
- Principles of effective reinforcement
- Steps for using reinforcement following the NPDC – ASD checklist

What is Reinforcement?

- Describes a relationship between a behavior and it's consequences

- If a behavior increases in probability when a consequence is delivered, that consequence is considered a REINFORCER

Reinforcement

- Used to increase desired behaviors and skills
- Used in many educational circumstances, not only with students with ASD
- We all work for reinforcement!

In the table below, the outcomes identified by the evidence base are shown by age of participants.

Early Intervention (0-2)	Preschool (3-5)	Elementary (6-11)	Middle (12-14)	High (15-22)
Communication	Communication	Communication	Communication	Communication
	Adaptive	Adaptive	Adaptive	Adaptive
	Behavior	Behavior	Behavior	Behavior
	Social	Social	Social	Social
Joint Attention	Joint Attention			Joint Attention
	School Readiness	School Readiness	Vocational	Vocational
	Play	Play		Play
	Motor	Cognitive		
		Academic		

Positive and Negative Reinforcement

- **Positive** = adding something following the behavior that increases future probability of the behavior (e.g. giving a reward)

- **Negative** = removing something following the behavior that increases future probability of the behavior (e.g. do it right this time and I will let you out of doing the rest of them)

Types of Consequences

	Positive (Give)	**Negative (Take)**
Reinforcement	Increases Behavior	Increases Behavior
Punishment	Decreases Behavior	Decreases Behavior

Examples

	Positive (Give)	**Negative (Take)**
Reinforcement	Computer Time	Homework Pass
Punishment	Extra Work	Loss of Recess

Activity:
Which Reinforcer Am I?

1. I am given to a student for being on task….

2. I am a job that is removed because the student did a great job on the first assignment

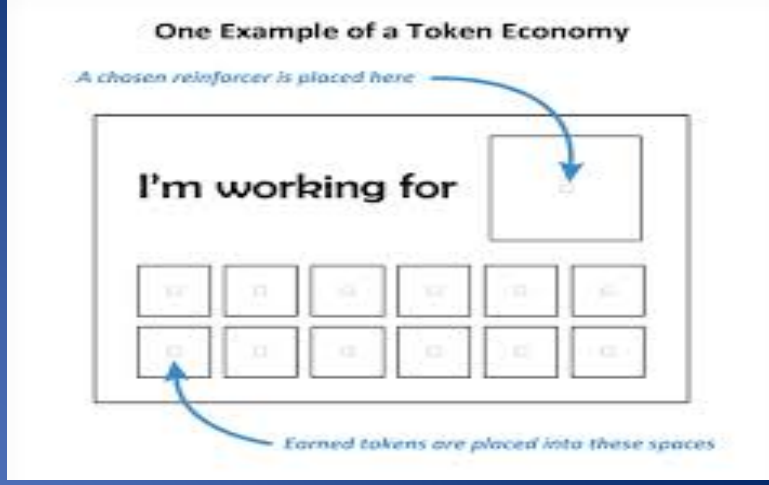
3. I am given to the student for getting all five answers correct.

Activity: Answers

1. I am given to a student for being on task….
   - Positive Reinforcer
2. I am a job that is removed because the student did a great job on the first assignment
   - Negative Reinforcer
3. I am given to the student for getting all five answers correct.
   - Positive Reinforcer

Token Economy

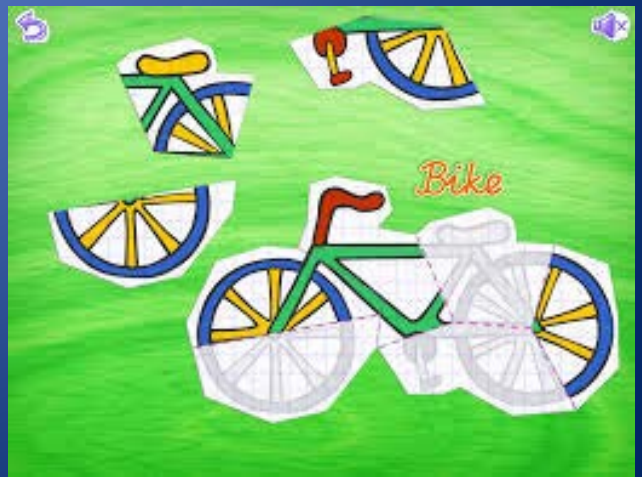
- A system where the learners is taught to exchange a token or tokens for other items
- Tokens are earned for appropriate skills and behaviors



	=	1 point

Use your points to buy treats:

candy 5 points	ipod break 8 points	break area 5 points
ipad break 10 points	computer 10 points	coloring break 8 points



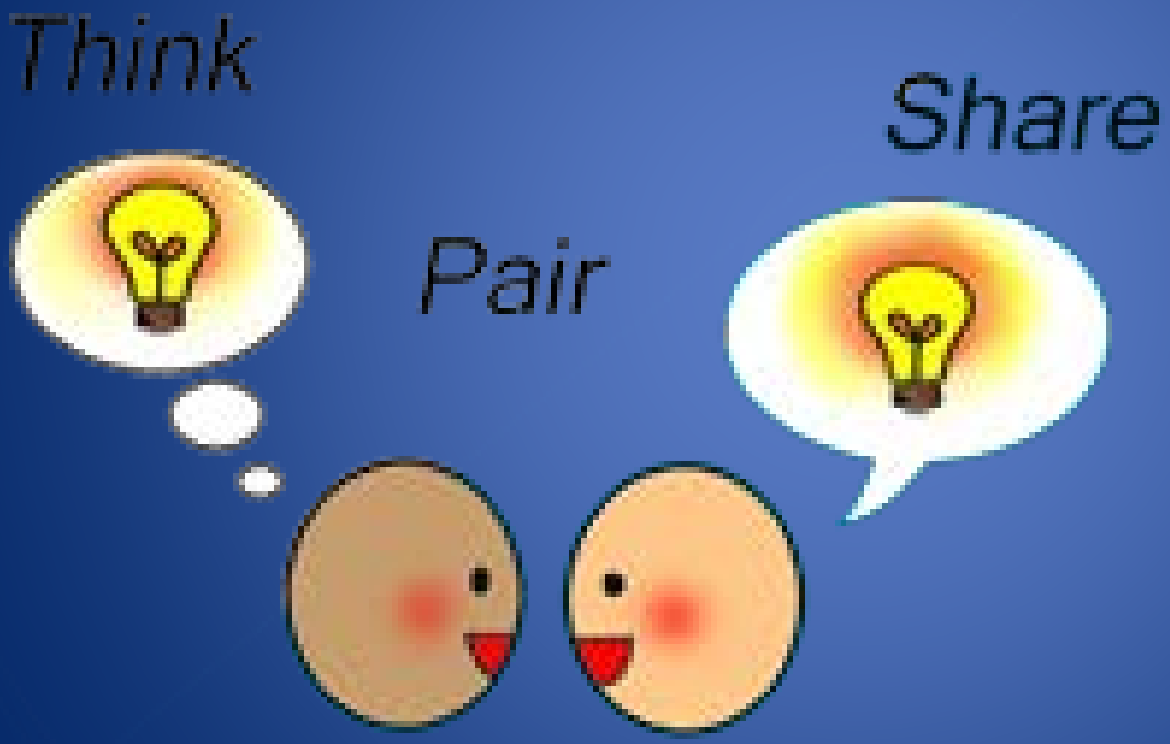
Consider Developmental Level

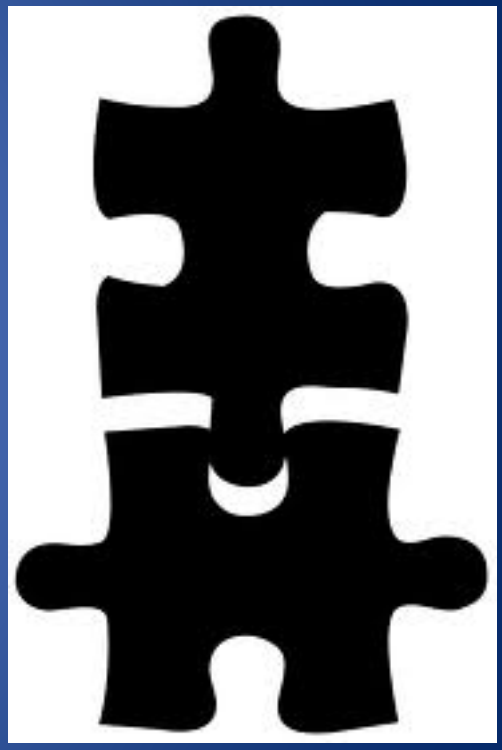
- Token Economies may not be appropriate for younger children or those who function younger than preschool level

Types of Reinforcers

- Primary: Needs it for survival. Is reinforcing at a "biological" level.
  - Food, drink, physical contact, physical movement/sensory stimulation, warmth
- Secondary: Acquires value often by being paired with a primary.
  - Objects, social interactions, activities
- Token: A secondary reinforcer that can be exchanged for other reinforcers
  - Money, tickets, points

How Might Reinforcement Be Different for Those With ASD?





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Reinforcement Rarely Stands Alone

- Reinforcement is a fundamental practice that is almost always used with other evidence-based practices
- Reinforcement of new skill while using prompting, visual supports, extinction of another undesired behavior, etc.

Know the Principles of Reinforcement:

- Always use student selected rewards
- Determine potential reinforcers through preference assessment:
  - Inventories or Checklists
  - Observations
  - Sampling procedures

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Positive Reinforcer Selection Checklist

Learner's Name: _____

Age of Learner: _____

Target Skill or Behavior: _____

Questions to Consider	List Potential Reinforcers	Age Appropriate?
What natural reinforcers could be used?		
What activities, objects and foods does the learner select independently?		
What phrases or gestures seem to produce a pleasant response from learner with ASD?		
What does the learner say s/he would like to work for? (if appropriate)		
What reinforcers were identified by parents or to her team members as being successful in the past?		
What items did the learner select as part of the reinforcer sampling?		

Principles of Reinforcement: Contingent Rewards

- Know and define your target response and performance criteria
- Make the reward contingent upon the target or an approximation
- Give reward immediately (within 30 seconds) of target behavior

Principles of Reinforcement

- Pair other rewards with verbal and social praise
  - Pair a “Primary” with a “Secondary”

Principles of Reinforcement

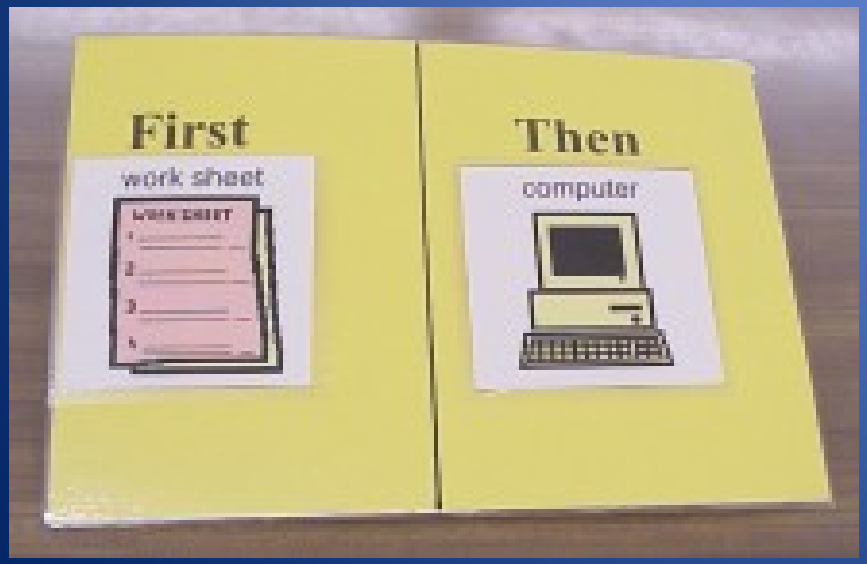
- Try to use naturally occurring rewards whenever possible
  - Use the schedule to your advantage
  - Have the outcome be it's own reward
  - Use student selected teaching materials

Satiation vs. Deprivation

- Give the JUST RIGHT amount
  - Satiation = low motivation
  - Deprivation = high motivation
- Do not allow free access
- Create a sense of need
  - Give part but not all
  - Show but don't give

Make it Visual

- Use Token Systems or
- First Then Systems



Schedules of Reinforcement: Continuous vs. Intermittent

- Continuous Schedule of Reinforcement (CSR):
  - Used to strengthen behavior
  - While learning/teaching a new behavior
  - While developing unused behaviors

- Intermittent Schedule of Reinforcement (ISR):
  - Used to maintain established behaviors

Interval vs. Ratio Schedule

- Interval relates to the amount of time the behavior, skill or absence of the behavior will occur

- Ratio relates to the number of times that the behavior or skill will occur

Make a Skill or Behavior Stick!

- Thinning the reinforcement schedule:
  - Extend the schedule (Fixed Ratio -1 to FR-2 to FR-3)
  - Go from continuous to intermittent (FR-3 to Variable Ratio -3)

- Behaviors with a history of intermittent reinforcement are resistant to extinction

Troubleshoot These…..

1. Student was working really hard for hot wheels, but by Wednesday was not working hard anymore…

2. Student was using a first ____ then _____ to earn a break and was working really hard for it, but is now not taking the break when it is earned and wants to keep working

3. The student is not earning tokens for staying in seat for 3 minutes, is getting up more frequently and sitting in chair is actually decreasing

What is Differential Reinforcement?

- An application of reinforcement procedures
- Reinforcing a desired response while simultaneously ignoring or extinguishing an undesired response
- Often used to reduce the occurrence of interfering behaviors (e.g., tantrums, aggression, self-injury, stereotypic behavior) while promoting more desired behaviors (calm voice, using words or other functional communication)

Shaping

- Reinforcing successive approximations toward a desired response
- Using differential reinforcement to increase a closer approximations while extinguishing all other responses
  - The best teachers know just when to time the reward
  - Reward what you want and ignore what you don’t want

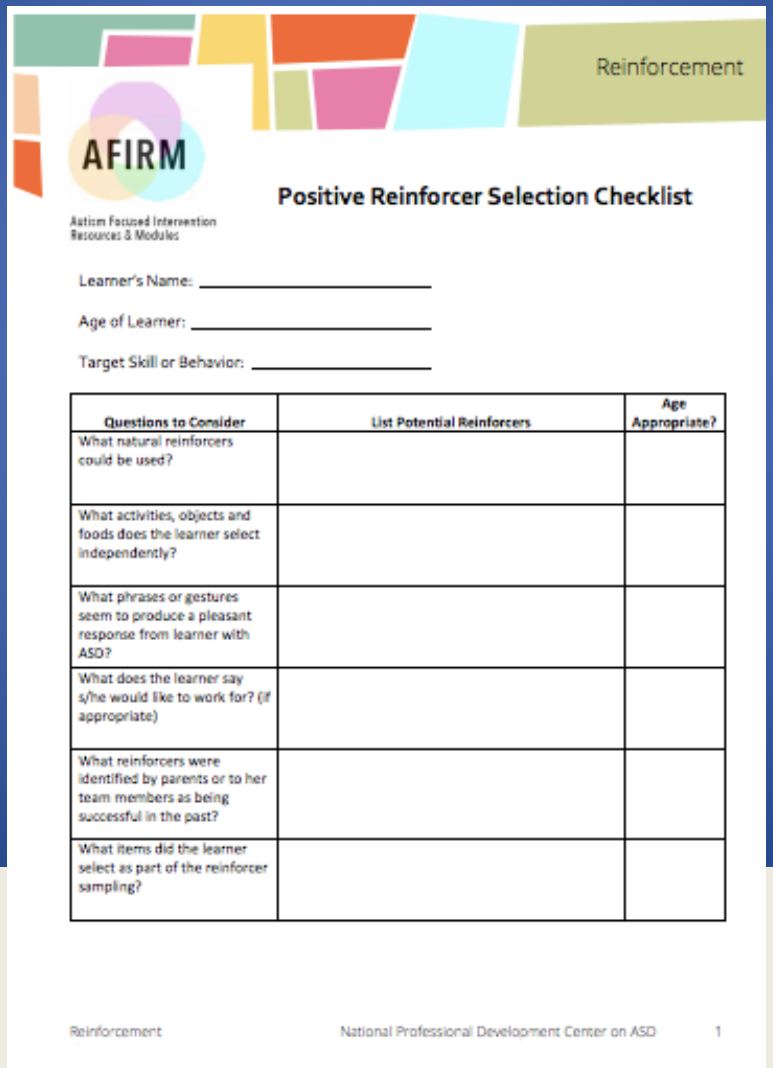
DRO, DRA and DRI Schedules

- DRO – Differential Reinforcement of Other Behaviors
  - Reinforcing any other behavior than the targeted behavior during or at the end of an interval
- DRA – Differential Reinforcement of Alternative Behaviors
  - Reinforcing the functionally equivalent alternative behavior to the problematic behavior you are trying to decrease
- DRI – Differential Reinforcement of Incompatible Behaviors
  - Reinforcing a behavior that is incompatible with the target behavior

Using Reinforcement: Basic Implementation Steps

1. Conduct preference assessments
2. Develop visual supports
3. Identify a skill/behavior to target and collect baseline data
4. Determine your target and your set performance criteria
5. Implement your reinforcement system and collect data
6. Evaluate data to determine effectiveness

Complete Your Preference Assessments and Inventories



Reinforcement

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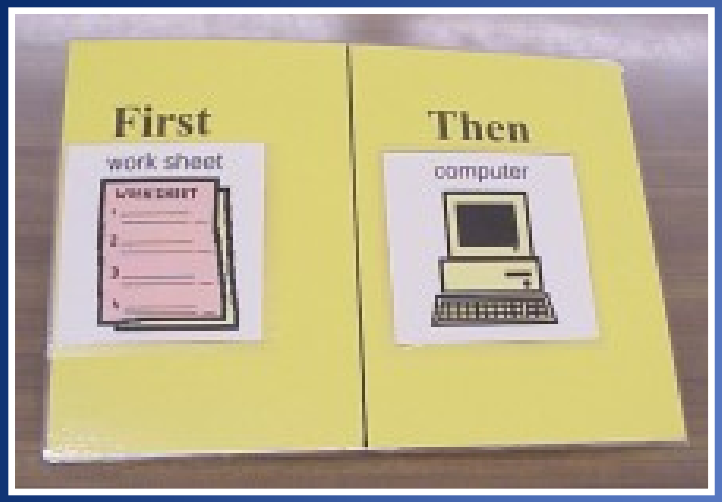
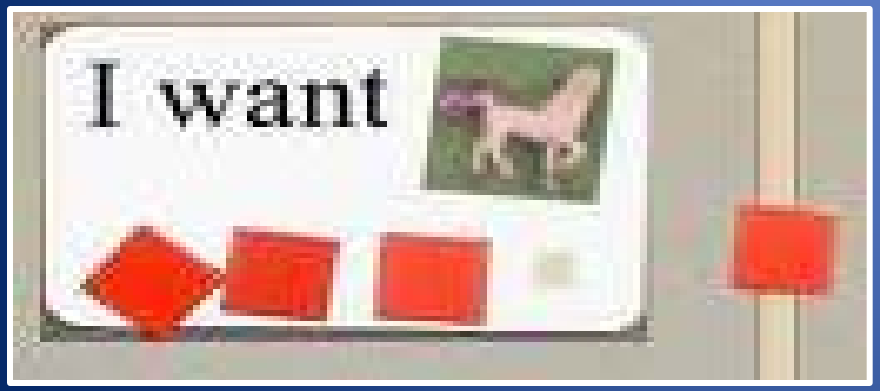
Next Steps: Set Up Visual Reinforcement Systems





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Identify the Skill or Behavior

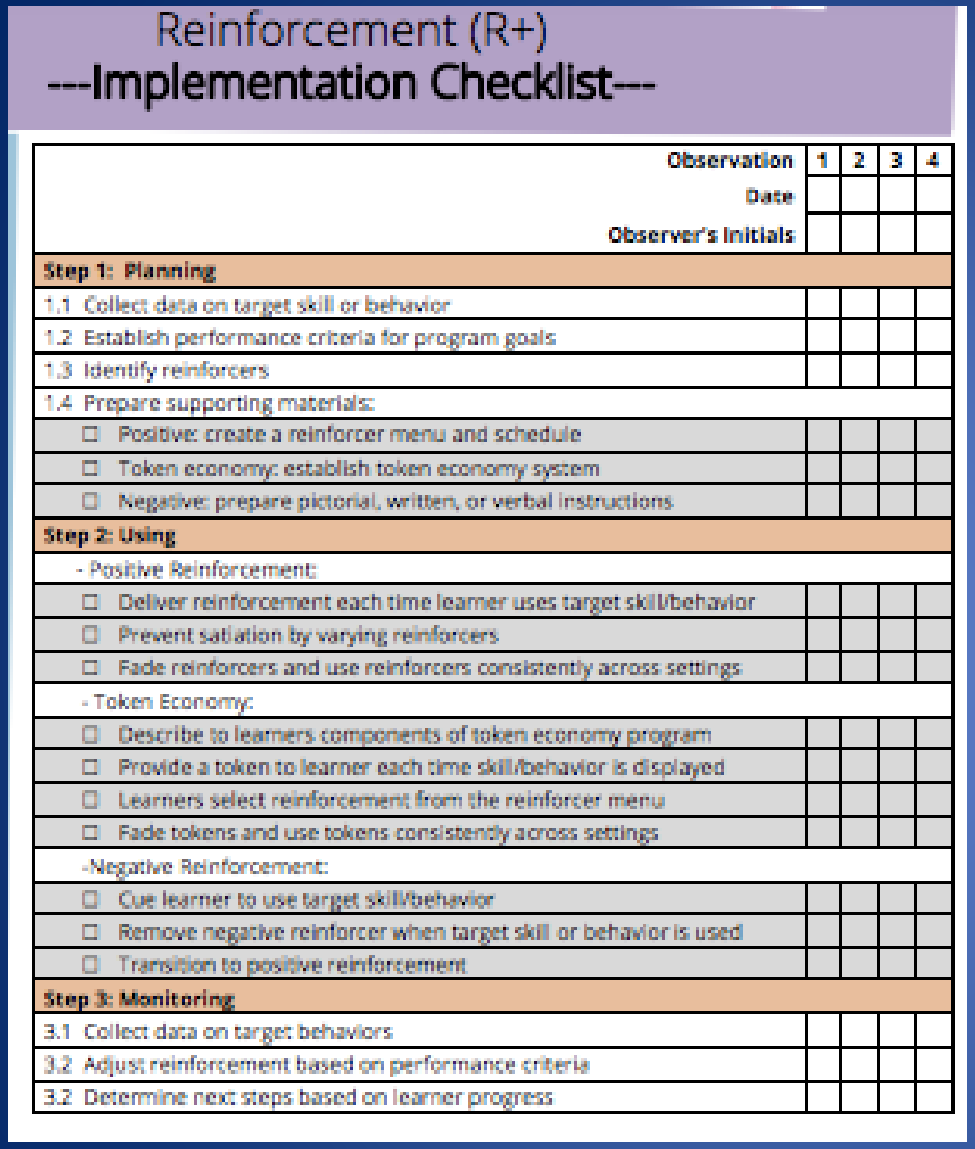
- Determine which skill, step or behavior you will be working on
- Collect baseline data

Set Your Performance Criteria for Earning

- Determine the level of performance you will require for reinforcement to be earned
- Determine if you will be using a fixed or intermittent schedule
- Determine if you will be using a ratio or interval method
- Remember if you are using Shaping, criterion may change rapidly

Implement and Evaluate

- If behavior or skill is improving, one can assume that reinforcement is having the desired effect
- If skill or behavior is not improving:
  - Reassess potential reinforcers
  - Reevaluate the skill or criterion you have set
  - Look at the other EBPs you are using to determine appropriateness and effectiveness



Reinforcement (R+)
---Implementation Checklist---

	Observation	1	2	3	4
	Date				
	Observer's Initials				
Step 1: Planning					
1.1	Collect data on target skill or behavior				
1.2	Establish performance criteria for program goals				
1.3	Identify reinforcers				
1.4	Prepare supporting materials:				
☐	Positive: create a reinforcer menu and schedule				
☐	Token economy: establish token economy system				
☐	Negative: prepare pictorial, written, or verbal instructions				
Step 2: Using					
- Positive Reinforcement:					
☐	Deliver reinforcement each time learner uses target skill/behavior				
☐	Prevent satiation by varying reinforcers				
☐	Fade reinforcers and use reinforcers consistently across settings				
- Token Economy:					
☐	Describe to learners components of token economy program				
☐	Provide a token to learner each time skill/behavior is displayed				
☐	Learners select reinforcement from the reinforcer menu				
☐	Fade tokens and use tokens consistently across settings				
-Negative Reinforcement:					
☐	Cue learner to use target skill/behavior				
☐	Remove negative reinforcer when target skill or behavior is used				
☐	Transition to positive reinforcement				
Step 3: Monitoring					
3.1	Collect data on target behaviors				
3.2	Adjust reinforcement based on performance criteria				
3.2	Determine next steps based on learner progress				

Use the Implementation Checklist to Insure Fidelity Across Implementers

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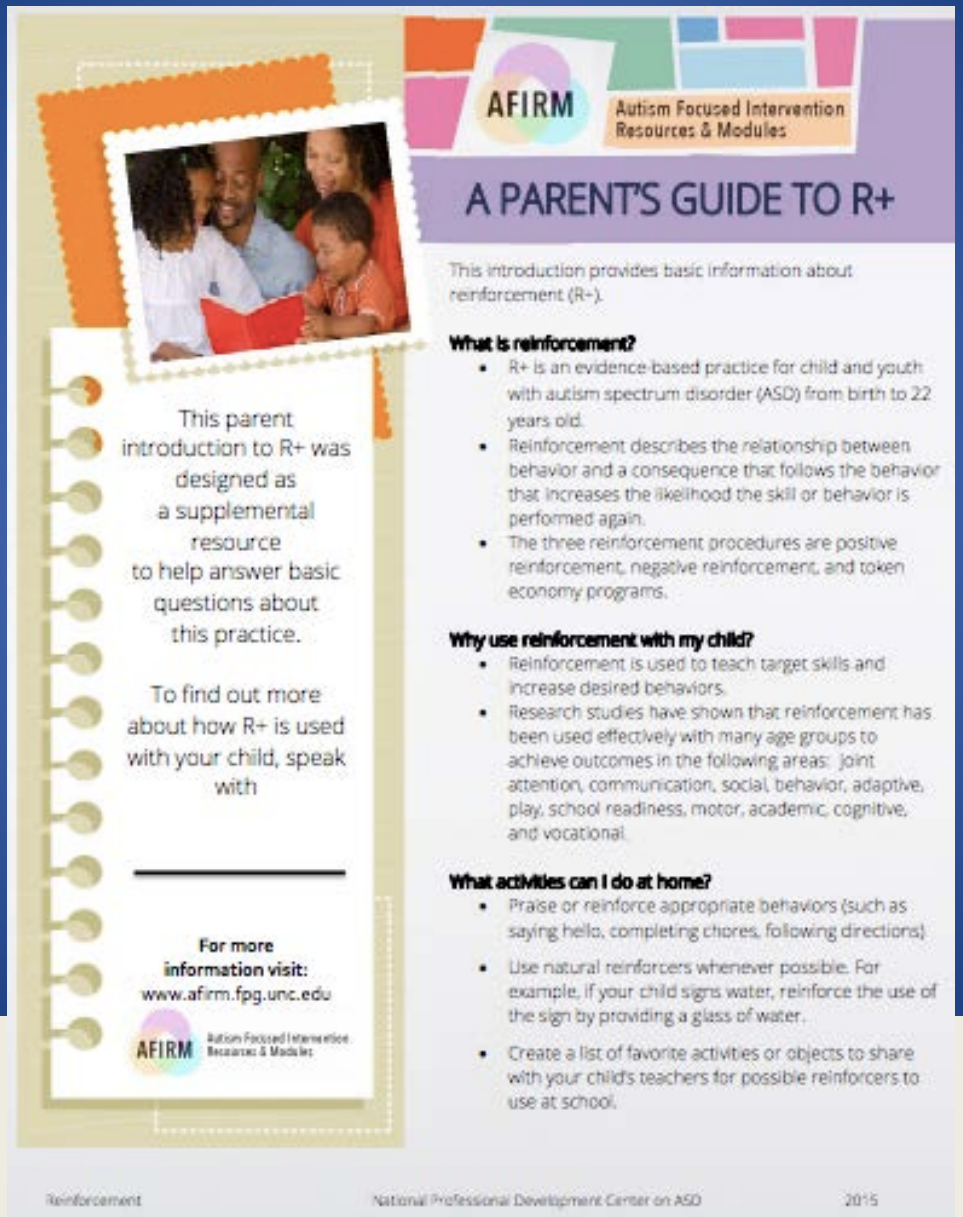
Share Information With Families



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A PARENT'S GUIDE TO R+

This introduction provides basic information about reinforcement (R+).

What is reinforcement?

- R+ is an evidence-based practice for child and youth with autism spectrum disorder (ASD) from birth to 22 years old.
- Reinforcement describes the relationship between behavior and a consequence that follows the behavior that increases the likelihood the skill or behavior is performed again.
- The three reinforcement procedures are positive reinforcement, negative reinforcement, and token economy programs.

Why use reinforcement with my child?

- Reinforcement is used to teach target skills and increase desired behaviors.
- Research studies have shown that reinforcement has been used effectively with many age groups to achieve outcomes in the following areas: joint attention, communication, social, behavior, adaptive, play, school readiness, motor, academic, cognitive, and vocational.

What activities can I do at home?

- Praise or reinforce appropriate behaviors (such as saying hello, completing chores, following directions)
- Use natural reinforcers whenever possible. For example, if your child signs water, reinforce the use of the sign by providing a glass of water.
- Create a list of favorite activities or objects to share with your child's teachers for possible reinforcers to use at school.

This parent introduction to R+ was designed as a supplemental resource to help answer basic questions about this practice.

To find out more about how R+ is used with your child, speak with

_____

For more information visit:
www.afirm.fpg.unc.edu

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